

1ST ICEBUS

International Conference on
Economics and Business

Sustainable Futures: Rethinking Economics and Business
for a Better World

on **November 10th, 2025** at **Universitas Nasional, Jakarta**

PROCEEDINGS

QRCBN: 62-1634-0425-829

Organized by:



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Proceedings

The First International Conference on Economics and Business (1st ICEBUS)

Published by:

Faculty of Economics and Business Universitas Nasional, Jakarta, Indonesia

Email: secretariat.icebus@civitas.unas.ac.id

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First published in 2025

Editor: Siti S. Azahra

Layout: Aji N. Ibrahim, Ananda K. Rizqalina, Ika M. Jannah, Wisnu

Design Cover: Ananda K. Rizqalina

National Library: Cataloging in Publication (KDT)

Distributed by:

Faculty of Economics and Business Universitas Nasional, Jakarta, Indonesia

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WELCOMING SPEECH

Praise be to God Almighty, for by His blessings and grace, *The First International Conference on Economics and Business*, with the theme “**Sustainable Future: Rethinking Economics and Business for a Better World**,” was successfully held on Monday, 10 November 2025, at the Siber Auditorium, Universitas Nasional Jakarta. This event marks an important milestone for the Faculty of Economics and Business in strengthening academic tradition, expanding international scholarly networks, and contributing meaningfully to the advancement of economics and business knowledge at both national and global levels.

This international conference brought together distinguished experts, researchers, academics, and practitioners from various institutions, both domestic and international. Their presence enriched the discussions and broadened perspectives on key issues concerning sustainable development, business transformation, economic innovation, and the global challenges that lie ahead. It is our hope that the ideas, insights, and research findings presented during this conference will contribute positively to academic development and encourage more sustainable approaches within the fields of economics and business.

The publication of this conference report book serves as an official documentation of the event and as a scholarly reference for researchers, students, and other stakeholders. We extend our deepest appreciation to all committee members, speakers, participants, partners, and supporters whose dedication and cooperation made this event a success.

Finally, we hope that this conference will become the foundation for future international academic activities, and that it will continue to elevate the reputation and academic excellence of the Faculty of Economics and Business, Universitas Nasional.

Jakarta, November 2025
Dean of the Faculty of Economics and Business
Universitas Nasional



(Prof. Dr. Edi Sugiono, ST., SE., MM.)

CONFERENCE COMMITTEE

Keynote Speakers:

Prof. Dr. Yuddy Chrisnandi, Universitas Nasional, Indonesia
Prof. Thomas Chemmanur, Carroll School of Management, Boston College
Prof. Walid Saffar, School of Accounting and Finance Hong Kong Polytechnic University
Prof. Rossazana Ab Rahim, Faculty of Economics and Business Universiti Malaysia Sarawak
Assoc. Prof. Rahimie Bin Abd. Karim, Faculty of Business, Economics and Accountancy Universiti Malaysia Sabah
Prof. Byung Ik Jung, Busan International College Tongmyong University, South Korea
Joon-Ki Han, PhD, Busan International College Tongmyong University, South Korea

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FBEA Universiti Malaysia Sabah, Malaysia

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Sri Gunawan, DBA (Universitas Airlangga, Surabaya, Indonesia)
Dr. Wisuwat Wannamakok (Chiang Mai University, Thailand)

CONFERENCE PROGRAM

(Jakarta time)

08.00-09.03:	Registration
09.03-09.05:	Opening by MC
09.05-09.10:	National Anthem of Indonesia Raya
09.10-09.15:	Playing Video of the Profile of Universitas Nasional
09.15-09.20:	Pray
09.20-09.25:	Speech by Dean of FEB Universitas Nasional
09.25-09.30:	Speech by Rector of Universitas Nasional
09.30-10.00:	Keynote by Prof. Yuddy Chrisnandi, Universitas Nasional & Former Minister of Administrative and Bureaucratic Reform, Indonesia (on-site)
10.00-10.30:	Keynote by Prof. Thomas Chemmanur, Boston College, USA (on zoom) “The Entrepreneurial Finance of Fintech Firms and the Effect of Investments in Fintech Startups on the Performance of Corporate Investors”
10.30-11.00:	Keynote by Prof. Byung Ik Jung, Tongmyong University, South Korea & Anderson Consulting Partner (on zoom) “Hybrid Leadership in Education and Consulting: A Strategic Perspective”
11.00-11.30:	Keynote by Prof. Rossazana Ab Rahim, Universiti Malaysia Sarawak, (on zoom) “The ESG-Profit Nexus in Banking: Insights from Malaysia and Indonesia”
11.30-12.00:	Keynote by Prof. Walid Saffar, Hong Kong Polytechnic, Hong Kong (on zoom) “Private Firm Disclosures and Public Firms’ Debt Choice”
12.00-13.30:	Lunch (on site)
12.00-15.00:	Parallel Sessions (on zoom & on site)
13.30-15.00:	Signing of Memorandum of Understanding with Busan International College TU & Letter of Intent with FBEA Universiti Malaysia Sabah (on site)
15.00-15.45:	Keynote by Joon Ki Han, PhD, Busan International College, South Korea (on site) “Korea HR Key Trends and its implications to global professionals”
15.45-16.30:	Keynote by Assoc. Prof. Rahimie Bin Abd. Karim, FBEA Universiti Malaysia Sabah (on site)
16.30-16.32:	Closing

PRESENTATION SCHEDULE

Room: 704, Building C Floor 7, FEB UNAS, Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Dr. Resti Hardini, S.E., M.Si (Universitas Nasional)
1	EMPOWERING LAUNDRY MSMES THROUGH DIGITAL PLATFORMS FOR SUSTAINABLE GROWTH: A DESIGN THINKING APPROACH Istiana Khearunisa (National University), Puan Mahara (National University), Nur Syabila Rosa (National University), Aldhi Chrystofel Lantemona (National University), Dhieka Avrilia Lantana (National University), Fauziah (National University)
2	THE INFLUENCE OF COMPENSATION, EMPLOYER ATTRACTIVENESS, AND E-RECRUITMENT ON JOB APPLICATION INTENTION THROUGH COMPANY REPUTATION AMONG BACHELOR OF MANAGEMENT GRADUATES OF UNIVERSITAS NASIONAL CLASS 2023 Ade Aisa Kusumaningtyas, Edi Sugiono (Universitas Nasional)
3	INFLUENCE OF COMPENSATION, WORK ENVIRONMENT, AND QUALITY OF HUMAN RESOURCES THROUGH JOB SATISFACTION ON EMPLOYEE PERFORMANCE Ayu Safitri (Universitas Nasional), Muhammad Teguh Herwidiyanto (Universitas Nasional)
4	FROM FRAGMENTATION TO CONSOLIDATION: EVALUATING THE IMPACT OF THE MEGA MERGER ON THE PERFORMANCE OF INDONESIAN ISLAMIC BANKS THROUGH THE DUPONT LENS Melati (Universitas Nasional), Andini Nurwulandari (Universitas Nasional), Hasanudin (Universitas Nasional)
5	THE EFFECT OF INVENTORY INTENSITY AND COMPANY RISK ON TAX AGGRESSIVENESS WITH THE AUDIT COMMITTEE AS A MODERATION (EMPIRICAL STUDY OF CONSUMER GOODS (FOOD AND BEVERAGE COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE 2020-2024) Rifdah Widi Savitri (Universitas Nasional), Zumratul Meini (Universitas Nasional)
6	AI-DRIVEN STORYTELLING AND CONSUMER TRUST: THE ROLE OF VIRTUAL INFLUENCERS IN PROMOTING HEALTH AND FUNCTIONAL FOOD PRODUCTS IN INDONESIA Heni Jusuf (Universitas Nasional)
7	COMMUNITY-BASED TOURISM DESTINATION MANAGEMENT IN THE RIPARIAN AREA OF CILIWUNG MT HARYON Muhammad Rafif Hibatullah (Universitas Nasional), Rizki Nurul Nugraha (Universitas Nasional)
8	ANALYSIS OF COMPANY SIZE, PROFITABILITY, AND GOOD CORPORATE GOVERNANCE ON FRAUDULENT FINANCIAL STATEMENTS WITH AUDIT OPINION AS A MODERATING VARIABLE Christian Verrel (Universitas Nasional), Arni Karina (Universitas Nasional)
9	THE EFFECT OF ADMINISTRATION & PROCEDURES AND HANDLING COMPLAINTS ON CUSTOMER SATISFACTION THROUGH SERVICE QUALITY (CASE STUDY AT PT PIMAIMAS CITRA) Andi Wijanarko (Universitas Nasional), Edi Sugiono (Universitas Nasional), Rahayu Lestari (Universitas Nasional)
10	EVENT QUALITY ANALYSIS TOWARDS VISITORS AT MIYAKO ISLAND ROCK FESTIVAL JAPAN 2023 Ulfi Maranisya (Universitas Nasional), Tengku Maulidia Andaribi Agustiaz (Universitas Nasional), Liliana Dewi (Universitas Nasional)
11	FINANCIAL PERFORMANCE DISCLOSURE, FINDINGS OF INTERNAL CONTROL SYSTEMS, NONCOMPLIANCE WITH LAWS AND REGULATIONS ON AUDIT OPINION QUALITY WITH AUDIT FINDINGS FOLLOW-UP AS MODERATING VARIABLES Balqis Haura (Universitas Nasional), Arni Karina (Universitas Nasional)
12	THE EFFECT OF SUSTAINABILITY REPORT DISCLOSURE, INSTITUTIONAL OWNERSHIP ON PROFIT MANAGEMENT WITH AUDIT COMMITTEE AS A MODERATION VARIABLE (ON MINING COMPANIES ON THE IDX) Caspar Napoleon Duha (Universitas Nasional), Arni Karina (Universitas Nasional)
13	THE EFFECT OF PROMOTION, PRICE PERCEPTION, CUSTOMER EXPERIENCE ON REPURCHASE INTENTION THROUGH BRAND TRUST AS A VARIABLE INTERVENING AT FORE COFFEE IN SOUTH JAKARTA Renny Aprilianty, Elwisam (Universitas Nasional)
14	THE EFFECT OF COMPANY SIZE AND SUSTAINABILITY REPORTING ON PROFITABILITY WITH GOOD CORPORATE GOVERNANCE AS A MODERATING VARIABLE (AN EMPIRICAL STUDY OF COMPANIES WITH IDX80 INDEX LISTED ON THE IDX FROM 2020 TO 2024) Nanda Dwi Wahyu Bima Atmojo, Nandiko Wahyu Mukti, Muhammad Akmal Baskoro, Arsyifa Maulidina, Bambang Subiyanto
15	STRATEGI MANAJEMEN DALAM MEMBANGUN PERKEMBANGAN DUNIA BISNIS MELALUI BUDAYA INOVASI DI PT BINA SARANA SUKSES TAHUN 2025 Hisnaniah (Universitas Islam Kalimantan Muhammad Arsyad Al Banjari), Tian Nugraha Suharto (PT Intelektual Sinergi Indonesia), Aditya Sukma Wijaya (PT Intelektual Sinergi Indonesia), Rachmadi Gewa Saputra (PT Bina Sarana Sukses), Ni Kadek Marheny Wulandari (PT Bina Sarana Sukses)

Room: 705, Building C Floor 7, FEB UNAS, Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Santi Retno Sari, S.E., M.Si (Universitas Nasional)
1	THE INFLUENCE OF PRICE PERCEPTION, PROMOTION, AND WORD OF MOUTH ON PURCHASE DECISIONS OF GORIDE ONLINE TRANSPORTATION SERVICES AMONG STUDENTS OF SMK NEGERI 8 JAKARTA Aulia Nur Ridha (Universitas Nasional), Rahayu Lestari (Universitas Nasional)
2	THE INFLUENCE OF FINANCIAL LITERACY, ELECTRONIC MONEY USE, AND LIFESTYLE ON CONSUMPTIVE BEHAVIOR AMONG YOUNG PEOPLE IN PASAR MINGGU SUBDISTRICT, SOUTH JAKARTA Bunga Fadila Oktovia (Universitas Nasional), Subur Karyatun (Universitas Nasional)
3	THE EFFECT OF SOCIAL SUPPORT, SELF CONFIDENCE, AND CAREER LITERACY ON JOB READINESS OF FINAL-YEAR UNDERGRADUATE STUDENTS AT THE FACULTY OF ECONOMICS AND BUSINESS, NATIONAL UNIVERSITY Icha Dwi Cahyani (Universitas Nasional)
4	THE EFFECT OF SERVICE QUALITY, CUSTOMER EXPERIENCE, AND BRAND IMAGE ON CUSTOMER SATISFACTION AT FAMILYMART PEJATEN CONVENIENCE STORE Rani Aprilya (Universitas Nasional), Rahayu Lestari (Universitas Nasional)
5	THE INFLUENCE OF EMPLOYER BRANDING, CORPORATE REPUTATION, AND E-RECRUITMENT ON GENERATION Z'S JOB APPLICATION INTENTION (A STUDY ON UNDERGRADUATE MANAGEMENT STUDENTS CLASS OF 2022 AT UNIVERSITAS NASIONAL) Achmad Fachrizal Ardiansyah (Universitas Nasional), Dyah Handayani Dewi (Universitas Nasional)
6	THE INFLUENCE OF SOFT SKILLS, DIGITAL COMPETENCE, AND WORK EXPERIENCE OF FINAL YEAR STUDENTS AT THE FACULTY OF ECONOMICS AND BUSINESS, NATIONAL UNIVERSITY Adriansyah Chandra Aminudin (Universitas Nasional), Lisa Sarinah (Universitas Nasional)
7	THE EFFECT OF QUICK RATIO, TOTAL ASSET TURNOVER, AND DEBT TO EQUITY RATIO ON RETURN ON ASSETS IN MINING COMPANIES ON THE INDONESIA STOCK EXCHANGE FOR THE 2020-2024 PERIOD Ahmad Dimas Prasetyo (Universitas Nasional), Subur Karyatun (Universitas Nasional)
8	THE INFLUENCE OF BRAND IMAGE, SALES PROMOTION, AND ELECTRONIC WORD OF MOUTH (E-WOM) ON IMPULSIVE BUYING OF BATA SHOES ON SHOPEE E-COMMERCE AMONG GEN Z AT UNIVERSITAS NASIONAL JAKARTA SELATAN Ainin Dita Salsabila Tussa Diyah (Universitas Nasional), Resti Hardini (Universitas Nasional)
9	SEGMENTING, TARGETING, AND POSITIONING STRATEGIES TO INCREASE SALES AT COFFEE SHOPS IN THE PAMULANG AREA, PONDOK AREN SOUTH TANGERANG Muhammad Albar (Universitas Nasional), Sutikman (Universitas Nasional), Rahayu Lestari (Universitas Nasional)
10	BEYOND COMPLIANCE: HOW CAREER DEVELOPMENT AND ISLAMIC WORK ETHIC DRIVE PERFORMANCE IN ISLAMIC BANKS THROUGH ORGANIZATIONAL COMMITMENT Farhani kurniayu (Universitas Nasional)
11	THE EFFECT OF TRUST, PRICE PERCEPTION, AND PRODUCT QUALITY ON THE PURCHASE DECISION OF AVOSKIN SKINCARE IN JAKARTA Hafla Ratu Ainayya (Universitas Nasional), Rahayu Lestari (Universitas Nasional)
12	THE EFFECT OF ARTIFICIAL INTELLIGENCE USE, DIGITAL TRANSFORMATION, AND DIGITAL LITERACY ON EMPLOYEE PERFORMANCE AT PT. TRIMATRA JASA PRAKASA SURABAYA Krisma (Universitas Nasional), Dyah Handayani Dewi (Universitas Nasional)
13	THE INFLUENCE OF PRICE PERCEPTION, BRAND IMAGE AND SERVICE QUALITY ON CUSTOMER LOYALTY THROUGH THE ADVANTAGES OF PT. PIMAIMAS CITRA Shinta Rizanti Bino, Rahayu Lestari (Universitas Nasional)
14	THE EFFECT OF EXTRINSIC MOTIVATION, ORGANIZATIONAL SUPPORT AND JOB SATISFACTION ON THE PERFORMANCE OF EMPLOYEES DOMICILED Firda Azzahra, Edi Sugiono (Universitas Nasional)

Room: 707, Building C Floor 7, FEB UNAS, Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Dr. Molina, AK., M.Si (Universitas Nasional)
1	THE INFLUENCE OF EXCHANGE RATE VOLATILITY PERCEPTION, HEDGING KNOWLEDGE, AND RISK TOLERANCE ON INVESTMENT DECISIONS OF RETAIL INVESTORS Mikail Yazid (Universitas Nasional), Wahyu Mulyadi (Universitas Nasional)
2	THE INFLUENCE OF COMPETENCY, TRAINING, AND BUREAUCRATIC CULTURE ON THE PROFESSIONALISM OF ASN EMPLOYEES IN THE DEPOK CITY GOVERNMENT Muhammad Rivaldy Ade Raswandi (Universitas Nasional)
3	THE INFLUENCE OF PRODUCT QUALITY, BRAND IMAGE AND PRICE PERCEPTION ON PURCHASING DECISIONS FOR ADIDAS SNEAKERS AMONG PERSIJA SUPPORTERS IN SOUTH JAKARTA Muhammad Syafiq (Universitas Nasional)
4	THE EFFECT OF RETURN ON ASSETS (ROA), DEBT TO EQUITY RATIO (DER), AND INTEREST RATES ON STOCK PRICES OF PROPERTY AND REAL ESTATE SECTOR COMPANIES ON THE INDONESIA STOCK EXCHANGE 2020-2024 Natasya Anggraini (Universitas Nasional), Subur Karyatun (Universitas Nasional)
5	THE INFLUENCE OF FINANCIAL LITERACY, HERDING BEHAVIOR, AND SOCIAL MEDIA ON INVESTMENT DECISIONS AMONG THE PRODUCTIVE AGE GROUP Rahma Fauzia Azzahra (Universitas Nasional), Melati (Universitas Nasional)
6	THE EFFECT OF RETURN ON ASSETS, TOTAL ASSETS TURNOVER, DEBT TO EQUITY RATIO, AND ENVIRONMENTAL COSTS ON THE FINANCIAL PERFORMANCE OF MANUFACTURING COMPANIES IN THE CONSUMER GOODS INDUSTRY LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD 2021–2024 Muhammad Rakha Kesuma (Universitas Nasional), Muhani (Universitas Nasional)
7	THE EFFECT OF INFLATION, RUPIAH EXCHANGE RATES, AND INTEREST RATES ON STOCK RETURNS IN ENERGY SECTOR COMPANIES ON THE INDONESIA STOCK EXCHANGE FOR THE 2020-2024 PERIOD Rolando Georgius Purba, Irma Setyawati (Universitas Nasional)
8	THE EFFECT OF FED'S INTEREST RATE, INFLATION, AND GOLD PRICES ON THE COMPOSITE STOCK PRICE INDEX (IHSG) DURING THE PERIOD OF GLOBAL ECONOMIC UNCERTAINTY (2020-2024) Zahwa Murlian Putri (Universitas Nasional), Melati (Universitas Nasional)
9	THE EFFECT OF SERVICE QUALITY, BRAND IMAGE, AND PRODUCT QUALITY ON CONSUMER SATISFACTION AND ITS IMPACT ON THE MARKETING PERFORMANCE OF BE JUICE BEVERAGES IN PAMULANG, SOUTH TANGERANG Muhammad Zidny Tazkia (Universitas Nasional), Dhieka Avrilia Lantana (Universitas Nasional), Rahayu Lestari (Universitas Nasional)
10	AUTHENTIC LEADERSHIP AND ORGANIZATIONAL IDENTIFICATION: THE MEDIATION OF PERCEIVED ORGANIZATIONAL SUPPORT AND THE MODERATION OF ORGANIZATIONAL REPUTATION Nadita Putri Permata (Universitas Nasional)
11	THE INFLUENCE OF BRAND COMMUNITY, PRODUCT QUALITY, AND DIGITAL PROMOTION ON BONDS BY IQOS USER LOYALTY IN WEST JAKARTA Muhammad Raihan Desma (Universitas Nasional)
12	THE EFFECT OF TAX AVOIDANCE AND TAX RISK ON FIRM VALUE WITH CARBON EMISSION DISCLOSURE AS A MODERATING VARIABLE (EMPIRICAL STUDY ON COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD 2020–2024 Putri Rahma Wahyuni, Zumartul Meini (Universitas Nasional)
13	THE EFFECT OF ARTIFICIAL INTELLIGENCE (AI) IMPLEMENTATION, REMOTE WORK FLEXIBILITY, AND DIGITAL COMPETENCE SUPPORT ON GENERATION Z EMPLOYEE RETENTION AT THE RUANG GURU STARTUP IN SOUTH JAKARTA Putri Rahayu (Universitas Nasional)
14	THE EFFECT OF CARBON EMISSIONS DISCLOSURE AND ENVIRONMENTAL PERFORMANCE ON FIRM VALUE WITH GOOD CORPORATE GOVERNANCE AS A MODERATING VARIABLE (IN COMPANIES LISTED ON THE INDONESIAN STOCK EXCHANGE) Abdul Gofur (Universitas Nasional), Zumratul Meini (Universitas Nasional)

Room: Smart class room, Building C Floor 7, FEB UNAS, Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Dr. Zumratul Meini, SE, MSE, MSAk (Universitas Nasional)
1	THE INFLUENCE OF CONTENT MARKETING, ONLINE CUSTOMER REVIEWS, AND INFLUENCER MARKETING ON PURCHASING DECISIONS OF WARDAH GLASTING LIQUID LIPSTICK ON TIKTOK SOCIAL MEDIA IN SOUTH JAKARTA Putriani Sefti Ekasari (Universitas Nasional), Resti Hardini (Universitas Nasional)
2	THE EFFECT OF DEBT EQUITY RATIO AND EARNING PER SHARE ON STOCK RETURNS THROUGH PROFITABILITY IN SRI-KEHATI (2020-2024) Ika Puspita Sari (Universitas Nasional), Andini Nurwulandari (Universitas Nasional)
3	HE INFLUENCE OF SHOPPING LIFESTYLE, SALES PROMOTION, AND SOCIAL MEDIA ON IMPULSIVE BUYING OF ADIDAS SPORTSWEAR CATEGORY PRODUCTS IN NORTH JAKARTA Muchamad Ilham Nur Rofiq, Suadi Sapta Putra (Universitas Nasional)
4	THE EFFECT OF EMOTIONAL EXHAUSTION, ROLE AMBIGUITY, AND ORGANISATIONAL COMMITMENT ON JOB HOPPING AMONG GENERATION Z IN SOTUH JAKARTA Farli Andika Pujianto, Santi Retno Sari (Universitas Nasional)
5	JOB SATISFACTION: A SEQUENTIAL MEDIATION MODEL OF PERCEIVED ORGANIZATIONAL SUPPORT, INTRINSIC MOTIVATION, AND DIGITAL TECHNOLOGY EASE OF USE Regi Rindy Fradimas Ariyanto (Universitas Nasional)
6	VOLATILITY SPILLOVER EFFECT ANALYSIS DURING PERIODS OF HIGH GEOPOLITICAL TENSION: EVIDENCE FROM BITCOIN, GOLD, THE JCI (IHSG), AND THE S&P 500 USING THE GARCH-BEKK MODEL Ikhsan Wahyudi (Universitas Nasional), Melati (Universitas Nasional)
7	THE EFFECT OF CARBON EMISSION DISCLOSURE AND GREEN INVESTMENT ON FINANCIAL PERFORMANCE WITH ENVIRONMENTAL PERFORMANCE AS A MODERATING VARIABLE (AN EMPIRICAL STUDY ON ENERGY SECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD 2020–2023) Rahma Alya Fayza (Universitas Nasional), Molina (Universitas Nasional)
8	THE RELATIONSHIP BETWEEN ATTRACTION AND DIGITAL CULTURAL EDUCATION ON TOURISTS' INTEREST IN VISITING THE IMMERSIVE SPACE, JAKARTA NATIONAL MUSEUM Nilam Dwi Cahyaningrum (Universitas Nasional), Ramang H Demolingo (Universitas Nasional)
9	INFLUENCE OF PERFORMANCE APPRAISAL, COMPETENCY, AND WORK DISCIPLINE TOWARDS CAREER DEVELOPMENT OF EMPLOYEES OF THE SECRETARIAT GENERAL OF THE MINISTRY OF AGRICULTURE OF THE REPUBLIC OF INDONESIA Alya Wulandari (Universitas Nasional)
10	THE EFFECT OF CHANGES IN ASSETS, CHANGES IN RECEIVABLES, AND PROFIT MANAGEMENT ON FRAUDULENT FINANCIAL REPORTING WITH CORPORATE GOVERNANCE AS A MODERATING VARIABLE IN MANUFACTURING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE Samantha Rucci, Molina (Universitas Nasional)
11	THE INTEGRATED MODEL: HOW AUTHENTIC LEADERSHIP DRIVES WORK-LIFE BALANCE THROUGH FLEXIBLE WORK ARRANGEMENTS AND IS MODERATED BY ROLE AMBIGUITY Gaziena Delfian, Santi Retno Sari (Universitas Nasional)
12	THE EFFECT OF COMPANY SIZE AND OPERATIONAL COMPLEXITY ON THE TIMELINESS OF FINANCIAL REPORTING IN ENERGY SECTOR COMPANIES ON THE IDX WITH CEO CHANGE AS A MODERATION VARIABLE Kharisma Nurayu Afidah (Universitas Nasional), Molina (Universitas Nasional)
13	THE EFFECT OF CUSTOMER REVIEW, SOCIAL MEDIA ADVERTISING EFFECTIVENESS, AND VISITOR COMPLAINTS ON PURCHASE DECISION AT DUNIA FANTASI (DUFAN), TAMAN IMPIAN JAYA ANCOL JAKARTA Silvy Dwi Lestari (Universitas Nasional), Rahayu Lestari (Universitas Nasional)
14	THE EFFECT OF DIVIDEND POLICY AND INTELLECTUAL CAPITAL ON COMPANY STOCK PRICES WITH FINANCIAL PERFORMANCE AS A MODERATING VARIABLE (EMPIRICAL STUDY OF PHARMACEUTICAL SUBSECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD 2020–2024) Shava Tasya Camelia (Universitas Nasional), Molina (Universitas Nasional)

Room: 1 (Zoom), Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Prof. Agung Dharmawan Buchdadi, PhD (Universitas Negeri Jakarta)
1	IMPROVING THE PERFORMANCE OF THE INDONESIAN QUARANTINE AGENCY THROUGH STRENGTHENING COMPETENCE, DEVELOPING HUMAN RESOURCES, AND OPTIMIZING ASN TALENTS Akhmad Alfaraby (National University), Edi Sugiono (National University), Lijan Poltak Sinambela (National University)
2	STRENGTHENING COMPETENCE AND REGULATIONS FOR THE EFFECTIVENESS OF CIVIL SERVANT MANAGEMENT THROUGH THE DIGITALIZATION OF INDONESIAN QUARANTINE AGENCY SERVICES Suwarno Tri Widodo (Universitas Nasional), Suryono Efendi (Universitas Nasional), Lijan Poltak Sinambela (Universitas Nasional)
3	COSTLY PARASITIC BORROWING IN INDONESIA, ITS IMPACT TO THE REAL SECTOR Amanah Abdulkadir (Universitas Nasional)
4	THE INFLUENCE OF RELIGIOSITY AND INCOME ON THE DECISION TO PAY ZAKAT IN BEKASI CITY Muhammad Dzaki (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Yusuf Faisal (STIE Tri Bhakti)
5	THE EFFECT OF TAX SANCTIONS, TAX KNOWLEDGE, AND TAX AWARENESS ON INDIVIDUAL TAXPAYER COMPLIANCE (SPT) AT THE KARAWANG PRIMARY TAX SERVICE OFFICE IN 2025 Nunung Nurhasanah (Universitas Singaperbangsa Karawang), Rina Maria Hendrayani (Universitas Singaperbangsa Karawang), Gusganda Suria Manda (Universitas Singaperbangsa Karawang), Asep Muslihat (Universitas Singaperbangsa Karawang), Kosasih (Universitas Singaperbangsa Karawang), Helen Dewi Kusuma (Universitas Singaperbangsa Karawang)
6	THE EFFECT OF AUDIT FEES, AUDIT TENURE, AUDIT ROTATION, AND FIRM SIZE ON AUDIT QUALITY Shafa Aulia Azzahra (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Priscila Lesian (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Sawung Prakoso (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
7	THE INFLUENCE OF SERVICE QUALITY AND TRUST ON CUSTOMER SATISFACTION OF GOJEK INDONESIA WITH GENDER AS A MEDIATOR (SURVEY OF INSTAGRAM FOLLOWERS @gojekindonesia) Hartelina (Universitas Singaperbangsa Karawang), Raniah Jaudah komara (Universitas Singaperbangsa Karawang), Reminta Lumban Batu (Universitas Singaperbangsa Karawang), Ina Ratnasari (Universitas Singaperbangsa Karawang)
8	THE EFFECT OF DEBT TO EQUITY RATIO, CURRENT RATIO, RETURN ON EQUITY, AND TOTAL ASSET TURNOVER ON PROFIT GROWTH IN FOOD AND BEVERAGES COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD 2019–2023 Farras Nur Alifah (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Dika Nurshiva Dini Hendrik (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Keri Boru Hotang (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
9	THE INFLUENCE OF PRICE, PRODUCT QUALITY, AND LOCATION ON FROZEN FOOD PURCHASE DECISIONS AT MAMOT FOODMART IN BEKASI Anggun Putri Maharani (STIE Tri Bhakti), Triana Refelina (STIE Tri Bhakti), Sofia Maulida (STIE Tri Bhakti).
10	THE DIRECT AND SIGNIFICANT IMPACT OF TRANSFORMATIONAL LEADERSHIP STYLES ON ORGANIZATIONAL PERFORMANCE: A SYSTEMATIC LITERATURE REVIEW OF THE PRISM MODEL Evi Selvi (University of Singaperbangsa Karawang), Nelly Martini, Chaerudin (University of Singaperbangsa Karawang), Sinta Gisthi Ardhiani (University of Singaperbangsa Karawang), Neneng Sofiyanti, Zidane Rahmat H (University of Singaperbangsa Karawang)
11	INVENTORY MANAGEMENT, TECHNOLOGY UTILIZATION, AND DISTRIBUTION EFFICIENCY IN ACCELERATING MOTOR INSURANCE CLAIM SETTLEMENT Afiat Juli Hadir Santoso (Universitas Logistik dan Bisnis Internasional), Erna Mulyati (Universitas Logistik dan Bisnis Internasional), Agus Purnomo (Universitas Logistik dan Bisnis Internasional)
12	OPTIMIZING LECTURER RESEARCH PRODUCTIVITY THROUGH LECTURER PERFORMANCE MANAGEMENT AT UNIVERSITAS SINGAPERBANGSA KARAWANG Hawignyo (Universitas Singaperbangsa Karawang), Danang Kusnanto (Universitas Singaperbangsa Karawang), Novian Ekawati (Universitas Singaperbangsa Karawang), Agustifa Zea (Universitas Singaperbangsa Karawang), Adistri Sekar (Universitas Singaperbangsa Karawang)
13	GENERATIVE AI IN CONTENT CREATION: AUTOMATING AND SCALING DIGITAL ADVERTISING WITHOUT SACRIFICING CREATIVITY. Muhammad Giga Ali Syahputra (Universitas Trunojoyo Madura)
14	FASHION BRAND SUSTAINABILITY COMMUNICATION STRATEGIES: COMPARATIVE NARRATIVE ANALYSIS OF INSTAGRAM CONTENT Nada Nazhifah Mestika Dyahningrum (Universitas Trunojoyo Madura)
15	THE EFFECT OF WORK MOTIVATION, WORK ENVIRONMENT ON EMPLOYEE PERFORMANCE WITH JOB SATISFACTION AS A MEDIATING VARIABLE Irna Sulistiarini, (Universitas Trunojoyo Madura.). Sanida Nisa Farasi, (Universitas Trunojoyo Madura). Malik Ibrohim, (Universitas Trunojoyo Madura.) Firman Ariefiansyah, (Universitas Trunojoyo Madura). Helmi Buyung Aulia Safrizal, (Universitas Trunojoyo Madura). Arya Satya Pratama, (Universitas Trunojoyo Madura).

Room: 2 (Zoom), Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Dr. Arni Karina, S.E., M.SiM (Universitas Nasional)
1	ROLE OF R&D COLLABORATION IN DIGITAL TRANSFORMATION AND EXPORT PERFORMANCE: EVIDENCE FROM CHINA'S MANUFACTURING INDUSTRY Linbo Ren (Universiti Kebangsaan Malaysia), Md Daud Ismail (Universiti Kebangsaan Malaysia)
2	DRIVERS OF SUSTAINABLE CONSUMPTION: THE ROLE OF CLIMATE LITERACY IN SHAPING UNIVERSITY STUDENTS' PRO-ENVIRONMENTAL BEHAVIOR Ina Ratnasari (Universitas Singaperbangsa Karawang), Salim Siregar (Universitas Singaperbangsa Karawang), Yudi Helfi (Universitas Singaperbangsa Karawang), Abdul Yusuf (Universitas Singaperbangsa Karawang), Reminta Lumban (Universitas Singaperbangsa Karawang), Putra Abdi (Universitas Singaperbangsa Karawang)
3	THE INFLUENCE LIFESTYLE, SELF-CONTROL, AND DIGITAL WALLETS ON CONSUMER BEHAVIOR OF SHOPEE APPLICATION USERS IN BEKASI CITY Arini Yuniar (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Fitriyah Nurmulya (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
4	THE INFLUENCE OF PAYMENT CONVENIENCE AND TRANSACTION SECURITY ON PURCHASING DECISIONS IN THE SHOPEE APPLICATION (A Study On Shopee Users In Bekasi) Rian Hidayat (STIE Tri Bhakti), Irvan F.C. Oentoeng (STIE Tri Bhakti)
5	HOW IS CSR DISCLOSURE IN HIGH PROFILE AND RISKY COMPANIES? Sri Suartini (Universitas Singaperbangsa Karawang), Siska Liana (Universitas Singaperbangsa Karawang), Carolyn Lukita (Universitas Singaperbangsa Karawang), Nurul Amalia Ramdan (Universitas Singaperbangsa Karawang)
6	DRIVING THE SUSTAINABILITY OF RURAL MSMES THROUGH DIGITALIZATION STRATEGY AND CIRCULAR ECONOMY Murry Harmawan Saputra (Universitas Muhammadiyah Purworejo), Intan Puspitasari (Universitas Muhammadiyah Purworejo), Endah Pri Ariningsih (Universitas Muhammadiyah Purworejo)
7	THE INFLUENCE OF FINANCIAL LITERACY AND OVERCONFIDENCE ON INVESTMENT DECISION MAKING Aminatuzzuhriyeh (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Reni Suwandi Ade Puspita (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
8	DRIVERS OF NON-PERFORMING FINANCING IN WEST JAVA'S SHARIA RURAL BANKS: AN INTERNAL AND EXTERNAL PERSPECTIVE Nana Diana (Universitas Singaperbangsa Karawang), Aliefia Indah (Universitas Singaperbangsa Karawang), Widya Febryari (Universitas Singaperbangsa Karawang), Achmad Nawawi (Universitas Singaperbangsa Karawang), Nesti Hapsari (Universitas Singaperbangsa Karawang)
9	THE INFLUENCE OF ARTIFICIAL INTELLIGENCE, SOCIAL MEDIA, ADVERTISING, AND WEBSITE UTILIZATION ON DIGITAL MARKETING AT TRI BHAKTI BUSINESS SCHOOL Frengki Panangian (STIE Tri Bhakti), Taufik Hidayat (STIE Tri Bhakti)
10	EFFECTS OF ENTREPRENEURSHIP EDUCATION, INCOME EXPECTATION, AND FAMILY ENVIRONMENT ON YOUTH ENTREPRENEURSHIP Rabhi Fathan Muhammad (Universitas Singaperbangsa Karawang), Danang Kusnanto (Universitas Singaperbangsa Karawang), Anwar Musadad (Universitas Singaperbangsa Karawang), Dede Jajang Suyaman (Universitas Singaperbangsa Karawang), Rizky Agung Nugraha (Universitas Singaperbangsa Karawang)
11	THE IMPACT OF THE JAKARTA COMPOSITE INDEX (JCI) ON THE STOCK PERFORMANCE OF BANK MANDIRI AND BANK RAKYAT INDONESIA (BRI) IN THE PERIOD 2013–2022 Bagus Bimantoro (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
12	THE IMPACT OF GOVERNMENT SPENDING ON ECONOMIC GROWTH IN MALAYSIA Fiona Hii Jia Yuna (Universiti Malaysia Sarawak), Rossazana Ab Rahima (Universiti Malaysia Sarawak), Noor Shazreen Mortadzaa (Universiti Malaysia Sarawak)
13	SUSTAINABILITY DISCLOSURE AND FIRM VALUE: THE MEDIATING EFFECT OF FINANCIAL PERFORMANCE Disti Paremono Priatsaleh (Universitas Nasional), Andini Nurwulandari (Universitas Nasional), Irma Setyawati (Universitas Nasional)
14	STUDY OF THE COMMUNITY SATISFACTION INDEX TOWARDS THE SERVICE OF PDAM SUMBER POCONG BANGKALAN. Fatimatul Fatmariyah (Universitas Trunojoyo Madura). Fathor AS (Universitas Trunojoyo Madura), Nurita Andriani (Universitas Trunojoyo)
15	BANKING PERFORMANCE AND FINANCIAL SYSTEM STABILITY: AN ANALYSIS OF PROFITABILITY AND FIRM SIZE ON THE FIRM VALUE OF PUBLIC BANKS IN INDONESIA IN 2024 Nurul Hidayat (Universitas Trunojoyo Madura), As'adi Khas (Universitas Trunojoyo Madura. Buhairi, Univeristas Bhaudin Mudhary Madura), Shely Dinar Tamara (Universitas Trunojoyo Madura), A. Yahya Surya Winata (Universitas Trunojoyo),
16	THE IMPLICATIONS OF DIGITAL TRANSFORMATION IN HUMAN RESOURCE MANAGEMENT ON EMPLOYEE EXPERIENCE AND ORGANIZATIONAL PERFORMANCE Ahmad Tohir (Universitas Trunojoyo Madura), Zainiyatul Afifah (Universitas Trunojoyo Madura), Muhammad Giga Ali Syahputra (Universitas Trunojoyo Madura), Suto (Universitas Trunojoyo Madura), Mohammad Irfandi Iqbal (Universitas Trunojoyo Madura)

Room: 3 (Zoom), Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Dr. Ramang Husin Demolingo, S.S., M.Par (Universitas Nasional)
1	TECHNOLOGICAL INNOVATION AS A DRIVER OF ECONOMIC GROWTH IN EMERGING MARKETS Sara Bouya (Ibn Tofail University), Kenza El Kadiri (Ibn Tofail University)
2	HOW GIG WORKERS THINK LIKE ENTREPRENEURS Vikrant Yadav (Entrepreneurship Development Institute of India)
3	FROM REVIEWS TO RATINGS: THE IMPACT OF DIGITAL FEEDBACK AND PROMOTIONS ON ONLINE PURCHASE DECISIONS IN E-COMMERCE PLATFORMS Nur Fadillah (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Rizki Oktaviani (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Jerico Natanael Simanjuntak (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
4	ESG, CAPITAL STRUCTURE, AND FINANCIAL PERFORMANCE: EVIDENCE FROM INDONESIA & MALAYSIA ON THE MODERATING ROLE OF GENDER DIVERSITY Afifa Nurhanifah (Universitas Singaperbangsa Karawang), Sekar Putri Rengganis (Universitas Singaperbangsa Karawang), Rizke Wiliyanti (Universitas Singaperbangsa Karawang), Soni Okabrian (Universitas Singaperbangsa Karawang), Venni Avionita (Universitas Singaperbangsa Karawang), Kamaluddin Rahmat (Universitas Singaperbangsa Karawang)
5	FINANCIAL DETERMINATION ON PROFIT GROWTH: A STUDY ON BANKING SUBSECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE Wafiq Azizah (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Pebriyanti Palentina Sitorus (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), R. Taufik Hidayat (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
6	PROFITABILITY, LEVERAGE, AND DIVIDEND POLICY ON FIRM VALUE: EVIDENCE FROM INDONESIA Irvan Yoga Pardistya (Universitas Singaperbangsa Karawang), Heikal Muhammad Zakaria Hakim (Universitas Singaperbangsa Karawang), Wirman (Universitas Singaperbangsa Karawang), Maulana Mansyur (Universitas Singaperbangsa Karawang), Lintang Permata Jati (Universitas Singaperbangsa Karawang)
7	ANALYSIS OF AIRCRAFT SPARE PARTS SUPPLY CHAIN NETWORK FOR PREDICTING DELIVERY DELAY PATTERNS IN REPAIR PROCESS USING MACHINE LEARNING Dhinda Rezta Adha (Universitas Logistik dan Bisnis Internasional)
8	INVESTMENT ACCOUNT HOLDER, NON-PERFORMING FINANCING, AND ISLAMIC SOCIAL REPORTING: THE ROLE OF ISLAMIC CORPORATE GOVERNANCE IN ISLAMIC BANKS Siti Muzayyanah (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Qonitatun Luthfiyah (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
9	THE EFFECT OF QUEUE, SERVICE QUALITY, AND BRAND IMAGE ON CUSTOMER SATISFACTION AT BEAUTY CLINICS IN BEKASI CITY Safitri Adila (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Prillia Haliawan (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
10	THE INFLUENCE OF REGIONAL FINANCIAL INDEPENDENCE, EFFECTIVENESS OF LOCAL OWN-SOURCE REVENUE, BUDGET EFFICIENCY, AND REGIONAL CASH MANAGEMENT ON REGIONAL GOVERNMENT PERFORMANCE Indi Widianingsih (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Frenky May Kristiando (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Ramses Pakpahan (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
11	BALANCING BUSINESS AND THE NATURAL ENVIRONMENT WITH THE CONCEPT OF LEADERSHIP QUALITY, GREEN INNOVATION, AND QUALITY PERFORMANCE (CASE STUDY ON SME) Rediawan Miharja (Universitas Singaperbangsa Karawang), Fety Nurlia Muzayanah (Universitas Singaperbangsa Karawang), Anggi Pasca Arnu (Universitas Singaperbangsa Karawang), Ajat Sudrajat (Universitas Singaperbangsa Karawang), Silvia Akbar (Universitas Singaperbangsa Karawang), Ristia Nurhajjah (Universitas Singaperbangsa Karawang)
12	THE INFLUENCE OF PERCEIVED QUALITY OF DIGITAL CONTENT AND DIGITAL ENGAGEMENT ON THE PERCEIVED ROLE OF DIGITAL MARKETING IN ENROLLMENT DECISIONS AT SMKPP JAKARTA Hendri Kustian (Universitas Nasional), Suryono Efendi (Universitas Nasional), Rahayu Lestari (Universitas Nasional)
13	DIGITAL MARKETING: A GAME CHANGER FOR LOCAL BUSINESSES IN BUILDING CUSTOMER TRUST & RELATIONSHIPS IN THE GIG ECONOMY ERA Zulal (Universitas Trunojoyo Madura), Yustina Chrismardani (Universitas Trunojoyo Madura), Yuliyana Shaputri (Universitas Trunojoyo Madura), Wildan Fuady (Universitas Trunojoyo Madura)
14	DIGITAL MARKETING AND COGNITIVE DECLINE (BRAIN ROT): A SYSTEMATIC LITERATURE REVIEW OF IMPULSIVE BEHAVIOR AND CONSUMER DECISION MAKING Ayunda Pradini (Universitas Trunojoyo Madura), Nabila Aulia Dwiyantri (Universitas Trunojoyo Madura), Fathor AS (Universitas Trunojoyo Madura)
15	THE ROLE OF DIGITAL MARKETING AND GREEN INNOVATION IN ENHANCING SUSTAINABLE BUSINESS PERFORMANCE: A SYSTEMATIC LITERATURE REVIEW OF EVIDENCE FROM SMES IN INDONESIA Citra Ayuningtyas (Universitas Trunojoyo Madura), Aprilina Susandini (Universitas Trunojoyo Madura), Ulfa Aulia (Universitas Trunojoyo Madura), Rahmat Hidayat (Universitas Trunojoyo Madura), Selika Aprilita Puspitasari (Universitas Trunojoyo Madura)

Room: 4 (Zoom), Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Ulfi Maranisa, S.S.T.Par., M.Par (Universitas Nasional)
1	INDUSTRY CLASSIFICATION AS A MODERATOR OF THE PROFITABILITY–FIRM VALUE RELATIONSHIP: AN MRA Yosep Rahman Hidayat (Universitas Singaperbangsa Karawang), Hari Sulisty (Universitas Singaperbangsa Karawang), Liya Megawati (Universitas Singaperbangsa Karawang), Suhono (Universitas Singaperbangsa Karawang), Tiarlina Situngkir (Universitas Singaperbangsa Karawang), Alsya Putri (Universitas Singaperbangsa Karawang)
2	PERFORMANCE PLANNING AS A MEDIATOR OF THE RELATIONSHIP BETWEEN TRAINING AND COMPENSATION AND THE PERFORMANCE OF EMPLOYEES OF THE INDONESIAN QUARANTINE AGENCY Apris Beniawan (Universitas Nasional), Lijan Poltak Sinambela (Universitas Nasional), Tri Waluyo (Universitas Nasional)
3	THE EFFECT OF PERFORMANCE AND ACCESSIBLTY ON PUBLIC SATISFACTION IN THE DIRECTORATE GENERAL OF AGRICULTURAL LAND AND IRRIGATION MINISTRY OF AGRICULTURE: MEDIATION OF PUBLIC TRUST Acang Nurhasan (Universitas Nasional), Edi Sugiono (Universitas Nasional), Suryono Efendi (Universitas Nasional)
4	THE MODERATING ROLE OF BOARD DIVERSITY GENDER IN THE RELATIONSHIP BETWEEN ESG REPORT AND TAX AGGRESIVENESS Indra Pahala (Universitas Negeri Jakarta), Wahyu Wastuti (Universitas Negeri Jakarta)
5	DAMPAK MANAJEMEN DIGITAL DAN KUALITAS PRODUK TERHADAP DAYA SAING UMKM DI KOTA BOGOR Mashadi (IBI Kesatuan), Mumuh Mulyana (IBI Kesatuan), Gen Gen Gendalasari (IBI Kesatuan)
6	ANALISIS PENGARUH CAPITAL ADEQUACY RATIO (CAR), NON PERFORMING LOAN (NPL), DAN OPERATING COST ON OPERATING INCOME (OCOI) TERHADAP KINERJA BANK STUDI KASUS PADA BANK PERSERO YANG TERDAFTAR DI BURSA EFEK INDONESIA PERIODE 2015-2022 Desliana Astrid (IBI Kesatuan), Wadudi Wibowo (IBI Kesatuan), Wimpi Srihandoko (IBI Kesatuan), Edy Safni Rosa (IBI Kesatuan)
7	PENGARUH GAYA HIDUP, KEMUDAHAN, DAN KEAMANAN TERHADAP PENGGUNAAN TRANSAKSI CASHLESS (STUDI PADA GENERASI Z DI KOTA BOGOR) Stephany Angel Tan (IBI Kesatuan)
8	PENGARUH STORE THEATRIC DAN STORE ATMOSPHERE TERHADAP MINAT BELI KONSUMEN (STUDI KASUS KONSUMEN MINISO DI KOTA BOGOR) Fiernanda Suherman (IBI Kesatuan)
9	PENGARUH PROFITABILITAS, LIKUIDITAS, DAN SOLVABILITAS SERTA KEBIJAKAN DIVIDEN TERHADAP NILAI PERUSAHAAN SUB SEKTOR TELEKOMUNIKASI YANG TERDAFTAR DI BURSA EFEK INDONESIA PERIODE 2019-2023 Bella Lorenza (IBI Kesatuan)
10	PENGARUH CURRENT RATIO, DEBT TO EQUITY RATIO, TOTAL ASSET TURNOVER DAN NET PROFIT MARGIN TERHADAP RETURN ON ASSETS STUDI PADA PERUSAHAAN SUB SEKTOR TELEKOMUNIKASI YANG TERDAFTAR DI BURSA EFEK INDONESIA TAHUN 2019 – 2023 Merry Putri (IBI Kesatuan)
11	PENGARUH KUALITAS LAYANAN DAN KEPUASAN TERHADAP LOYALITAS NASABAH (STUDI KASUS PADA PENGGUNA APLIKASI LIVIN' BY MANDIRI) Fadiana (IBI Kesatuan)
12	PENGARUH RETURN ON ASSETS (ROA), RETURN ON EQUITY (ROE), DAN EARNING PER SHARE (EPS) TERHADAP RETURN SAHAM (pada perusahaan CONSUMERS GOODS YANG TERDAFTAR DI BEI PADA PERIODE 2016 – 2020) Muhammad Ilman (IBI Kesatuan)
13	UNDERSTANDING PEER PRESSURE IN THE BUY NOW PAY LATER PHENOMENON: A LITERATURE REVIEW FROM AN ORGANIZATIONAL BEHAVIOR PERSPECTIVE Dwi Putri Kartika Candra (Universitas Trunojoyo Madura), Purnamawati (Universitas Trunojoyo Madura), Moh. Zaki Kurniawan (Universitas Trunojoyo Madura), Shely Dinar Thamara (Universitas Trunojoyo Madura), Fika Najati (Universitas Trunojoyo Madura)
14	HOW DOES DIGITAL FINANCIAL LITERACY AND FINANCIAL BEHAVIOR PLAY A ROLE IN FINANCIAL STRESS? Rahmat Hidayat (Universitas Trunojoyo Madura), Laurentin Carolin Tiara (Universitas Trunojoyo Madura), Ilham Maulana (Universitas Trunojoyo Madura), Vidi Hadyarti (Universitas Trunojoyo Madura)
15	THE ROLE OF DIGITALIZATION FINANCIAL MANAGEMENT OF MSMEs IN ASEAN COUNTRIES: OPPORTUNITIES AND CHALLENGES IN THE SOCIETY 5.0 ERA Ulfa Aulia (Universitas Trunojoyo Madura), Fatimatul Fatmariyah (Universitas Trunojoyo Madura), M. Boy Singgih Gitayuda (Universitas Trunojoyo Madura), Irna Sulistiarini (Universitas Trunojoyo Madura), Fatimatul Fatmariyah (Universitas Trunojoyo Madura)

Room: 5 (Zoom), Hours: 12.00 PM – 3.30 PM, Jakarta Time, November 10, 2025	
No	Moderator: Dr. Suadi Sapat Putra M.Par (Universitas Nasional)
1	THE EFFECT OF COMPLETE, MOTIVATION, AND COMPENSATION ON TEACHER'S PERFORMANCE AT PAUD-QU INSTITUTIONS, PASAR KEMIS DISTRICT, TANGERANG THROUGH WORK PROFESSIONALISM AS A INTERVENING VARIABLE. Tunjung Wigatiningrum, Andini Nurwulandari (Universitas Nasional)
2	THE INFLUENCE OF ORGANIZATIONAL CULTURE, COMPETENCY AND INTRINSIC MOTIVATION ON EMPLOYEE PERFORMANCE WITH JOB SATISFACTION AS AN INTERVENING VARIABLE AT PT. CIPTA PRIMA JAYA Teguh Samudra, Edi Sugiono (Universitas Nasional)
3	THE INFLUENCE OF EXPERIENTIAL MARKETING, SERVIE QUALITY, AND CUSTOMER VALUE ON CUSTOMER LOYALTY AT STARBUCKS BEKASI WITH CUSTOMER SATISFACTION AS A MEDIATING VARIABLE Dimas Octavianus Sutra, Elwisam (Universitas Nasional)
5	THE INFLUENCE OF CAREER DEVELOPMENT, ORGANIZATIONAL CULTURE, AND TEAMWORK ON EMPLOYEE PERFORMANCE WITH JOB SATISFACTION AS ON INTERVENING VARIABLE Aditya Widyartadi, Irma Setyawati (Universitas Nasional)
6	THE EFFECT OF RETURN ON ASSETS (ROA), EARNINGS PER SHARE (EPS), AND PRICE TO BOOK VALUE (PBV) ON STOCK PRICES IN ENERGY SECTOR COMPANIES ON THE INDONESIA STOCK EXCHANGE FOR THE PERIODE 2020-2024 Karisma Nur Zakirah, Subur Karyatun (Universitas Nasional)
7	THE EFFECT PROFITABILITY, LEVERAGE, INSTITUTIONAL OWNERSHIP ON FIRM VALUE Khoirun Nuranisa Safitri (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Bellindah Ocotova Ath- thaariq Hodayat (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Lembah Dewi Andini (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti)
8	THE EFFECT OF INFLUENCER MARKETING, ONLINE CUSTOMER REVIEWS AND CONTENT MARKETING ON CONSUMER TRUST IN WARDAH SKINCARE IN BEKASI CITY Ajeng Lestari Ana Iktiar (Sekolah Tinggi Ilmu Ekonomi Tri Bhakti), Widayatmoko (STIE Tri Bhakti)
9	EVALUATION OF THE RELATIONSHIP AMONG SERVICE QUALITY, PERCEIVED VALUE, CRM, AND CUSTOMER ENGAGEMENT TOWARD LOYALTY AND CUSTOMER SATISFACTION AT AWAL CARE VETERINARY CLINIC Mirjawal (Universitas Nasional)
10	PENGARUH PERSEPSI KEGUNAAN, KEMUDAHAN, DAN KEAMANAN TERHADAP MINAT MENGGUNAKAN MOBILE BANKING BCA DI BOGOR Siti Khodidjah (IBI Kesatuan)
11	AI-DRIVEN MARKETING AND THE CHANGING ROLE OF MARKETERS: A SYSTEMATIC LITERATURE REVIEW OF COMPETENCY GAPS AND ORGANIZATIONAL TRANSFORMATION Widya Ayu Rachmadhita (Universitas Trunojoyo Madura), Deykha Aguilika (Universitas Trunojoyo Madura), Makhmud Zulkifli (Universitas Trunojoyo Madura), Zulal (Universitas Trunojoyo Madura), Citra Ayuningtyas (Universitas Trunojoyo Madura)
12	BUILDING GENERATION Z INTERPERSONAL RELATIONSHIPS IN THE DIGITAL AGE THROUGH ADAPTIVE ORGANIZATIONAL CULTURE. Wildan Fuady (Universitas Trunojoyo Madura), Evaliati Amaniyah (Universitas Trunojoyo Madura), Samsuki (Universitas Trunojoyo Madura), Moh Farid (Universitas Trunojoyo Madura).
13	TALENT MANAGEMENT IN DRIVING SUSTAINABLE PERFORMANCE AND ORGANIZATIONAL COMPETITIVENESS IN THE DIGITAL ERA Yuliyana Shaputri (Universitas Trunojoyo Madura), Muh. Syarif (Universitas Trunojoyo Madura), Abdul Manap (Universitas Trunojoyo Madura), Muh. Syarif (Universitas Trunojoyo Madura)
14	MANAGEMENT STRATEGY IN BUILDING BUSINESS WORLD DEVELOPMENT THROUGH A CULTURE OF INNOVATION AT PT BINA SARANA SUKSES 2025 Hisnaniah (Universitas Islam Kalimantan Muhammad Arsyad Al Banjari), Tian Nugraha Suharto (PT Intelektual Sinergi Indonesia), Aditya Sukma Wijaya (PT Intelektual Sinergi Indonesia), Rachmadi Gewa Saputra (PT Bina Sarana Sukses), Ni Kadek Marheny Wulandari (PT Bina Sarana Sukses)
15	THE EFFECT OF COMPETENCE, MOTIVATION, AND COMPENSATION ON TEACHER'S PERFORMANCE AT PAUD-QU INSTITUTIONS, PASAR KEMIS DISTRICT, TANGERANG THROUGH WORK PROFESSIONALISM AS A INTERVENING VARIABLE Tunjung Wigatiningrum (University of Nasional), Andini Nurwulandari (University of Nasional)

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THE ENTREPRENEURIAL FINANCE OF FINTECH FIRMS AND THE EFFECT OF INVESTMENTS IN FINTECH STARTUPS ON THE PERFORMANCE OF CORPORATE INVESTORS

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In the paper I present in this keynote speech, we analyze how corporate direct investments in fintech startups affect startup performance and that of investing firms. Corporate investment in fintech startups is associated with greater successful exit likelihood; more and higher quality innovation; and higher inflow of high-quality inventors. We establish causality using IV analyses. A stacked difference-in-differences analysis shows that direct investments enhance the operating performance and equity market valuation of corporate investors from the financial services sector, but not of those from the non-financial sector. Two channels driving fintech startups' performance improvements are strategic alliance formation between investors and startups and enhanced startup monitoring by corporate investors.

PRIVATE FIRM DISCLOSURES AND PUBLIC FIRMS' DEBT CHOICE

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Abstract

We examine whether public firms' debt choice is sensitive to private firm disclosure transparency. Analyzing data from 60 countries between 2002 and 2021, we find that private firm transparency significantly reduces public firms' reliance on bank debt. This evidence implies that private firm disclosure transparency narrows information asymmetry, which, in turn, reduces public firms' reliance on bank debt. We also document that private firm disclosure transparency is negatively associated with bank monitoring needs, evident in the lower shares taken by lead arrangers and the lower probability of having debt covenants. Cross-sectional results suggest that the impact of private firm transparency is larger when public firms suffer worse information opacity, public firms have lower bank monitoring needs, private firm disclosures are more important to their public peers, and bond markets are more developed. In relying on the staggered implementation of electronic business registers as a plausibly exogenous shock and a simulated disclosure scope as the instrumental variable, we continue to find that private firm disclosures reduce public firms' bank debt reliance, helping to sharpen identification by alleviating endogeneity threats. Collectively, we provide empirical support for private firm transparency engendering a positive externality that shapes public firms' debt choice.

Keywords: private firm disclosure, bank debt, debt choice

JEL Classification: G32; G21; M41

* Contact author. We deeply appreciate constructive insights on an earlier version of the paper from Stephanie Cheng, Andy Chui, Linda Myers, Jeffrey Ng, Longfei Shang, Jewon Shin, Chong Wang, John Wei, Jing Xie, and Cheng Colin Zeng. We are also grateful for valuable comments from conference participants at the 46th Annual Congress of European Accounting Association, the 2024 AsianFA Annual Conference, and the 48th Eurasia Business and Economics Society Conference, as well as seminar participants at the Shanghai University of Finance and Economics and The Hong Kong Polytechnic University.

THE ESG-PROFIT NEXUS IN BANKING: INSIGHTS FROM MALAYSIA AND INDONESIA

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Abstract

The transition to a sustainable future demands a fundamental rethinking of the relationship between finance and societal value. In the dynamic landscape of Southeast Asia, the banking sectors of Malaysia and Indonesia serve as critical case studies, demonstrating the complex, yet compelling, link between Environmental, Social, and Governance (ESG) performance and financial outcomes. While Indonesian banks navigate a largely mandatory ESG reporting framework, Malaysian banks operate within a principle-based ecosystem driven by the central bank's Climate Change and Principle-based Taxonomy (CCPT). This keynote presents empirical findings from a study on Malaysian banks (2018–2023), which found that integrated ESG performance has a statistically significant and positive impact on Return on Equity (ROE), but not on Return on Assets (ROA). This dichotomy is crucial: it proves that sustainability is not a drag on profitability but a strategic, long-term investment that builds shareholder confidence and lowers the cost of equity. In contrast, the negligible short-term effect on ROA suggests that the benefits of ESG, rooted in reputation, risk mitigation, and strong governance take time to materialize as operational efficiency gains. The findings provide a clear mandate for both ASEAN regulators and bank leaders to shift their focus from short-term efficiency metrics (ROA) to long-term value creation (ROE). By viewing ESG as a core driver of financial resilience and stability, the banking sector can effectively act as the catalyst for achieving sustainable development goals and financing a better world.

KOREA HR KEY TRENDS AND ITS IMPLICATIONS TO GLOBAL PROFESSIONALS

Joon-Ki Han

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Abstract

The main purpose of the session is to share Korea today and Korea's HR story as an emerging strategic hub for many global professionals. Also, on top of that, the audience will understand a couple of points for organization effectiveness and people development in Asian market, in the context of globalization where more and more interaction and M & A taking place between western countries and Asian countries. As Indonesia is also one of the most eye-catching countries in the world as the next leading country, Korea's fast changing stories will give some meaningful insights.

HYBRID LEADERSHIP IN EDUCATION AND CONSULTING: A STRATEGIC PERSPECTIVE

Byung Ik Jung

Busan International College, South Korea & partner at Andersen Consulting

Abstract

In an era where higher education faces consulting-level complexity, academic leaders must evolve beyond traditional administration. This session explores how the fusion of consulting discipline and educational empathy—what I call Hybrid Leadership—can transform universities into agile, innovative institutions.

Drawing on real experiences from BCG, SolBridge International School of Business, and Andersen Consulting, the talk introduces a practical framework integrating Strategic Intelligence, Design Empathy, and Institutional Execution. Participants will learn how consulting tools such as strategic diagnosis, portfolio thinking, and KPI-driven management can strengthen university competitiveness—when balanced with purpose, empathy, and human-centered design.

Ultimately, the session argues that the future of ASEAN higher education depends on leaders who think like consultants and feel like educators—capable of turning analytics into insight, and empathy into sustainable innovation.

TECHNOLOGICAL INNOVATION AS A DRIVER OF ECONOMIC GROWTH IN EMERGING MARKETS

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Abstract

This paper examines the transformative role of technological innovation as a key driver of economic growth in emerging markets. With the rapid advancement of technologies such as artificial intelligence (AI), blockchain, and big data analytics, emerging economies have the opportunity to leapfrog traditional development stages and achieve accelerated economic growth. This paper explores the mechanisms through which technological innovation fosters economic development, focusing on job creation, service accessibility, productivity improvements, and industry transformation. It also highlights the barriers to innovation adoption, including infrastructure deficits and digital literacy gaps. Drawing on case studies from countries like India, Kenya, and Brazil, the paper provides insights into the potential for technological innovations to drive inclusive and sustainable growth. The paper concludes with policy recommendations for governments and businesses to facilitate technological adoption in emerging markets, ensuring equitable access and maximizing the socioeconomic benefits.

Keywords: *Technological Innovation, Economic Growth, Emerging Markets, Artificial Intelligence (AI), Blockchain*

1. Introduction

Emerging markets are crucial players in the global economic landscape, with technological innovation at the core of this transformation. As digital technologies continue to evolve, they offer new opportunities for developing economies to enhance productivity, improve public services, and create sustainable growth paths. Technologies like artificial intelligence (AI), blockchain, and big data analytics are reshaping industries, from healthcare to finance and education, driving economic development in unprecedented ways.

The importance of technological innovation lies not only in its ability to enhance efficiency and productivity but also in its potential to foster inclusivity, bridge gaps in service delivery, and create new economic opportunities. For many emerging markets, technology represents a leap forward—an opportunity to overcome traditional barriers to growth, such as infrastructure deficits and limited access to essential services.

This paper aims to explore the role of technological innovation in driving economic growth in emerging markets, emphasizing its impact on key sectors, the challenges faced in adopting new technologies, and the strategies needed to overcome these barriers. Through an analysis of case studies, we investigate how countries in different regions are leveraging technology to improve their economies and societies.

2. Literature Review

2.1 Technological Innovation and Economic Growth

The relationship between technological innovation and economic growth has been extensively studied. According to Solow (1957), technological progress is a fundamental driver of economic growth, influencing productivity across various sectors. In the context of emerging markets, the role of innovation is even more crucial, as it enables countries to overcome the limitations of traditional development models and accelerate growth.

Recent studies highlight the potential of emerging technologies such as AI and blockchain to catalyze significant economic development. Brynjolfsson and McAfee (2014) argue that digital technologies, particularly automation and AI, can dramatically improve productivity in developing economies, fostering new industries and improving existing ones. Similarly, the World Bank (2020) reports that blockchain technology can enhance transparency and efficiency in sectors like finance and logistics, helping emerging markets reduce corruption and improve service delivery.

However, despite the vast potential, the literature also points to several challenges that hinder the widespread adoption of these technologies. The digital divide, infrastructure gaps, and lack of digital literacy are recurring themes in the studies of technological adoption in emerging markets (Graham & Wadhwa, 2019). These barriers must be addressed to fully realize the economic potential of innovation.

2.2 Barriers to Technological Adoption

One of the most significant challenges in emerging markets is the digital divide, which refers to the unequal access to technology between different socioeconomic groups. This gap is particularly pronounced in rural areas, where infrastructure deficits limit access to high-speed internet and digital devices. According to Choi et al. (2017), overcoming this divide requires substantial investments in infrastructure, as well as targeted policies to promote digital literacy and skills development.

Additionally, there is the issue of human capital. In many emerging markets, the workforce lacks the necessary skills to effectively utilize advanced technologies. The gap in technical skills, particularly in fields like AI, data science, and blockchain, can limit the capacity of businesses and governments to leverage technological innovations effectively (Manyika et al., 2017).

3. Methodology

This study adopts a qualitative approach, examining case studies from various emerging economies that have successfully integrated technological innovations into their development strategies. The countries selected for analysis include India, Kenya, and Brazil—each of which has made significant strides in adopting digital technologies in sectors like healthcare, finance, and education.

The data for this study were collected from a combination of government reports, industry surveys, academic articles, and interviews with stakeholders involved in the implementation of technological innovations. The paper uses these case studies to explore the impact of specific technologies, such as mobile banking, AI in healthcare, and blockchain in supply chain management, on economic growth in these regions.

By focusing on real-world examples, the study aims to identify best practices, challenges, and lessons learned that can inform future efforts to promote technological innovation in other emerging markets.

4. Results and Discussion

4.1 Impact on Job Creation

Technological innovation plays a crucial role in job creation, particularly in sectors like healthcare, finance, and education. In India, the adoption of AI in healthcare has led to the creation of new jobs in data analysis, diagnostics, and telemedicine. Similarly, mobile banking services like M-Pesa in Kenya have enabled millions of people to engage in financial transactions, fostering entrepreneurship and job creation in previously underserved areas (Jack & Suri, 2011).

Blockchain technology has also contributed to job creation in emerging markets by enabling new business models, such as decentralized finance (DeFi), that can create employment opportunities in the digital economy. For example, blockchain-based platforms in Brazil have facilitated the development of new financial services that are both secure and transparent, attracting investment and creating job opportunities in the fintech sector.

4.2 Enhanced Access to Services

Innovation in emerging markets is not only about creating new industries but also about improving the quality and accessibility of essential services. AI-powered diagnostics, for example, have revolutionized healthcare delivery in rural areas of India, where access to doctors is limited. Similarly, blockchain is improving transparency in government services, reducing corruption, and making public services more accessible.

In education, digital platforms are bridging the gap in access to quality education. Online learning platforms in Brazil, for example, allow students from remote regions to access world-class educational resources, thereby contributing to human capital development and preparing a future workforce capable of driving further innovation.

4.3 Barriers and Challenges

Despite the progress made in these countries, several barriers to the widespread adoption of technological innovations remain. Infrastructure challenges, such as inadequate internet connectivity in rural areas, continue to limit the effectiveness of digital technologies. In Kenya, for instance, while mobile banking has reached millions, rural areas still face issues related to internet access and mobile network reliability.

Moreover, digital literacy remains a critical issue. In many emerging markets, a significant portion of the population lacks the necessary skills to effectively engage with new technologies. As noted by Manyika et al. (2017), the absence of digital literacy programs and skills training hampers the potential for technology to drive inclusive growth.

5. Public Policy and Regulatory Frameworks

Government policies are crucial in creating environments that foster the adoption and integration of technology. Regulatory frameworks that encourage technological innovation can

provide incentives for businesses to invest in digital transformation and help reduce barriers such as the digital divide. For example, initiatives like India's Digital India program focus on improving digital infrastructure and accessibility, which is critical for enabling growth in the digital economy.

Furthermore, the creation of favorable tax policies and subsidies for tech startups can provide the necessary capital for innovation-driven industries to thrive. Governments must also ensure that there is regulatory clarity around new technologies like blockchain, to provide businesses with a stable environment to experiment and innovate.

6. Innovation-Driven Economic Development Models

Technological innovation has been at the heart of new development models in emerging markets. For instance, leapfrogging is a concept that refers to developing countries bypassing traditional stages of industrial development by adopting cutting-edge technologies. In Kenya, the adoption of mobile money has allowed millions of people to access financial services without the need for traditional banking infrastructure.

Other models, such as inclusive innovation, focus on making technology accessible to underserved populations. For example, Brazil's Innovative Public Health System uses AI and data analytics to manage healthcare services, helping to reduce inequality in service delivery.

7. Sectoral Impacts of Technological Innovation

Technological innovation has wide-ranging effects on various sectors of the economy, especially in emerging markets where the need for rapid economic growth is paramount. The following sections explore the transformative impacts of technological innovations in key industries: healthcare, finance, and education.

7.1 Healthcare

In the healthcare sector, technological advancements like artificial intelligence (AI), telemedicine, and electronic health records (EHR) are revolutionizing service delivery. In India, AI-powered diagnostic tools have drastically improved early detection of diseases like cancer and tuberculosis, particularly in rural areas where healthcare professionals are scarce. Telemedicine platforms, such as Tele-Health, enable patients to receive consultations from distant specialists, breaking geographical barriers. Moreover, countries like Kenya are integrating digital health solutions to offer better maternal and child health services through mobile phones and cloud-based platforms.

However, while the potential for innovation is vast, the healthcare sector faces challenges such as data security, insufficient internet infrastructure in rural regions, and a lack of digital literacy among healthcare providers. Overcoming these barriers is crucial to ensure that technological innovations translate into broader access to quality healthcare.

7.2 Finance

The financial sector has experienced a significant transformation in emerging markets, primarily due to the rise of mobile banking, blockchain technology, and fintech solutions. The M-Pesa mobile payment system in Kenya is one of the most cited examples, allowing millions of people in rural areas to access financial services without a traditional bank. This shift to digital finance has led to greater financial inclusion, reducing the gap between underserved populations and financial services.

Blockchain, another key innovation, has the potential to improve transparency, reduce transaction costs, and eliminate fraud in financial services. In Brazil, blockchain is being tested in government welfare programs to ensure secure and transparent distribution of benefits. However, challenges such as regulatory uncertainty, lack of trust in new technologies, and limited access to financial infrastructure still hinder full-scale adoption.

7.3 Education

In education, technological innovations like e-learning platforms, AI-based personalized learning, and open-source educational tools are transforming how education is delivered and accessed in emerging markets. Countries like Brazil and India are utilizing digital classrooms to provide quality education to remote areas, overcoming traditional barriers such as distance and inadequate infrastructure. Online platforms like Coursera and Udemy are also enabling individuals to pursue courses from top global universities, thereby contributing to workforce development.

Despite the progress, significant barriers remain, including unequal access to the internet, a shortage of devices, and the need for digital literacy training for both students and teachers. Addressing these issues will be key to unlocking the full potential of technological innovation in education.

8. Success and Failure Stories

8.1 Success Stories

Technological innovation in emerging markets has led to remarkable success stories, illustrating the potential for rapid development when technology is effectively harnessed.

M-Pesa (Kenya): One of the most successful examples of mobile money, M-Pesa has enabled millions of unbanked individuals in Kenya and other parts of Africa to access financial services through their mobile phones. By providing a secure platform for money transfers, payments, and savings, M-Pesa has increased financial inclusion and empowered individuals to manage their finances better.

- **AI in Healthcare (India):** In India, AI has been used to combat some of the country's most significant healthcare challenges. For example, AI-powered diagnostic systems help detect diseases like tuberculosis and cancer with high accuracy, particularly in rural and underserved areas. This success has contributed to lowering healthcare costs and improving early detection and treatment.
- **Blockchain in Brazil:** Blockchain technology has been successfully integrated into Brazil's financial and government systems, ensuring transparency in welfare programs and enhancing security in financial transactions. The adoption of blockchain has promoted trust in public services and reduced corruption.

8.2 Failure Stories

While technological innovation has had many successes, there have been notable failures as well, often due to factors like lack of infrastructure, poor policy support, and resistance to change.

- **Bitcoin Adoption in Zimbabwe:** Despite the promise of cryptocurrency as a solution for financial inclusion in Zimbabwe, the country's hyperinflation and lack of infrastructure have hindered the effective adoption of Bitcoin. Although Bitcoin could have provided an alternative to the country's unstable currency, the absence of proper regulations, limited internet access, and lack of public understanding led to its failure to gain traction.

- **E-Government Platforms in Nigeria:** In Nigeria, the government launched an e-government platform aimed at improving the efficiency of public services. However, the project failed due to poor infrastructure, lack of digital literacy, and corruption. The initiative faced challenges in delivering services and building trust with citizens, ultimately failing to meet expectations.
- **Telemedicine in Rural Areas (Brazil):** While telemedicine in Brazil has had some success in urban areas, rural regions have struggled with inadequate internet connectivity and lack of necessary medical equipment, leading to poor service quality. The initiative, aimed at improving healthcare access in remote regions, has been hindered by logistical and infrastructural challenges.

8.3 Lessons Learned

The success and failure stories from these examples emphasize the importance of addressing challenges such as infrastructure, digital literacy, and regulatory frameworks. Key lessons learned include:

- Ensuring that digital solutions are accessible to all populations, especially in rural and underserved areas.
- Building trust and transparency in new technologies through regulatory clarity and public education.
- Investing in the infrastructure needed to support new technologies, such as reliable internet and mobile networks.

9. Future Trends and Strategic Recommendations

9.1 Future Trends

The future of technological innovation in emerging markets is marked by several trends that could further accelerate growth:

- ✓ **5G Technology:** The deployment of 5G networks is expected to revolutionize industries like healthcare, education, and finance by offering faster data transfer rates and more reliable connectivity. This will enhance the capabilities of AI, IoT, and telemedicine, providing unprecedented opportunities for growth in emerging markets.
- ✓ **Artificial Intelligence and Machine Learning:** As AI becomes more accessible, its integration into various industries will continue to grow. In sectors like agriculture, AI can optimize crop yields and reduce waste, while in education, AI can deliver personalized learning experiences.
- ✓ **Blockchain Beyond Finance:** Blockchain is increasingly being explored beyond financial services. It is expected to play a pivotal role in sectors such as supply chain management, identity verification, and healthcare, where it can improve transparency, reduce fraud, and optimize processes.

9.2 Strategic Recommendations

To maximize the benefits of technological innovation, governments, businesses, and other stakeholders in emerging markets should focus on the following strategies:

- **Investing in Infrastructure:** Governments should prioritize investments in digital infrastructure, including high-speed internet, mobile connectivity, and cloud computing services, especially in rural areas.
- **Promoting Digital Literacy:** Expanding digital literacy programs for citizens and businesses is essential to ensure that people can take full advantage of technological

innovations. This can be achieved through school curricula, online courses, and public awareness campaigns.

- **Creating Supportive Regulatory Environments:** Governments need to create policies that encourage technological innovation, such as providing tax incentives for tech startups, ensuring data privacy, and developing regulations for emerging technologies like blockchain and AI.
- **Public-Private Partnerships:** Collaborations between governments and private companies can foster innovation and improve service delivery in sectors like healthcare and education. Public-private partnerships can provide the necessary resources and expertise to address critical challenges.
- **Fostering Inclusive Innovation:** Policies should focus on ensuring that technological benefits are accessible to all populations, including marginalized and underserved communities. This can be done by promoting inclusive business models and supporting local tech entrepreneurs.

10. Conclusion

Technological innovation holds immense potential to drive economic growth in emerging markets. Through improvements in productivity, job creation, and access to essential services, technologies such as AI, blockchain, and big data have the capacity to reshape economies and elevate living standards. However, to fully harness the benefits of technological innovation, emerging markets must address several challenges, including infrastructure deficits, digital literacy gaps, and workforce skills development.

Governments and businesses must collaborate to create conducive environments for technology adoption, investing in digital infrastructure and education to ensure that all segments of society can benefit from the digital transformation. By overcoming these barriers, emerging markets can leverage technological innovation as a driver of inclusive and sustainable economic growth.

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EMPOWERING LAUNDRY MSMEs THROUGH DIGITAL PLATFORMS FOR SUSTAINABLE GROWTH: A DESIGN THINKING APPROACH

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Abstract

Micro, Small and medium enterprises (MSMEs) remain the backbone of emerging economies but often struggle with digital adoption, market access, and long-term sustainability. The laundry service sector, dominated by micro and small businesses, faces particular challenges due to its reliance on offline transactions and manual operations. The research adopted the Design Thinking methodology, following five stages: empathize, define, ideate, prototype, and test. Data were collected through interviews with five MSME laundry owners, complemented by feedback from customers. Empathy maps revealed that MSME owners struggle with limited digital literacy, low visibility, and operational inefficiencies, while customers highlighted the need for convenience, transparency, and trust. These insights were reframed into How Might We (HMW) questions and translated into solution concepts such as online booking, pick-up and delivery scheduling, digital payment integration, real-time tracking, and customer feedback systems. A prototype was developed in the form of wireframes and clickable mockups, then tested with 30 users. Results indicated that 83% of users found the prototype easy to use, 80% were satisfied with its design, and 90% considered the features sufficiently comprehensive.

This study applies a Design Thinking approach to develop a digital laundry marketplace model aimed at empowering MSMEs and supporting sustainable growth. The methodology follows the five stages of Design Thinking: (1) Empathize through interviews and observations with laundry business owners and consumers; (2) Define the core problems of limited visibility, inconsistent service accessibility, and operational inefficiency; (3) Ideate digital solutions including mobile-based ordering, pick-up scheduling, and service tracking; (4) Prototype the design of a mobile application interface; and (5) Test the prototype with potential users to collect feedback on usability and perceived value. Findings indicate that a digital laundry marketplace can enhance convenience for consumers and provide MSMEs with digital inclusion, market expansion, and competitive advantage. This research contributes by demonstrating how Design Thinking can be applied to reimagine traditional services into sustainable digital platforms that empower MSMEs in the era of digital transformation.

Keywords: Design Thinking, MSME Empowerment, Digital Laundry Marketplace, Sustainable Growth

1. Introduction

Micro, small, and medium enterprises (MSMEs) are widely regarded as the backbone of economic development, both at the global and national level (Yolanda & Hasanah, 2024). Globally, MSMEs represent more than 90% of enterprises and play a pivotal role in achieving the United Nations' Sustainable Development Goals (SDGs), particularly in supporting

inclusive growth, reducing poverty, and generating employment. In Indonesia, MSMEs contribute over 60% to national Gross Domestic Product (GDP), absorb nearly 97% of the labor force, and account for more than 64 million business units, underscoring their importance in sustaining the country's economy (Limanseto, 2025). Beyond their macroeconomic contribution, MSMEs play a critical role in creating job opportunities, driving local economic activities, and promoting a more equitable distribution of income (Sarif, 2023). As digitalization and urbanization reshape consumer behavior, the ability of MSMEs to adapt to these changes has become essential for their long-term sustainability.

Despite their significance, MSMEs in the laundry service sector face persistent barriers that hinder their competitiveness and growth. Predominantly managed by micro and small-scale entrepreneurs, laundry MSMEs often rely on traditional practices such as offline transactions, walk-in customers, and word-of-mouth promotion. These limitations restrict their market reach, create inefficiencies in order and delivery management, and weaken their ability to compete with larger or franchise-based businesses that possess greater resources and technological capabilities. As Indonesia undergoes rapid urbanization and lifestyles become increasingly fast-paced, consumers demand more practical and time-saving services. Yet the absence of digital integration prevents laundry MSMEs from tapping into broader customer bases, competing with larger players, and delivering consistent service quality. This situation highlights the pressing need for innovative business models that can bridge the gap between growing consumer expectations and the limited capacity of traditional MSMEs.

Digital transformation has become an essential pathway for MSMEs to remain competitive in an increasingly dynamic economy. By adopting digital technologies, MSMEs can expand their customer base, streamline operations, and reduce dependency on traditional methods of promotion and sales. In Indonesia, the rapid growth of internet penetration and smartphone usage has created opportunities for MSMEs to integrate digital platforms into their business processes. Previous studies highlight that digital adoption not only improves efficiency but also enhances financial inclusion and business resilience, allowing MSMEs to withstand external shocks such as the COVID-19 pandemic. However, the degree of digital transformation among MSMEs remains uneven, with many micro and small-scale enterprises lagging behind due to limited resources, skills, and access to technology. This digital divide reinforces the urgency of developing tailored platforms and solutions that are accessible, user-friendly, and capable of addressing the specific needs of MSMEs, including those operating in household service sectors like laundry.

Previous studies have examined the development of marketplace-based applications in the laundry business with the aim of improving customer satisfaction and operational efficiency. For instance, Setiabudi et al. (2021) emphasizes the role of digital platforms in enhancing customer experience. Similarly, Tan et al. (2021) successfully developed an on-demand Android-based marketplace application, demonstrating the potential of mobile technology to facilitate service transactions and increase convenience. Syarifudin (2018) also conducted research on the development of an Android-based laundry marketplace application, focusing on technical implementation and system functionality to support operational efficiency. In addition, Dini Silvi Silvi Purnia & Herlina (2021) applied the traditional Waterfall model in building a laundry marketplace application, highlighting how SDLC methods can be used to structure development but with limited emphasis on user-centered design. Furthermore, Haycal Aditya & Winarso Edi (2025) combined the SDLC methods and SOSTAC e-marketing framework to design a mobile marketplace for laundry services, emphasizing marketing strategy and planning aspects. While these studies contribute valuable insights into the application of digital platforms in the laundry industry, they predominantly adopt conventional system development methodologies such as Waterfall or Rapid Application Development

(RAD). None of them explicitly employ the Design Thinking methodology, which emphasizes empathy, iterative prototyping, and co-creation with users. In a different context, Khaerunisa et al. (2024) research on Misi Beasiswa demonstrates how Design Thinking can be successfully applied to develop a user-centered crowdfunding application that connects financially constrained students with potential sponsors in a transparent and empathetic way. Design Thinking is a human-centered approach to solving complex problems in a creative and innovative manner (Lantana & Fauziah, 2025), making it highly relevant for addressing challenges across diverse sectors, including education, finance, and small business services. Building on this, the present study seeks to fill the gap by applying Design Thinking in the development of a digital laundry marketplace prototype aimed at empowering MSMEs and supporting sustainable growth.

Accordingly, the objectives of this study are twofold: (1) to apply the Design Thinking methodology in exploring the challenges and opportunities faced by laundry MSMEs in the digital era, and (2) to develop a prototype of a digital laundry marketplace that demonstrates how user-centered innovation can provide practical solutions to support MSME competitiveness and sustainable growth. The contribution of this study is twofold: theoretically, it extends the literature on MSME empowerment, digital transformation, and Design Thinking by applying these concepts to the underexplored laundry service sector; and practically, it introduces a prototype of a digital laundry marketplace that provides a replicable model for MSME digital inclusion, which may also be relevant for other household service industries. The scope of this study is limited to the exploratory phase of prototyping and testing with selected MSME owners and consumers, and as such, findings should be seen as preliminary. Further research is recommended to validate and scale the model, and to assess its long-term economic and operational impacts.

2. Literature review

2.1. Digital Transformation & MSME Empowerment

Digital transformation has become an essential driver of competitiveness and sustainability for micro, small, and medium enterprises (MSMEs) (Bahtiar et al., 2025). By adopting digital technologies, MSMEs can increase efficiency, expand their customer base, and integrate into broader economic networks. Recent studies by Wang & Zhang (2025) highlight several critical insights into SMEs' digital transformation. Technology, organization, and environment are key factors driving MSMEs' adoption of digital solutions. Digital transformation enhances sustainable innovation, which in turn improves business performance. Environmental dynamism such as changes in consumer behavior and competitive intensity amplifies the positive impact of digitalization. Furthermore, digital transformation is identified as the strongest predictor of sustainable performance. Using fuzzy-set Qualitative Comparative Analysis (fsQCA), recent research also reveals three possible configurations of technological, organizational, and environmental conditions that lead to high levels of sustainable performance. These findings reinforce the importance of understanding digital transformation not only as a technical upgrade but also as a multidimensional process shaping long-term MSME competitiveness. Moreover, strong digital skills are found to enhance the digital transformation process and strengthen the dynamic capabilities of MSMEs, enabling them to respond rapidly to change and make timely strategic decisions. Digital transformation combined with robust dynamic capabilities further contributes to improved performance, reinforcing the view that digitalization is not only a matter of technology adoption but also of developing adaptive organizational capacities. These findings emphasize the importance of treating digital transformation as a multidimensional process that shapes long-term MSME competitiveness and sustainability (Setiawan et al., 2025).

2.2. Service Marketplace Models

Digital platforms and marketplaces have transformed the way services are accessed and delivered. A marketplace, in general, refers to a digital platform that functions as an intermediary between service providers and consumers, enabling transactions, facilitating communication, and often integrating payment and logistics systems. Unlike traditional business models, marketplaces do not always own the products or services being offered but instead provide the infrastructure that connects multiple providers with a wide base of customers. Marketplace development in Indonesia has grown rapidly in recent years and has become one of the most promising business sectors (Situmorang et al., 2023). Platforms such as Tokopedia, Shopee, Bukalapak, and Grab have shown how marketplace models can scale quickly, attract millions of users, and fundamentally reshape consumer purchasing behavior. This growth reflects not only technological advancement but also changing consumer preferences, increased smartphone penetration, and supportive digital infrastructure.

Service marketplace models, as seen in sectors such as ride-hailing, food delivery, and e-commerce, function as intermediaries that connect providers with consumers, reduce transaction costs, and streamline logistics. These platforms not only enhance customer convenience but also provide service providers, many of which are MSMEs, with access to wider markets and digital payment systems. In the context of the laundry service industry, marketplace models have been introduced to address traditional inefficiencies such as reliance on walk-in customers and manual order management. Previous studies demonstrate the feasibility of mobile-based marketplaces for laundry services (Setiabudi et al., 2021; Silvi Purnia & Herlina, 2021; Syarifudin, 2018; Tan et al., 2021).

2.3. Design Thinking in Business Innovation

Design Thinking has emerged as a widely recognized methodology for fostering innovation in business and technology development. Design Thinking helps to overcome complex issues and create appropriate and long-term solutions for companies, using empathy, idea generation, and integration (Palavesh, 2024). Rooted in user-centered design, Design Thinking emphasizes empathy, problem reframing, ideation, prototyping, and iterative testing to ensure that solutions are not only technically feasible but also desirable and sustainable (Gottlieb et al., 2017). In business contexts, Design Thinking has been successfully applied to develop new products, services, and business models that address complex challenges while creating value for multiple stakeholders. Unlike traditional system development methods, Design Thinking allows deeper engagement with user experiences, enabling co-creation between businesses and their customers.

Depending on the source, the titles for the steps comprising the Design Thinking process may vary slightly—some frameworks label the stages as Empathize, Define, Ideate, Prototype, and Test (Stanford d.school), while others use terms such as Discovery, Interpretation, Ideation, Experimentation, and Evolution (IDEO). Despite these variations, the core concepts remain consistent: building empathy with users, redefining problems, generating ideas, prototyping potential solutions, and testing them iteratively. This adaptability makes Design Thinking suitable for different industries, as the emphasis is less on rigid procedures and more on cultivating a mindset of creativity, empathy, and iterative learning.

The versatility of Design Thinking can be seen across a range of fields. In education, for example, Misi Beasiswa demonstrates how Design Thinking can be used to design a crowdfunding mobile application that connects students with financial constraints to potential sponsors in an empathetic and transparent way (Khaerunisa et al., 2024). In healthcare, Design Thinking has been applied to develop better healthcare services and health technology

solutions, ultimately providing improved experiences for clients and patients (Pakarinen, 2023). In financial technology, applying the stages of Design Thinking—empathizing, defining, ideating, prototyping, and testing—allows fintech startups to develop innovative products and services that align closely with customer needs (Edwin et al., 2025). These varied examples confirm that Design Thinking is not confined to product development but has been widely applied in diverse sectors, making it a relevant and powerful approach for empowering MSMEs through the development of digital laundry marketplaces.

3. Research methods

This study adopts a qualitative, exploratory research approach using the Design Thinking methodology. Design Thinking is chosen because it provides a user-centered framework for identifying problems, generating ideas, and developing innovative solutions that address the needs of MSMEs in the laundry service sector. Unlike traditional system development life cycles, Design Thinking emphasizes empathy, iterative prototyping, and co-creation with stakeholders, making it suitable for developing practical, sustainable, and impactful solutions.

3.1. Data collection methods

Data were collected from both primary and secondary sources to ensure validity and comprehensiveness. Primary data consisted of interviews and surveys with laundry MSME owners, employees, and customers, which provided direct insights into operational practices, customer behaviors, and digital readiness. Secondary data were drawn from relevant literature, reports, and previous studies on MSMEs, digital marketplaces, and Design Thinking applications, which served as theoretical references and comparative benchmarks. The research was supported by various tools, including interview guides, structured questionnaires, observation notes, and prototyping software, all of which ensured a systematic collection and interpretation of data.

3.2. Framework: Design Thinking

This study applies the Design Thinking methodology as popularized by Stanford d.school, which consists of five iterative stages: Empathize, Define, Ideate, Prototype, and Test. The Stanford model is widely recognized and has been applied across disciplines for solving complex problems with a user-centered approach. Figure 1 illustrates the methodological framework utilized in this study.

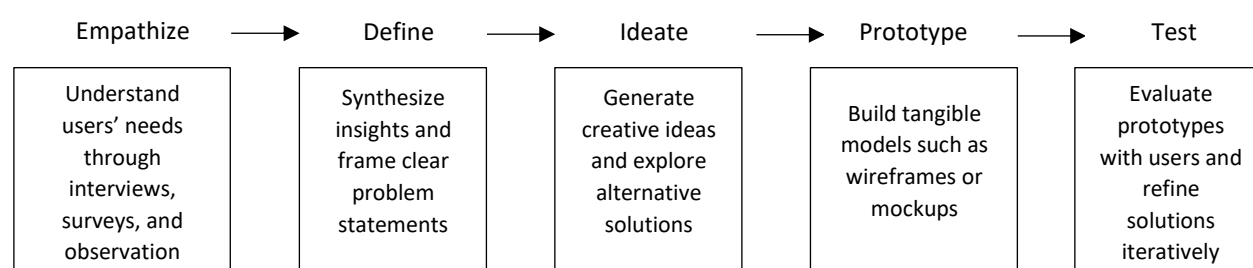


Figure 1. Research Method Using Design Thinking (Stanford d.school)

3.2.1. Empathy

The research begins with the Empathize stage, in which interviews, surveys, and direct observations were conducted with laundry MSME owners, employees, and customers to gain a deep understanding of their needs and challenges. Empathy serves as an important source of insight, enabling a deeper understanding of how to interpret diverse contexts from the

perspectives of others, thereby enriching the Design Thinking process (Hashim et al., 2019).

3.2.2. Define

Insights gathered from this stage were synthesized in the Define stage to formulate clear problem statements that captured the core issues, such as limited digital visibility, inefficient order management, and difficulties in competing with larger laundry franchises. As more evidence is gathered, the understanding of the problem expands, and systematic analysis is conducted to ensure a structured environment (Purwitasari et al., 2021).

3.2.3. Ideate

In the Ideate stage, brainstorming sessions with stakeholders were conducted to generate creative and feasible solutions, including features like online booking, digital payments, and delivery scheduling. Ideation involves collaborating with the team to synthesize extensive data, generate insights, and uncover opportunities for innovative solutions (Dell'Era et al., 2020).

3.2.4. Prototype

During the Prototype stage, the most promising ideas were transformed into tangible outputs, where testable versions of the solutions were developed to assess their feasibility (Vianna et al., 2011). The best concepts were then translated into wireframes and clickable mockups, which served to visualize the structure and functionality of the digital laundry marketplace before moving to full-scale implementation.

3.2.5. Test

Finally, the Test stage involved presenting these prototypes to MSME owners and customers, gathering feedback on usability and functionality, and refining the design iteratively. The Test phase validates the solutions by testing the prototypes with real users to gather feedback and refine the solutions. Methods include usability testing sessions, feedback sessions, and iterative refinement based on user feedback (Vianna et al., 2011). By following this structured framework, researchers and practitioners are able to create solutions that are not only innovative and feasible but also deeply aligned with user needs, thereby increasing the likelihood of achieving meaningful and sustainable outcomes.

4. Results and discussion

4.1. Empathy

In the empathize stage, interviews with five MSME laundry owners revealed that most businesses still rely on walk-in customers and manual order management. Owners expressed frustration with operational inefficiencies, such as misplaced orders and difficulties coordinating deliveries. Customers also voiced the need for greater convenience, including online booking, pick-up and delivery options, and digital payments. These findings highlighted three recurring challenges: limited digital visibility, reliance on manual systems, and weak competitiveness against larger franchise-based laundries. An empathy map was developed to capture the perspectives of MSME laundry owners. The empathy map illustrates what owners say, think, feel, and do in their daily business operations, providing a deeper understanding of their challenges and motivations. The details are presented in Table 1. The empathy map highlights that MSME laundry owners recognize the potential of digital platforms but remain constrained by limited resources, digital literacy, and operational inefficiencies. These insights provided the foundation for reframing their challenges into problem statements during the define stage of the Design Thinking process.

Moreover, the empathy map presented in Table 2 for laundry customers highlights convenience, transparency, and trust as their primary concerns. Customer reported frustration with delays, lack of service tracking, and the inconvenience of cash-only transactions. They expressed a desire for features such as online booking, digital payments, real-time order tracking, and review or rating systems to ensure service quality. Together, these two empathy maps provide a holistic understanding of the needs, frustrations, and motivations of both service providers and users. This dual perspective ensured that the subsequent stages of the Design Thinking process were grounded in real-world challenges. The insights drawn from these empathy maps then served as the foundation for reframing the problems into clear problem statements during the define stage.

Table 1. Empathy Map for MSME Laundry Owners

Category	Insights
Say	“Most of my customers come from the neighborhood and I rarely get new ones.” “Managing orders manually is time-consuming and confusing.” “Digital apps seem useful, but I worry they may be expensive or complicated.”
Think	“If I had a digital system, I could compete better with larger laundry franchises.” “Online visibility could help me gain more customers.” “A simple platform with payment and scheduling features would improve my operations.”
Feel	Frustrated when orders get mixed up or delayed. Anxious about losing customers to competitors with stronger marketing. Hopeful that adopting digital tools could help grow the business.
Do	Records orders manually in notebooks or via WhatsApp. Relies on personal networks and word-of-mouth promotion. Provides pick-up and delivery services without structured scheduling.

Table 2. Empathy Map for Laundry Customers

Category	Insights
Say	“I wish I could book laundry services online without going to the shop.” “Sometimes my clothes are delayed, and I don’t know the status.” “It would be easier if I could pay digitally instead of cash.”
Think	“A reliable laundry app would save me time.” “Real-time tracking would reduce uncertainty.” “I want to choose services based on ratings or reviews.”
Feel	Frustrated when orders are late or misplaced. Insecure about service quality if there is no transparency. Relieved and satisfied when the process is convenient and trustworthy.
Do	Brings laundry directly to nearby shops. Communicates with providers via phone or WhatsApp. Pays mostly in cash. Checks with friends or neighbors for laundry recommendations.

4.2. Define

To reframe the problems identified during the empathize stage into opportunities for innovation, the challenges were translated into a series of How Might We (HMW) questions. These questions served as guiding principles for the ideation stage, ensuring that potential solutions remained user-centered and aligned with the needs of both MSME laundry owners and customers. The details are presented in Table 3. As shown in Table 3, the HMW questions addressed both sides of the ecosystem: MSME owners, who need greater visibility, efficiency, and simpler digital adoption, and customers, who demand convenience, transparency, and modern payment methods. Together, these HMW questions provided a structured basis for brainstorming innovative features in the ideation stage of the Design Thinking process.

Table 3. HMW Questions for MSME Laundry Marketplace

No.	Problem Statement	HMW Question
1	MSME laundry owners have limited digital visibility and rely mainly on walk-in customers.	How might we help MSME laundry owners increase their digital visibility to attract customers beyond their local neighborhoods?
2	Manual order and delivery management lead to inefficiencies and errors.	How might we streamline order and delivery management so that MSME owners can reduce errors and improve operational efficiency?
3	MSME owners hesitate to adopt digital platforms due to cost, complexity, and limited digital literacy.	How might we design a digital platform that is affordable, simple, and easy to adopt for small-scale laundry businesses with limited digital literacy?
4	Customers find it inconvenient to place orders offline.	How might we provide customers with greater convenience through online booking and delivery scheduling?
5	Customers lack transparency and trust due to delays and no tracking system.	How might we build transparency and trust by offering real-time order tracking and service rating systems?
6	Cash-only transactions reduce convenience for both customers and MSME owners.	How might we integrate digital payment solutions to simplify transactions for both customers and MSME owners?

4.3. Ideate

Following the formulation of the How Might We (HMW) questions, the research proceeded to the ideation stage. At this point, brainstorming sessions were conducted with laundry MSME owners, employees, and selected customers to generate as many potential solutions as possible. Participants were encouraged to share creative ideas without limitation, allowing diverse perspectives to surface. The brainstorming process produced several recurring solution themes. Stakeholders highlighted the need for an online booking system that would allow customers to schedule services conveniently. Another frequent suggestion was the integration of pick-up and delivery scheduling, enabling MSMEs to manage logistics more effectively. Additionally, participants emphasized the importance of digital payment options to increase customer trust and streamline transactions, as well as real-time order tracking to provide transparency and reduce miscommunication. Customers also proposed a rating and review system to build trust and encourage service improvements, while MSME

owners requested a platform design that was simple and intuitive, suitable even for those with limited digital literacy. These ideas were then mapped against the HMW questions and summarized in Table 4 to show the alignment between identified challenges and the proposed solutions. The proposed solutions were subsequently organized and prioritized based on feasibility, user impact, and alignment with the defined problems. The ideation stage thus laid the groundwork for the prototyping phase, ensuring that the most promising concepts could be visualized, tested, and refined to meet the needs of both MSMEs and their customers.

Table 4. Ideation Results for MSME Laundry Marketplace

No.	HMW Question	Proposed Solution
1	How might we help MSME laundry owners increase their digital visibility to attract customers beyond their local neighborhoods?	Develop an online marketplace platform accessible via mobile app to showcase laundry services.
2	How might we streamline order and delivery management so that MSME owners can reduce errors and improve operational efficiency?	Introduce a booking system with automated scheduling and pick-up/delivery coordination.
3	How might we design a digital platform that is affordable, simple, and easy to adopt for small-scale laundry businesses with limited digital literacy?	Build a user-friendly interface with minimal steps and simple navigation, supported by onboarding tutorials.
4	How might we provide customers with greater convenience through online booking and delivery scheduling?	Enable customers to book services online, choose preferred pick-up/delivery times, and confirm via the app.
5	How might we build transparency and trust by offering real-time order tracking and service rating systems?	Integrate real-time tracking of laundry status and a customer review/rating feature.
6	How might we integrate digital payment solutions to simplify transactions for both customers and MSME owners?	Provide multiple payment options including e-wallets, bank transfer, and QR code payments.

4.4. Prototype

At this stage, the most promising solutions were transformed into tangible outputs that could be visualized and tested by stakeholders. The goal was not to create a fully developed system, but rather to produce early models that captured the essential features of the proposed digital laundry marketplace. Wireframes were initially designed to outline the structure and navigation of the application, focusing on simplicity and usability for MSME owners and customers alike. These wireframes were then developed into clickable mockups to simulate user interactions and demonstrate how key features would function in practice. The prototype included essential components such as an online booking form, pick-up and delivery scheduling, digital payment integration, order tracking dashboard, and a rating/review system. For MSMEs, the design also incorporated basic tools to manage orders and coordinate delivery logistics. The results of the prototype are presented in Figure 2.

By creating these prototypes, the study provided stakeholders with a concrete representation of the digital marketplace concept. This enabled both MSME owners and customers to visualize how the platform could address their pain points and allowed the research team to gather feedback before moving toward more advanced development. The prototyping stage therefore acted as a critical bridge between abstract ideas and practical, user-centered solutions.

4.5. Test

The prototype was tested by MSME laundry owners and customers. Overall feedback was positive: participants valued the convenience of online booking and scheduling, as well as the transparency provided by real-time order tracking. Digital payments were also regarded as a trustworthy and efficient feature. However, users suggested additional enhancements, such as loyalty programs, integration with messaging platforms like WhatsApp, and guided

onboarding processes for MSMEs. This feedback was incorporated into further refinements, confirming the iterative nature of the Design Thinking process.

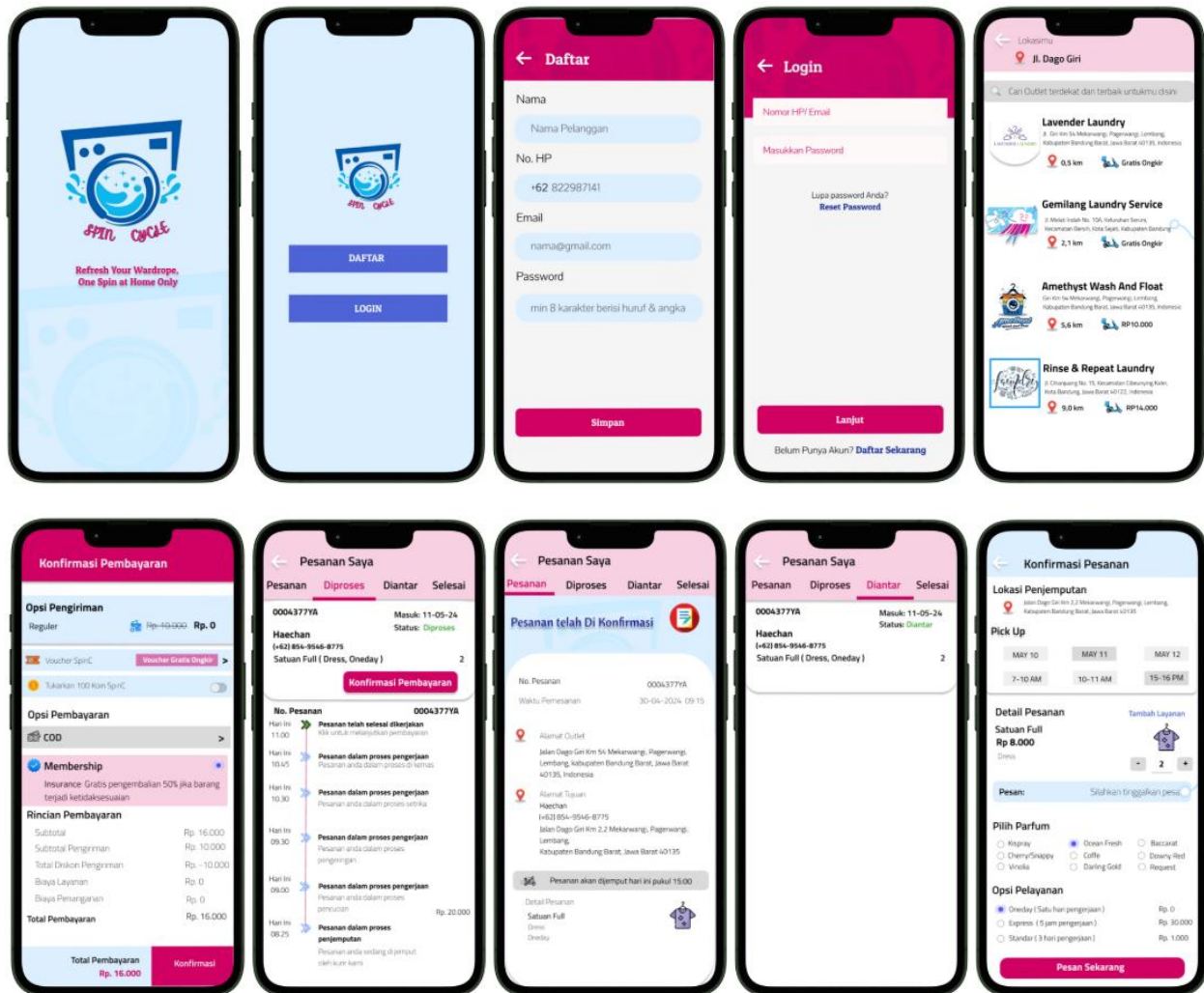


Figure 2. Prototype for SpinCycle

The prototype was tested with 30 prospective users to evaluate its usability, design, and feature completeness. The results were highly positive. Approximately 83% of users stated that the prototype was easy to use, indicating that the interface and navigation were intuitive for first-time users. Furthermore, 80% of respondents expressed satisfaction with the design and user flow, suggesting that the application was visually appealing and well-structured. In addition, 90% of participants considered the features offered to be sufficiently comprehensive for their initial needs, confirming that the marketplace model addressed most of the core requirements identified during earlier stages.

Visual evidence from the testing phase (Figure 3) shows participants interacting with the prototype, reinforcing the practicality of the proposed solution. These findings confirm that the digital laundry marketplace prototype successfully addressed many of the key challenges identified in earlier stages. However, users also suggested additional enhancements, such as the introduction of loyalty programs to encourage repeat usage, integration with messaging platforms like WhatsApp to simplify communication, and guided onboarding processes for MSMEs to ease adoption for business owners with limited digital experience. This feedback was incorporated into further refinements, confirming the iterative nature of the Design Thinking process and strengthening the practicality of the proposed solution.

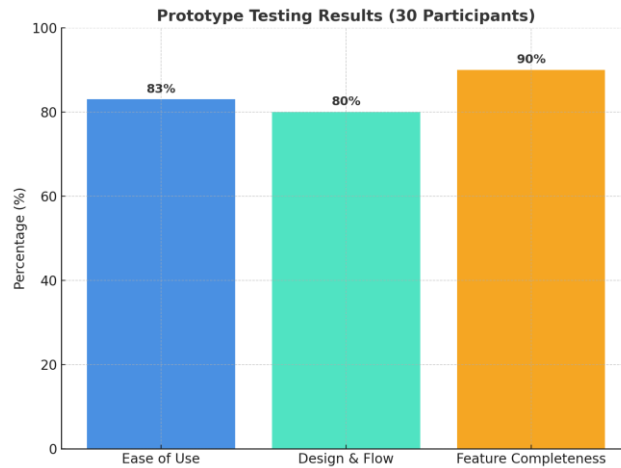


Figure 3. Prototype Testing Results

4.6. Discussion

The results demonstrate that applying Design Thinking to the laundry MSME context effectively addresses both owner and customer needs. The empathize and define stages confirmed obstacles consistent with prior literature on MSME digital transformation, particularly issues of limited visibility, inefficiency, and low digital adoption (Haycal Aditya & Winarso Edi, 2025; Silvi Purnia & Herlina, 2021; Tan et al., 2021). By reframing these issues into HMW questions, the study ensured that the ideation process remained solution-oriented and user-centered. The ideation outcomes highlighted the importance of co-creation, as involving both MSME owners and customers produced solutions that balanced business feasibility with customer convenience. This supports prior research emphasizing stakeholder engagement as a driver of sustainable innovation. The prototyping and testing stages demonstrated the strength of Design Thinking compared to conventional SDLC approaches such as Waterfall or RAD. Rather than following a rigid linear process, the iterative approach allowed early visualization, direct user interaction, and continuous refinement. Feedback loops enhanced usability and stakeholder acceptance, increasing the likelihood of long-term adoption.

Based on the synthesis of insights from Design Thinking's stages, this study proposes a digital marketplace framework for MSME laundry services (Figure 4). The framework conceptualizes the marketplace as a platform mediating interactions between three key actors: customers, MSME laundry owners, and the platform itself. Customers use the application to place orders, schedule deliveries, make digital payments, and provide feedback. MSME owners manage orders, coordinate logistics, and receive payments, while the platform ensures seamless transactions, transparency, and data management. SpinCycle is designed as a seamless digital marketplace that connects customers with trusted laundry partners through a user-friendly mobile application. The entire service journey can be described in three perspectives: the Customer, the Application, and the Partner (Laundry). The experience begins when the customer registers and logs in to the SpinCycle application. Once inside, they can easily select the type of laundry service they require, specify their pick-up address, and choose a convenient schedule. Immediately after submitting the order, the customer receives a price estimate for the requested service. After confirming the order, the customer waits for a nearby partner to accept the request. When the partner picks up the laundry, the clothes are weighed, and the system generates a final price that is communicated back to the customer. The customer can then proceed with payment through the application using a secure payment gateway or other available methods. Throughout the process, the customer is able to track the status of their laundry in real time — from pick-up, weighing, and processing, to delivery. Once the

laundry is returned, the customer completes the journey by providing feedback and a rating, which helps ensure service quality for future users.

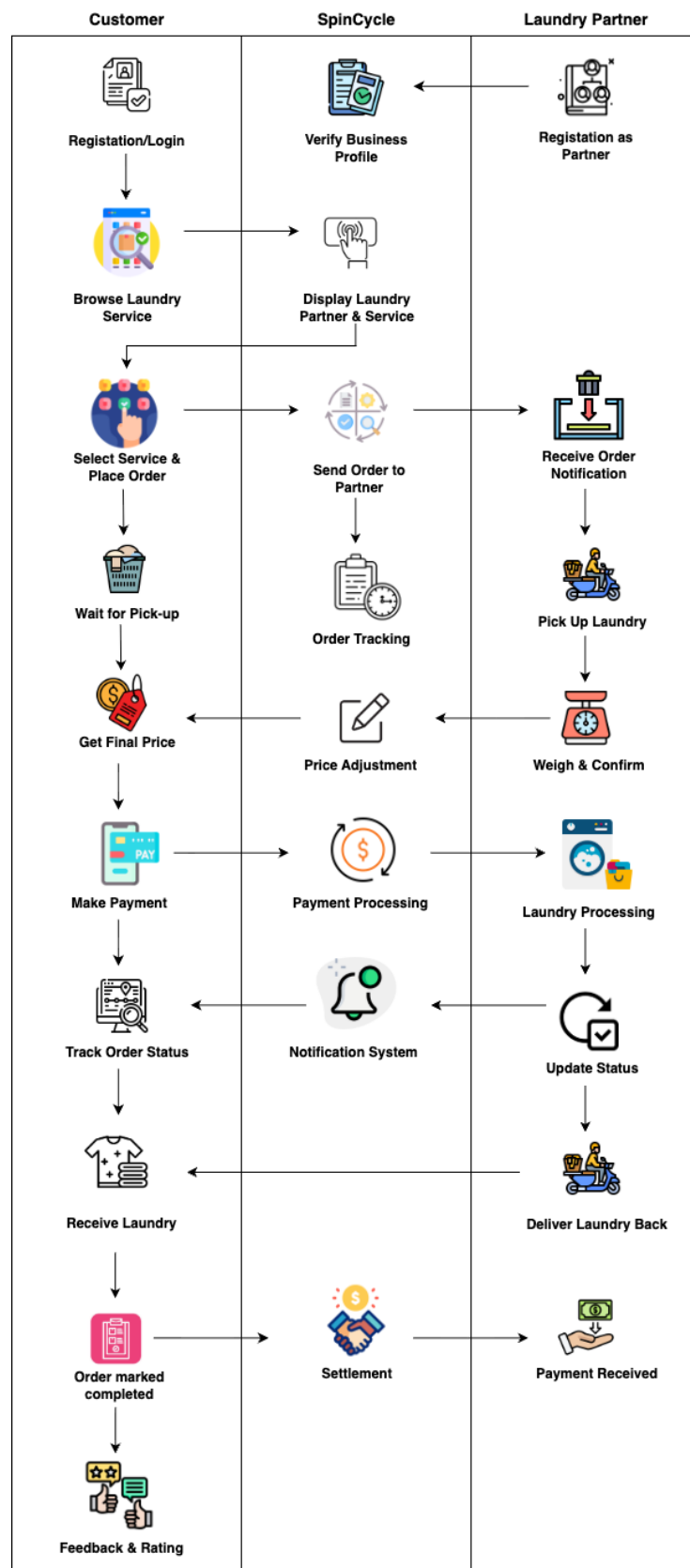


Figure 4. Proposed Marketplace Framework

Behind the scenes, the SpinCycle application plays the role of a smart coordinator. It verifies the customer's account, records order details, and calculates the initial price estimate. The system then matches the order with a suitable partner based on location and availability, sending notifications to both the customer and the partner. As the process unfolds, the application continuously updates the order status, ensuring transparency for the customer. When the partner inputs the actual weight of the laundry, the application recalculates the final price and prompts the customer for payment. Payment transactions are processed securely through an escrow mechanism, protecting both parties. Additionally, the application maintains a full transaction record, manages dispute handling if necessary, and ensures that settlements to partners are calculated accurately after deducting platform fees. Notifications via push messages or WhatsApp keep all stakeholders informed at every stage. For the laundry partner, the workflow starts with receiving a new order notification. Once they accept, they proceed to the customer's location to collect the laundry. At pick-up, the partner can upload proof if required, before bringing the clothes to their facility. The partner weighs the items, inputs the actual data into the system, and waits until the customer completes payment. Only then do they begin processing the laundry according to the service selected. As each stage is completed, the partner updates the status in the application — moving from Processing to Ready to Deliver. The final step is returning the cleaned laundry to the customer. The partner confirms delivery through the app, which then closes the order and records the transaction for settlement. Their earnings are calculated and released after the service is fully completed.

The proposed framework not only responds directly to the operational inefficiencies identified in the research findings but also contributes a replicable model that can be adapted to other service-based MSME contexts. By integrating user-centered design with practical digital solutions, the framework represents both a theoretical contribution expanding the application of Design Thinking in MSME research—and a practical contribution by offering an implementable solution for sustainable MSME growth in the digital economy. The findings extend the theoretical understanding of Design Thinking's applicability in MSME contexts, highlighting its potential for fostering innovation, adaptability, and sustainability. For MSME owners and practitioners, the study offers practical insights into how digital platforms can be co-created with users to improve competitiveness. The prototype developed in this study demonstrates how features such as online booking, digital payments, and real-time tracking can enhance efficiency and customer satisfaction. By adopting a Design Thinking mindset, MSME managers can continuously adapt their services to evolving customer expectations, thereby ensuring long-term relevance in competitive markets.

5. Conclusion

This study set out to explore how the Design Thinking methodology can be applied to empower micro, small, and medium enterprises (MSMEs) in the laundry service sector through the development of a digital marketplace prototype. By adopting the Stanford d.school framework, the research followed a structured process consisting of empathizing with users, defining core problems, ideating creative solutions, prototyping tangible outputs, and testing them with stakeholders. Findings from the empathize and define stages highlighted that laundry MSMEs face persistent challenges, including limited digital visibility, inefficient order and delivery management, and difficulties competing with larger franchises. Through ideation and collaborative brainstorming, various solutions were proposed, such as online booking, real-time service tracking, digital payment integration, and customer feedback features. These ideas were translated into wireframes and clickable mockups during the prototyping stage, which provided stakeholders with a clear visualization of how the marketplace could function. The testing stage

further validated the practicality and relevance of the design, with user feedback offering valuable input for iterative refinement.

The research demonstrates that Design Thinking provides a powerful, user-centered framework for addressing the real-world needs of MSMEs. The prototype developed not only illustrates a feasible digital solution for laundry businesses but also offers broader implications for MSME digital transformation and sustainable growth. Ultimately, the study contributes both theoretically—by extending the application of Design Thinking into the MSME service marketplace context—and practically—by offering a model that can be adapted by other service-based MSMEs to improve competitiveness and resilience in the digital economy.

Further studies should expand the scope by involving a larger sample size of MSMEs across different regions to improve generalizability. In addition, quantitative methods may complement Design Thinking by measuring the impact of digital marketplaces on business performance indicators such as revenue growth, customer satisfaction, and operational efficiency. Exploring integration with sustainability practices (e.g., eco-friendly logistics or green supply chains) could also strengthen the relevance of digital platforms for long-term growth.

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ROLE OF R&D COLLABORATION IN DIGITAL TRANSFORMATION AND EXPORT PERFORMANCE: EVIDENCE FROM CHINA'S MANUFACTURING INDUSTRY

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Abstract

Purpose – Prior research has seldom examined the link between R&D collaboration and export performance, leaving its mechanisms and boundary conditions unclear. This study examines whether and how inter-firm R&D collaboration enhances export performance through digital transformation, and it tests trade freedom and economic policy uncertainty as boundary conditions on the direct relationship between R&D collaboration and export performance.

Design/methodology/approach – We use panel data on Chinese A-share listed manufacturing firms from 2010–2023 to estimate the relationship between R&D collaboration and export performance and to test mediation and moderation mechanisms.

Findings – (1) R&D collaboration has a significant positive effect on export performance. (2) Digital transformation mediates this relationship between R&D collaboration and export performance. (3) Trade freedom strengthens the positive effects of both R&D collaboration on export performance. (4) Contrary to expectations, economic policy uncertainty also positively moderates this effect, suggesting that firms intensify collaboration to build resilience in volatile environments.

Practical implications – Policymakers should foster collaboration-friendly and digitally enabling ecosystems. Managers should jointly leverage R&D collaboration and digital transformation, particularly under higher trade freedom or rising policy uncertainty.

Originality/value – Within the resource-based view and contingency theory, the study develops and empirically validates a mediated pathway from R&D collaboration to export performance via digital transformation, and it identifies trade freedom and economic policy uncertainty as boundary conditions.

Keywords R&D collaboration, Digital transformation, Export performance, Economic policy uncertainty, Trade freedom

Paper type Research paper

IMPROVING THE PERFORMANCE OF THE INDONESIAN QUARANTINE AGENCY THROUGH STRENGTHENING COMPETENCE, DEVELOPING HUMAN RESOURCES, AND OPTIMIZING ASN TALENTS

Akhmad Alfaraby¹, Edi Sugiono², Lijan Poltak Sinambela³

Abstract

Study This aim for analyze contribution strengthening competence, development source Power human resources (HR), and optimization talent Apparatus State Civil Servants (ASN) towards improvement the performance of the Indonesian Quarantine Agency. This institution own role strategic in guard resilience food, health society, as well as Power competition product national in the global market. However, the challenges faced the more complex along with increasing trade volume international, threats disease across countries, as well as demands public on service fast and accountable bureaucracy. For that, the increase ASN capacity becomes key in ensure effectiveness implementation function quarantine. Research This use approach quantitative with design survey explanatory. Respondents a total of 225 ASN were selected based on criteria experience minimum work three year as well as involvement in the development program competency. Data collected through questionnaire with five- point Likert scale, then analyzed using Structural Equation Modeling based on Partial Least Squares (PLS-SEM). The research results show that third variables independent, namely strengthening competency, human resource development, and optimization ASN talent, influential positive and significant to improvement performance organization. Of the three, optimization ASN talent provides the most dominant contribution ($O = 0.465$; $T = 11.303$; $p < 0.05$), followed by human resource development ($O = 0.354$; $T = 5.208$; $p < 0.05$) and strengthening competence ($O = 0.172$; $T = 2.898$; $p < 0.05$). Findings This confirm that the improvement strategy performance must integrate third aspect said, with put management talent as a driving force main. In academic, research This enrich literature about human resource management in the sector public, especially in institutions technical strategically. In practical, results study can become base formulation policy further development of ASN effective, adaptive, and empowered competition in face global challenges.

Keywords: Performance of the Indonesian Quarantine Agency, Strengthening Competence, Development Human Resources, Optimization ASN Talent

1. Introduction

Success organization No only determined by success in manage finance but also determined from his success in manage source Power human. Management source the power in question is company must capable unite perception or method view employees and leaders company in frame reach objective company including through formation of a good work mentality with high dedication and loyalty to his work, giving guidance (Sugiono & Tobing, 2021)

Global transformation in governance sector public demand institution government For increase performance through professionalization source Power humans. In the era of disruption technology and global market integration, capacity state apparatus becomes factor key in

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answer challenge cross- border, including issue security food, health animals, and protection environment. Organization sector public sued For more adaptive, innovative, and results - oriented (Christensen & Lægheid, 2020). In the context of supervision quarantine, countries with system strong quarantine has proven more resilient to threat disease cross- country and disruption trading international (Sridhar & Majumder, 2022).

A number of year final has witness shift paradigm in management source Power human, with source Power man the more recognized as asset strategic or human capital that must be managed in a way proactive (Ellitan, 2002). Management source Power man strategic emphasize integration practice source Power man with planning organization For increase performance, positioning manager source Power man as driver main superiority competitive through utilization capability employee optimally. Shift This specifically relevant in economy based knowledge moment this, where employees act as a " worker" knowledgeable " that must be continously get competence new as response to progress technology and information (Sinambela, 2019).

In Indonesia, the Quarantine Agency own role strategic in guard resilience food, health society, and power competition product national in the global market. However, the challenges faced Enough complex : start from high traffic volume cross trade and mobility human, threat zoonotic diseases, up to demands acceleration service public (Mutaqin et al., 2021). On the other hand, expectations public to service fast, transparent and accountable bureaucracy the more increased (Dwiyanto, 2018). The situation This put quality apparatus state civil servants (ASN) as the main pillar in ensure success implementation function quarantine.

Even though thus, in a way national, competence and development source Power ASN humans still become challenge large. The Ministry of Administrative and Bureaucratic Reform's report highlights existence inequality distribution competence, less optimally management talents, as well as weakness relatedness between training with need strategic Organization (KemenPAN -RB, 2020). Research previously also revealed that Indonesian bureaucracy still face problem in matter culture work, innovation, and effectiveness system evaluation ASN performance (Nurmandi & Kim, 2019). This show that strengthening competence and development ASN talent is an urgent agenda in bureaucratic reform.

In a way academic, research about performance bureaucracy and development of ASN human resources have Lots done, but part big more highlight aspect structural organization or institutional reform in a way macro (Ombudsman RI, 2020; Widianingsih, 2021). Still limited studies that are special review strengthening strategies competence and optimization management talent in context institution technical special such as the Quarantine Agency. In fact, the institution This face to face direct with issue cross demanding sectors skill technical at a time capacity strong managerial.

The gap study in implementation management talent in the sector public Still become issue important things that need to be done get attention academic and practical. Although literature international has confirm that management talent is instrument strategic in increase Power competition organization public (Collings et al., 2019), practice its implementation in Indonesia is often face obstacle structural and cultural. This cause question critical about How draft management talent can adapted in a way contextual to fit with Indonesian bureaucracy which has characteristics alone.

In Indonesia, the challenge implementation management talent in the apparatus State Civil Servants (ASN) include limitations budget training, limitations system rotation position, and development model mismatch competence with need organization. Setiyono and McLeod (2020) highlight that Indonesian bureaucracy still tend focus on fulfillment administrative rather than strengthening quality of human resources in general strategic. Condition This has implications for low effectiveness of human resource development programs and the lack of relatedness between development ASN career with objective institutional.

More further research latest show that practice strategic human resource management in the sector the Indonesian public still compliance - oriented procedural, not on formation capability term long. Utama et al. (2025) underlined that implementation of talent management in agencies government often not integrated with evaluation performance and systems sustainable appreciation. As a result, the potential ASN talents that should be can become a driving force innovation precisely No managed optimally.

In addition, the constraints implementation management talent is also influenced by factors culture bureaucracy. The Wisdom Study (2025) found that culture organizations that are still emphasize formal hierarchy and discipline can hinder development ASN creativity and innovation. This factor create a development strategy talent need a more approach adaptive, which is not only depend on formal system, but also encourages changes in mindset and behavior Work.

On the other hand, some initiative start show direction positive. For example, the ASN Talent Academy program initiated by the State Administration Institute (LAN) became effort beginning For build framework management talent based competence (Oktafiani, 2025). However, its implementation Still limited in scope certain and not yet fully adopted by the institution sectoral such as the Indonesian Quarantine Agency. This confirm the need study more carry on For produce a suitable model with need specific institution quarantine, which has mandate unique in field health animals, plants and security food.

Problems the main thing to do answered in study This is how is the strengthening strategy competence, development source Power human, and optimization ASN talent can contribute real in improvement The performance of the Indonesian Quarantine Agency. Problems This become relevant remember complexity task related institutions with security food, health animals, plants, and support to smoothness trading international. In the context of globalization and mobility increasingly cross- border intensive, ASN quarantine capacity sued No only on the aspect technical, but also on the ability managerial, digital adaptation, and coordination cross sector (Christensen & Læg Reid, 2020; Sridhar & Majumder, 2022).

Focus study directed at efforts identify factors relevant levers in build performance organization. Factors the covering competence technical employees, quality of HR development programs, effectiveness management talents, as well as support regulations and internal policies. With examine factors this research make an effort find point support that can speed up achievement target strategic Indonesian Quarantine Agency, especially in face challenge disease animal quarantine, organism nuisance plants, and demands standard global trade (Ghani & Hussin, 2019; Widianingsih, 2021).

In addition, research this is also trying reveal obstacles faced in Implementation of human resource development strategies. Obstacles the can in the form of limitations budget, lack of synergy inter-unit organization, resistance to change culture work, as well as weakness monitoring and evaluation system in the training program as well as management talent. Understanding on obstacle This important For formulate realistic, contextual, and capable solutions answer need organization in a way sustainable (Nurmandi & Kim, 2019; Setiyono & McLeod, 2020).

2. Method

2.1 Research Design

Study This use approach quantitative with design survey explanatory approach This chosen Because in accordance For test connection interrelated variables with ASN competency, development source Power human, optimization talent and performance organization. Survey explanatory also allows researchers For explain influence variables independent to variables dependent in a way more comprehensive (Creswell & Creswell, 2018).

2.2 Population and Sample

Population study is all over Apparatus Civil Servants (ASN) who work in the Indonesian Quarantine Agency environment, both in the office center and implementing units technical (UPT) spread across various area. Considering amount large and heterogeneous population, research This using purposive sampling with criteria selected respondents includes :

1. ASN with a minimum service period of 3 years, so own enough experience in understand the work process organization.
2. ASN who ever follow the development program competence, good in the form of training, training technical, as well as guidance technical in two years final.
3. ASN who occupy position functional and structural within the Indonesian Quarantine Agency.

Based on criteria said, determined amount sample as many as 225 respondents. The number This seen adequate For analysis multivariate, according with rule practical that at least 5–10 times the amount indicator variables used in instrument research (Hair et al., 2019).

2.3 Data collection technique

Primary data collected through distribution questionnaire with five- point Likert scale (1 = very much agree up to 5 = strongly agree). Questionnaire covers a number of variables main, namely : (1) ASN competency, (2) HR development program, (3) management ASN talent, and (4) performance organization. For ensure quality instruments, validity and reliability tests were carried out at the trial stage (pilot test) before questionnaire distributed in a way full. In addition to the questionnaire, secondary data obtained from report annual report performance (LAKIN), as well as document official data from the Ministry of Agriculture and the relevant Indonesian Quarantine Agency. Secondary data used as information supporters For strengthen interpretation results survey.

2.4 Data Analysis Techniques

Data analysis was performed with approach statistics inferential. Stage First is analysis descriptive For describe profile respondents and distribution answer to every variables. Next, validity and reliability tests were carried out instrument with analysis factor confirmatory (CFA) as well as *Cronbach's Alpha*. For test connection intervariable, used *Structural Equation Modeling* (SEM) based *Partial Least Squares* (PLS-SEM). This technique chosen Because capable testing complex conceptual models with amount sample relatively moderate, and can handle latent variables measured with indicator double (Hair et al., 2019). SEM-PLS analysis was performed with help device soft SmartPLS.

3. Results

3.1 Analysis Outer Model Measurement

Figure 1 shows *outer model* that shows connection between construct with indicator from each variable. In the outer reflective model, the arrow direction connection is from latent variable to indicator. This is means indicator is reflection or manifestation from variables latent. Outer reflective model used For measure variables like *strengthening competence, human resource development, optimization ASN talent, and Building Company Performance*. In the outer formative model, the arrow direction connection is from indicator to latent variables. This means that the indicators This form or cause emergence latent variables. In the outer reflective model, the parameters evaluated is significance and relevance weight indicators (*outer weights*). Indicators with *outer weight* no significant (p-value > 0.05) can maintained If *outer loading* - nya significant (> 0.50).

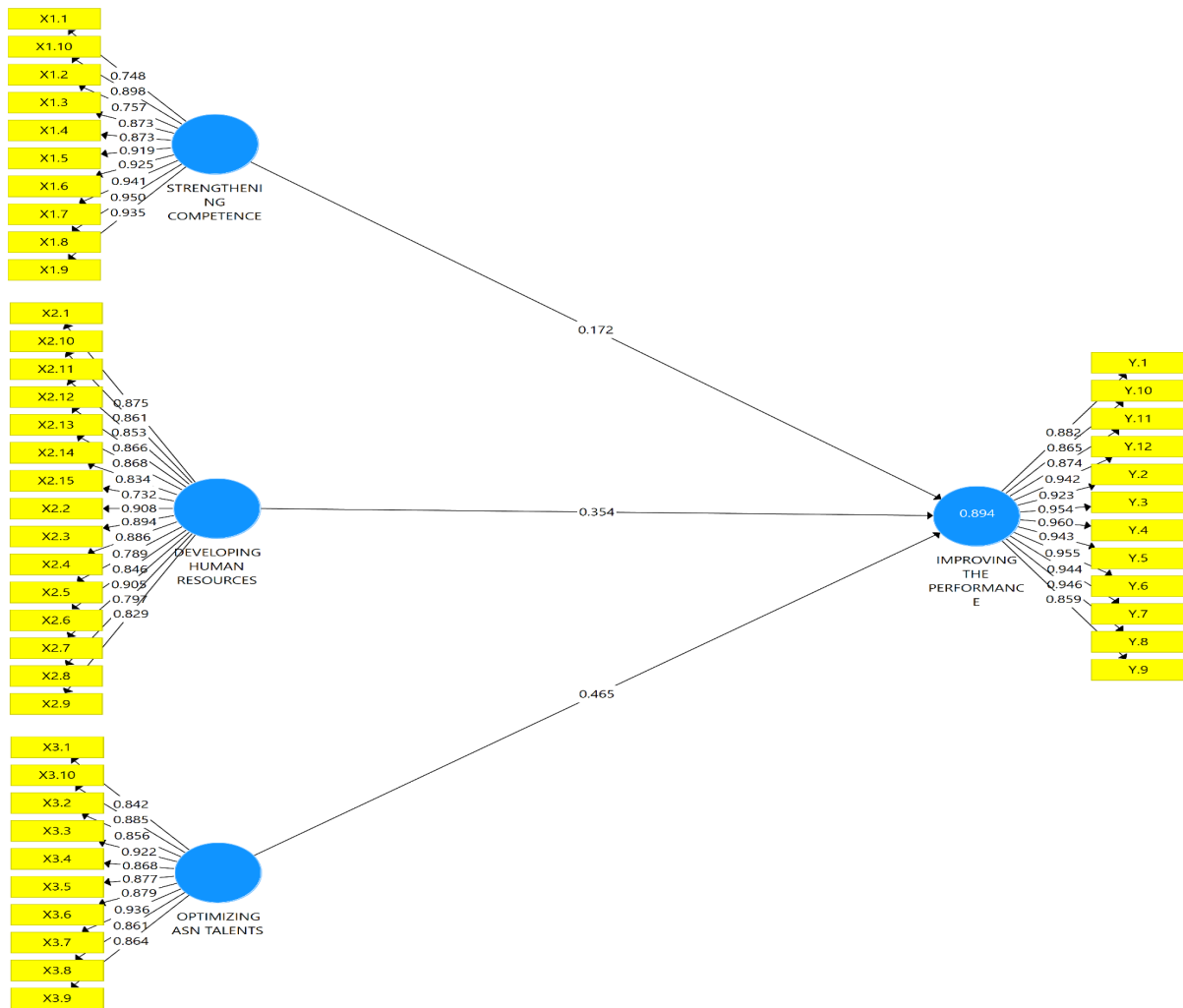


Figure 1. Outer Model Test Results
Source : Processing Results SmartPLS 3.0 (2025)

1. Validity Convergent

A indicator is said to be valid if the loading factor positive and exceeds 0.7. Following is listed loading factor values in Table 1 below This :

Table 1. Validity Test Results Convergent

Variables	Indicator	Loading Factor	Information
Strengthening Competence	X1.1	0.748	Valid
	X1.2	0.757	Valid
	X1.3	0.873	Valid
	X1.4	0.873	Valid
	X1.5	0.919	Valid
	X1.6	0.925	Valid
	X1.7	0.941	Valid
	X1.8	0.950	Valid
	X1.9	0.935	Valid

	X1.10	0.898	Valid
Human Resources Development	X2.1	0.875	Valid
	X2.2	0.908	Valid
	X2.3	0.894	Valid
	X2.4	0.886	Valid
	X2.5	0.789	Valid
	X2.6	0.846	Valid
	X2.7	0.905	Valid
	X2.8	0.797	Valid
	X2.9	0.829	Valid
	X2.10	0.861	Valid
	X2.11	0.853	Valid
	X2.12	0.866	Valid
	X2.13	0.868	Valid
	X2.14	0.834	Valid
	X2.15	0.732	Valid
Optimization ASN Talent	X3.1	0.842	Valid
	X3.2	0.856	Valid
	X3.3	0.922	Valid
	X3.4	0.868	Valid
	X3.5	0.877	Valid
	X3.6	0.879	Valid
	X3.7	0.936	Valid
	X3.8	0.861	Valid
	X3.9	0.864	Valid
	X3.10	0.885	Valid
Building Company Performance	Y.1	0.882	Valid
	Y.2	0.923	Valid
	Y.3	0.954	Valid
	Y.4	0.960	Valid
	Y.5	0.943	Valid
	Y.6	0.955	Valid
	Y.7	0.944	Valid
	Y.8	0.946	Valid
	Y.9	0.859	Valid
	Y.10	0.865	Valid
	Y.11	0.874	Valid
	Y.12	0.942	Valid

Source : Data that has been processed in 2025

Based on table 1 above can seen that No all indicator from every variables own value > 0.70 , however can maintained with evaluation more carry on with see from AVE value, the value of which is more big of 0.5 (Malhotra, 2016). Seeing from results processing of the above data, all variables in study This have AVE value > 0.5 and can concluded that indicators used in study This can considered valid and can reliable For measure construct or respective latent variables.

2. Validity Discriminant

Discriminant Validity can be seen from the cross loading factor with truck loads and comparison of AVE with correlation latent variables. Cross loading values are presented as follows :

Table 2. Results of the Cross Loading Test of Factors

Indicator	Company performance	Strengthening Competence	Human Resources Development	Optimization ASN Talent
X1.1	0.551	0.748	0.613	0.585
X1.2	0.647	0.757	0.604	0.612
X1.3	0.730	0.873	0.797	0.733
X1.4	0.815	0.873	0.785	0.775
X1.5	0.786	0.919	0.775	0.788
X1.6	0.854	0.925	0.823	0.848
X1.7	0.839	0.941	0.822	0.811
X1.8	0.837	0.950	0.833	0.812
X1.9	0.860	0.935	0.833	0.820
X1.10	0.825	0.898	0.835	0.782
X2.1	0.850	0.850	0.875	0.793
X2.2	0.847	0.851	0.908	0.793
X2.3	0.759	0.820	0.894	0.703
X2.4	0.771	0.771	0.886	0.712
X2.5	0.702	0.653	0.789	0.625
X2.6	0.753	0.694	0.846	0.650
X2.7	0.799	0.800	0.905	0.747
X2.8	0.664	0.667	0.797	0.635
X2.9	0.663	0.652	0.829	0.659
X2.10	0.709	0.714	0.861	0.664
X2.11	0.745	0.771	0.853	0.694
X2.12	0.821	0.807	0.866	0.784
X2.13	0.851	0.789	0.868	0.819
X2.14	0.785	0.723	0.834	0.729
X2.15	0.664	0.582	0.732	0.694
X3.1	0.727	0.680	0.691	0.842
X3.2	0.775	0.762	0.740	0.856
X3.3	0.832	0.819	0.799	0.922
X3.4	0.770	0.726	0.718	0.868
X3.5	0.811	0.687	0.660	0.877
X3.6	0.782	0.695	0.696	0.879
X3.7	0.850	0.784	0.769	0.936
X3.8	0.856	0.857	0.822	0.861
X3.9	0.725	0.716	0.702	0.864
X3.10	0.864	0.819	0.789	0.885
Y.1	0.882	0.786	0.789	0.867

Y.2	0.923	0.824	0.817	0.836
Y.3	0.954	0.874	0.888	0.847
Y.4	0.960	0.850	0.865	0.870
Y.5	0.943	0.844	0.846	0.862
Y.6	0.955	0.864	0.861	0.874
Y.7	0.944	0.822	0.852	0.874
Y.8	0.946	0.798	0.831	0.862
Y.9	0.859	0.740	0.792	0.796
Y.10	0.865	0.725	0.718	0.746
Y.11	0.874	0.806	0.784	0.751
Y.12	0.942	0.820	0.856	0.877

Source : Data that has been processed in 2025

Based on table The results of the PLS software above can be seen cross loading factor correlation value every latent constructs for corresponding indicators more tall than construction others, so that can concluded that the indicators used For measure latent variables have been fulfil condition

3. Reliability

Following is Composite Reliability and Cronbach Alpha values from variables in study This.

Table 3. Reliability Test

Variables	Cronbach's Alpha	Reliability Composite	Average Variance Extracted (AVE)
Building Company Performance	0.984	0.985	0.849
Strengthening Competence	0.968	0.973	0.783
Human Resources Development	0.972	0.975	0.724
Optimization ASN Talent	0.967	0.971	0.773

Source : Data that has been processed in 2025

Based on the data listed in Table 3 above, it can be identified that all composite reliability value of variables study own mark more big of 0.7, and the Cronbach's Alpha value exceeds 0.6. These results show that every variables in study This has fulfil composite reliability and Cronbach's Alpha requirements, indicating that overall variables own level high reliability.

3.2 Analysis Inner Model Measurement

Inner model testing, also known as as a structural model, aims For analyze connection between construct, evaluate mark significance, and measure R-square value of the research model. Range mark coefficient determination is between 0 to 1, where a

value closer to 1 indicates level more explanation strong. Coefficient determination (R^2) indicates to what extent the variables independent in equality own ability in explain variation variables dependent. The approach by Yamin & Kurniawan (2011) divides criteria the R^2 value becomes three category : values 0.67, 0.33, and 0.19, each representing substantial, moderate, and weak in ability model explanation.



Figure 2. Inner Model Test Results
Source : Data that has been processed in 2025

1. Goodness of Fit

The following are the Composite Reliability and Cronbach Alpha values of the variables in this study.

Table 4. Results Testing Goodness of Fit

Variable	R - Square	R - Square Adjusted
Building Company Performance	0.894	0.893

Source : Data that has been processed in 2025

Based on the data listed in Table 3 above, it can be identified that all composite reliability values of the research variables have values greater than 0.7, and Cronbach's Alpha values exceed 0.6. These results indicate that each variable in this study has met the requirements for composite reliability and Cronbach's Alpha, indicating that all variables have a high level of reliability.

2. Predictive Relevance (Q Square)

If the Q square value > 0 then can it is said own mark good observation, whereas If Q square value < 0 then can stated mark observation No good. Q-Square predictive relevance for structural models, measuring how much Good mark conservation generated by the model and also the estimation its parameters.

Table 5. Predictive Relevance

Variables	Q ² (=1-SSE/SSO)	Information
Building Company Performance	0.752	Own predictive relevance value

Source : Data that has been processed in 2025

Q value ² For variables Building Company Performance results in the number 0.752. Because Q ² value > 0 , can concluded that There is correlation predictive between strengthening competency, human resource development, and optimization ASN talent towards Building Company Performance. Furthermore, because Q ² = 0.752 which is more big from 0.36, then can stated as indication significant relevance or strong.

3. Testing Hypothesis

Procedure structural model testing executed through use device PLS (Partial Least Square) software. Testing hypothesis direct formed based on results visible output in form images and values indicated by the output path coefficients. Evaluation techniques hypothesis This rely on the guide that If p value < 0.05 (significance level significance = 5%), then can considered that there is influence significant from variables exogenous to endogenous variables

Table 6. Hypothesis Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Developing Human Resources -> Improving The Performance	0.354	0.346	0.068	5,208	0.000
Optimizing ASN Talents -> Improving The Performance	0.465	0.465	0.041	11,303	0.000
Strengthening Competence -> Improving The Performance	0.172	0.181	0.060	2,898	0.004

Source : Data that has been processed in 2025

Based on results analysis path analysis shown in the table, can seen that third variables independent, namely Developing Human Resources, Optimizing ASN Talents, and Strengthening Competence, has influence positive and significant to variables dependent Improving the Performance.

1. Optimizing ASN Talents variables provide the biggest contribution to improvement performance, with Original Sample (O) value = 0.465 and T Statistics value = 11.303. This value show that optimization ASN talent becomes factor dominant driving force improvement performance organization. In other words, the more Good agency government in identify, manage, and maximize potential of ASN, then the more high performance can also be achieved achieved.
2. Developing Human Resources also provides influence positive enough significant to improvement performance with Original Sample value = 0.354 and T Statistics = 5.208. This is confirm that the development program source Power humans, such as training, education sustainable, as well as development career, is factor important in push performance employees and organizations in a way overall.
3. Strengthening Competence is also proven influential positive to improvement performance, although his contribution relatively more small compared to two variables previously. Original Sample Value = 0.172 and T Statistics = 2.898 remain show significance relationship, so that improvement competence — good technical, managerial, and social — still become necessary aspects strengthened so that ASN is able operate roles and duties in a way more effective.

4. Discussion

1. Strengthening Competence to Building the Performance of the Indonesian Quarantine Agency

Test results hypothesis show that Strengthening Competence (Strengthening Competence) has an influence significant to improvement performance of the Indonesian Quarantine Agency, with the original sample value is 0.172 and the t-statistic value is 2.898 which is more tall from the critical limit of 1.96 at the level significance of 5%. The p-value of 0.004 indicates that influence the significant in a way statistics. With Thus, the hypothesis states that that strengthening competence

influential to the performance of the Indonesian Quarantine Agency's ASN can accepted.

Findings This in line with research previously emphasized importance competence as factor key in push performance organization public. For example, studies by Spencer & Spencer (1993) and Boyatzis (2008) explain that competence — good in the form of knowledge, skills, and attitude — is determinant main in form performance individuals and organizations. In the context of sector public in Indonesia, research by Suryani (2019) and Lestari (2021) also found that strengthened ASN competencies through training, certification, and development career contribute positive to improvement effectiveness service public.

However thus, if compared to with other variables in study this, influence strengthening competence seen relatively more low compared to Optimization ASN Talent (0.465) and Human Resource Development (0.354). This show that although competence important, improvement the performance of the Indonesian Quarantine Agency is better strong influenced by management strategy targeted talents and systems sustainable human resource development. Findings This strengthen Collings and Mellahi's (2009) argument states that management talent holistic, which integrates competence, development career, as well as retention, capable give impact more big to performance organization.

With Thus, the results study This give contribution empirical that strengthening permanent ASN competency is fundamental aspects in build performance organization public, especially within the Indonesian Quarantine Agency. However, the organization need put strengthening competence as part from a more comprehensive HR development strategy wide, with integrate it to in system management talent and development ASN career so that it can produce more optimal performance.

2. Human resource development towards Building the Performance of the Indonesian Quarantine Agency

Test results hypothesis show that variables Human Resources Development (Developing Human Resources) has an impact positive and significant on the Performance of the Indonesian Quarantine Agency with The Original Sample (O) value is 0.354 and the T-Statistics value is 5.208 (more big from 1.96). The P Values obtained of 0.000 (<0.05) indicates that influence the significant in a way statistics. This means that the more good human resource development programs are carried out, then the more The performance of the Indonesian Quarantine Agency has also improved. This confirm that improvement capacity and quality of human resources is one of the factor key in push achievement performance organization public.

This result in line with research conducted by Afianto & Utami (2020) which shows that human resource development, both through training, education, and strengthening capacity technical, contributing in a way real to improvement productivity and effectiveness work in the sector public. Similarly, Sutanto & Kurniawan (2016) emphasized that human resource development functions as investment term long organizations that are direct impact on increasing performance individual and institutional. This is strengthen results study This that improvement quarantine human resource capacity can repair quality service public, in particular in field supervision and control Then cross commodities agriculture and animals.

In addition, the results study this is also consistent with findings of Collings et al. (2019) which stated that in context sector public, human resource development strategy has role central in push performance institutional development competencies and learning sustainable for employee can help organization face challenge dynamic

environment. In the context of the Indonesian Quarantine Agency, human resource development becomes important remember complexity the task at hand, starting from aspect technical, administrative, to diplomacy trading international.

With thus, it can concluded that testing hypothesis P2 supports suspicion beginning that human resource development has an impact significant to improvement the performance of the Indonesian Quarantine Agency. These results strengthen proof empirical that the development strategy capacity employee, if done in a way systematic and sustainable, will give contribution direct to improvement effectiveness, efficiency, and quality services provided institution.

3. Optimization ASN Talents towards Building the Performance of the Indonesian Quarantine Agency

Test results hypothesis show that Optimization ASN talent is influential positive and significant to performance of the Indonesian Quarantine Agency with the original sample value is 0.465, the T-statistics value is 11.303 (>1.96), and the P-value is 0.000 (<0.05). This indicates that increasingly optimal management and utilization ASN talent, increasingly high performance organization. Findings This strengthen assumptions that ASN who have talent superior can become a driving force main in improvement quality service public, in particular in support function main Indonesian Quarantine Agency.

This result consistent with findings Collings & Mellahi's (2009) research states that that management talent is a key strategy for create superiority competitive organization sector public and private sector. Another study by Gallardo-Gallardo et al. (2020) also confirmed that optimization talent no only relate with selection individual potential high, but also on development sustainable and proper placement so that talent can contribute maximum to performance organization. With Thus, the results study This in line with theory management talent that emphasizes that success organization is greatly influenced by the extent to which internal talent is able to optimized.

In addition, the findings study this also supports results Pella & Inayati's (2011) study which emphasized importance management talent in context Indonesian bureaucracy. They disclose that performance state apparatus can increase if individual talented get chance For develop in accordance its capacity through pattern clear career, awards based performance, as well as appropriate placement competence. In the context of the Indonesian Quarantine Agency, optimization proven ASN talent capable increase quality service quarantine, efficiency operational and speed response to global challenges in the field security food, health animals, and protection plant.

With Thus, the hypothesis states that that Optimization ASN talent is influential significant on the Performance of the Indonesian Quarantine Agency can accepted. This is confirm that the management strategy talent be one of factor crucial in strengthen Power competitiveness and effectiveness performance institution government in the current era of global competition This.

5. Conclusion

Study This confirm that strengthening competence, development source Power human, and optimization ASN talents have influence positive and significant to improvement performance of the Indonesian Quarantine Agency. Analysis results show that third variables the play a role important in build performance organization, with optimization ASN talent provides most dominant contribution compared to with two factors other.

Strengthening permanent ASN competency become foundation the basics that must be strengthened, because competence technical, managerial, and social is prerequisites for the

apparatus capable carry out task in a way effective. However, the results study this also confirms that human resource development carried out in a way systematic and sustainable through training, education, and coaching career, giving impact significant in support effectiveness service public quarantine.

On the other hand, optimization proven ASN talent become factor the biggest key contribution. Identification, management, and utilization of talented ASN with proper placement and appreciation based performance capable become a driving force improvement performance organization in a way overall. Findings This strengthen urgency implementation management integrated talent in system bureaucracy public, especially at the Indonesian Quarantine Agency.

In a way overall, research This conclude that the improvement strategy performance institution quarantine must put strengthening competence as a basis, human resource development as instrument strengthening capacity term long, and optimization ASN talent as factor the most decisive strategy Power competitiveness and success organization in face global challenges.

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HOW GIG WORKERS THINK LIKE ENTREPRENEURS

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Abstract

This paper reframes drivers and delivery workers within platform-mediated gig economies as "accidental entrepreneurs" whose routine decisions about opportunity evaluation, resource deployment, and risk mitigation instantiate the core cognitive processes investigated by entrepreneurial cognition researchers (Haynie et al., 2010; Mitchell et al., 2002, 2007). We argue that algorithmic management constrains that entrepreneurial cognition by shaping pay, task allocation, and performance feedback through opaque automated decision-making, producing an "uncertainty fog" that amplifies cognitive load and undermines well-being (Duggan et al., 2023; Kadolkar et al., 2024; Kinowska & Sienkiewicz, 2022; Peng et al., 2024). To address this paradox, we introduce the concept of a human-centered AI "cognitive scaffold"—an intervention toolkit combining transparency-enhancing models (e.g., probabilistic income forecasting), agency-supportive simulations (e.g., personalized strategy modeling), and well-being primitives (e.g., fatigue monitoring and goal pacing)—and propose a co-designed, mixed-methods research program to develop and evaluate it in situ (Hassija et al., 2023; Hemmer et al., 2023; Shneiderman, 2020; Steen, 2013). The empirical program integrates participatory co-design with drivers to produce a prototype toolkit, a controlled field experiment to quantify effects on anxiety, burnout, cognitive load, and perceived autonomy, and qualitative interviews to provide processual and contextual understanding, all situated within Self-Determination Theory to prioritize autonomy, competence, and relatedness (Broeck et al., 2016; Parent-Rocheleau et al., 2023; Steen, 2013). We contend that validating such a cognitive scaffold will advance entrepreneurial cognition theory into digitally mediated constrained work settings, produce practical tools for platform or third-party adoption to improve retention and service quality, and inform policy debates by supplying evidence for algorithmic transparency and worker-centred governance mechanisms (Mitchell et al., 2002, 2007; Shneiderman, 2020; Vallas & Schor, 2020).

1. Introduction

Digital labour platforms have fundamentally restructured how work is mediated and experienced, creating forms of employment that blend flexibility with new regimes of control and precariousness (Möhlmann et al., 2021; "Digital labour platforms and the redefinition of work," 2021). Within this landscape, gig workers such as delivery drivers and ride-hail drivers perform not only physical tasks but also substantial cognitive and self-regulatory labor. Their daily work involves continuous opportunity evaluation, dynamic resource allocation, and real-time risk assessment—activities that mirror the core decision-making processes of formal entrepreneurs (Laursen et al., 2021; Muñoz et al., 2022). We conceptualize these individuals as **"accidental entrepreneurs,"** a term that captures the inherent tension between their entrepreneurial actions and the structurally constrained, algorithmically-governed environment in which they operate.

This entrepreneurial agency is fundamentally shaped and constrained by **algorithmic management**—the use of automated systems for task allocation, dynamic pricing, performance monitoring, and discipline (Griesbach et al., 2019; Kadolkar et al., 2024). The opaque nature of these systems creates a persistent **"uncertainty fog"** for workers, marked by unpredictability in earnings, assignment logic, and deactivation risk (Duggan et al., 2023; Tuomi et al., 2024). This chronic uncertainty imposes a significant cognitive and psychological burden, leading to

heightened stress, anxiety, burnout, and diminished well-being (Peng et al., 2024; Vignola et al., 2023).

The core problem this research addresses is this psycho-cognitive burden, a dimension of gig work often overlooked in debates centered on legal employment classification. To address this gap, we propose a human-centered AI intervention: a **"cognitive scaffold."** This AI-powered toolkit is designed to rebalance information asymmetries, restore actionable autonomy, and support worker well-being. We outline a participatory, mixed-methods research program to co-design, implement, and rigorously evaluate this intervention, aiming to generate actionable theoretical, practical, and policy-relevant insights.

2. Literature Synthesis

Our research is informed by several convergent streams of literature that establish the context and need for this intervention. A substantial body of evidence documents the association between **algorithmic management** and adverse psychosocial outcomes, including reduced autonomy, stress, and poor mental health (Cheng et al., 2024; Glavin et al., 2021; Kinowska & Sienkiewicz, 2022). Scoping reviews confirm these findings and explicitly call for intervention-focused research to mitigate these harms (Margerison et al., 2025; Matilla-Santander et al., 2025). This literature also highlights the dual effects of algorithmic control, which can be perceived as both a "hindrance" and a "challenge," suggesting that the design of the human-AI interface is critical in shaping outcomes (Li et al., 2025; Zhang et al., 2023). Finally, research shows that workers actively engage in **"articulation work"** and develop tactical **"algorithmic counter-tactics"** to regain agency, validating the need for tools that build upon, rather than ignore, their existing knowledge (Celentano, 2023; Huber & Pierce, 2023).

2.1 Theoretical Framing

This research integrates three theoretical perspectives: Entrepreneurial Cognition, Self-Determination Theory, and Human-Centered AI.

1. Entrepreneurial Cognition Meets Algorithmic Management

Entrepreneurial cognition research examines the cognitive processes entrepreneurs use to navigate uncertainty, including opportunity identification, effectual reasoning, and metacognitive regulation (Haynie et al., 2010; Mitchell et al., 2002, 2007). We extend this lens to the novel context of platform work, where gig workers enact these cognitive operations in real-time but without the structural autonomy of traditional entrepreneurs (Wood et al., 2018). Algorithmic management reshapes this decision environment by automating governance and embedding evaluative criteria into opaque socio-technical processes (Duggan et al., 2023). From a sociomaterial perspective, these algorithmic artifacts transform task representations and workers' cognitive and affective states, directly constraining the affordances required for effective entrepreneurial thinking (Röttgen et al., 2024). Our research investigates whether an AI-powered scaffold can augment these cognitive processes by serving as an external cognitive resource.

2. Self-Determination Theory (SDT)

SDT provides a robust framework for explaining the mechanisms linking algorithmic constraints to well-being (Broeck et al., 2016). SDT posits that optimal human functioning is contingent on the satisfaction of three basic psychological needs: **autonomy** (experiencing volition and control), **competence** (feeling effective and capable), and **relatedness** (feeling socially connected). Opaque and controlling algorithmic management can thwart these needs,

leading to burnout and distress (Jabagi et al., 2021; Peng et al., 2024). Our cognitive scaffold is explicitly designed to be autonomy-supportive by increasing transparency (supporting competence) and enabling strategy simulation (supporting autonomy), thereby fostering need satisfaction. We will measure this using validated constructs such as Perceived Algorithmic Autonomy Support (PAAS) (Jabagi et al., 2021).

3. Human-Centered AI as a Cognitive Scaffold

We define a cognitive scaffold as a human-centered AI system that augments a worker's decision-making capacity, reduces unnecessary cognitive load, and supports psychological needs (Shneiderman, 2020). This paradigm contrasts with AI systems designed for pure automation or managerial control. Instead, it prioritizes reliable, safe, and trustworthy tools that empower users (Hassija et al., 2023). The scaffold functions as a supportive, worker-controlled intermediary that translates opaque algorithmic signals into actionable, human-meaningful intelligence.

2.2 Research Questions, Conceptual Framework, and Hypotheses

Research Questions

This study is guided by one major research question and three specific sub-questions:

Major RQ: How can a human-centered AI "cognitive scaffold" mitigate the negative impacts of the "uncertainty fog" created by algorithmic management on gig workers' entrepreneurial cognition and well-being?

RQ1: To what extent does the cognitive scaffold improve the well-being and mental health of gig workers by reducing self-reported anxiety, burnout, and cognitive load?

RQ2: Through what psychological mechanisms—specifically the satisfaction of the needs for autonomy and competence as described by Self-Determination Theory—does the cognitive scaffold produce its effects on worker well-being?

RQ3: How does use of the cognitive scaffold enhance the entrepreneurial cognition of gig workers, specifically their metacognitive awareness and use of adaptive work strategies?

Conceptual Framework

Our integrated conceptual framework, posits that opaque **Algorithmic Management** creates an **"Uncertainty Fog."** Our intervention, the **Cognitive Scaffold Toolkit**, is designed to counteract this fog. The framework models the scaffold as an intervention whose effectiveness is explained through a mediation pathway grounded in SDT. We hypothesize that by piercing the uncertainty fog, the scaffold enhances workers' **Perceived Autonomy and Competence**. These psychological resources, in turn, lead to the primary outcomes: improved **Well-being / Mental Health** and enhanced **Entrepreneurial Cognition**.

Hypotheses

This framework leads to a clear, testable set of hypotheses for our proposed field experiment:

H1: The use of the Cognitive Scaffold Toolkit (intervention) will lead to significantly improved worker well-being, manifesting as lower levels of (a) anxiety, (b) burnout, and (c) cognitive load compared to the control group.

H2: The use of the Cognitive Scaffold Toolkit will lead to significantly higher levels of worker-perceived (a) autonomy and (b) competence.

H3 (Mediation): The positive effects of the Cognitive Scaffold Toolkit on well-being outcomes (reduced anxiety and burnout) will be mediated by the increases in perceived autonomy and competence.

H4: The use of the Cognitive Scaffold Toolkit will lead to enhanced entrepreneurial cognition, measured by greater (a) metacognitive awareness and (b) use of adaptive work strategies compared to the control group.

H5 (Moderation): The positive effects of the Cognitive Scaffold Toolkit will be stronger for workers who report higher levels of "uncertainty fog" at baseline.

The Proposed Intervention: The Cognitive Scaffold Toolkit

The Cognitive Scaffold Toolkit is envisioned as a modular, privacy-preserving mobile application that runs alongside platform apps. It will be co-designed with workers and feature three core modules:

1. **The Transparency Engine:** This module will use predictive AI and explainable AI (XAI) methods to provide workers with short-horizon probabilistic income forecasts and interpretable insights into likely task assignment determinants (Hassija et al., 2023; Parent-Rochelleau et al., 2023).
2. **The Strategy Simulator:** This agency-enhancing module will enable workers to test alternative strategies (e.g., accept/reject heuristics, relocation, break timing) using personalized data and stochastic modeling (Hemmer et al., 2023).
3. **The Well-Being Monitor:** Drawing on research from transport safety and digital mental health, this module will combine voluntary self-reports with behavioral indicators to provide context-aware recommendations for breaks and pacing (Margerison et al., 2025; Peng et al., 2024).

3. Research Design and Methods

We propose a mixed-methods convergent design that integrates participatory co-design with a randomized controlled field experiment to ensure both ecological validity and causal inference.

Phase 1: Participatory Co-Design: We will conduct co-design workshops with a diverse sample of gig workers to elicit their mental models of platform algorithms, identify high-leverage intervention points, and iteratively prototype the toolkit's features (Steen, 2013).

Phase 2: Randomized Controlled Field Experiment (RCT): We will deploy the co-designed prototype in a pre-registered RCT. Participants will be randomly assigned to an intervention group (receiving the toolkit) or an active control group (receiving standard informational resources). Over 8–12 weeks, we will collect longitudinal data.

Phase 3: Qualitative Process Evaluation: Post-trial, we will conduct semi-structured interviews with a purposive sample of participants to explore how the toolkit was used, how it shaped their mental models and strategies, and how it interacted with existing coping tactics and platform constraints.

Measurement Strategy

We will employ a multi-faceted measurement strategy using validated scales and behavioral data.

Key Constructs: We will use established instruments like the Algorithmic Management Questionnaire (AMQ), the Perceived Algorithmic Autonomy Support (PAAS) scale, SDT-based need satisfaction indices, and standardized scales for anxiety (GAD-7), burnout (MBI), and cognitive load (Broeck et al., 2016; Jabagi et al., 2021; Parent-Rochelleau et al., 2023).

Operationalizing "Uncertainty Fog": Recognizing this as a novel construct, we will develop a multi-item scale based on themes identified in our Phase 1 qualitative work. Items will capture perceptions of income unpredictability, ambiguity of performance metrics, and lack of

transparency. The scale will be pilot-tested for reliability and validity.

Operationalizing "Entrepreneurial Cognition": This will be assessed through a combination of (a) adapted self-report scales measuring metacognitive awareness, (b) scenario-based questions in pre/post surveys assessing decision-making logic, and (c) anonymized behavioral data logged by the toolkit (e.g., frequency of simulator use, diversity of strategies tested), which will serve as a proxy for adaptive strategy use.

Analysis Plan

Quantitative data will be analyzed using mixed-effects models to assess treatment effects over time. We will use structural equation modeling to test for the hypothesized mediation effects. The moderation analysis (Hypothesis 5) will be treated as exploratory, as the study will be primarily powered to detect main and mediation effects. Qualitative data will be analyzed using reflexive thematic analysis.

Anticipated Contributions

This research directly engages with the adoption of the "AI PEN" (Prospecting and Establishing Nexus) framework.

Prospecting Contribution: We *prospect* a novel application of AI as a human-centered cognitive support system for "accidental entrepreneurs," exploring how AI can augment cognitive resources in constrained work environments.

Establishing Contribution: We *establish* a solid theoretical and empirical foundation through (1) theory-building that integrates entrepreneurial cognition with SDT, (2) rigorous causal evidence from a mixed-methods RCT, and (3) the creation of a validated technological artifact and measurement strategy.

Limitations and Mitigation Strategies

We acknowledge several challenges inherent in this field-based research.

Recruitment and Attrition: The gig worker population is transient. To mitigate this, we will partner with worker advocacy organizations for recruitment and use fair compensation and regular, low-burden check-ins to minimize attrition.

Platform Adaptation: Platforms may alter their algorithms during the study period, creating a potential confound. While we cannot control this, we will monitor platform updates and worker forums to document any major changes that could influence the results.

Generalizability: The findings may be specific to the platforms and regions studied. The use of a diverse sample and detailed contextual data collection will help to characterize the boundary conditions of our findings.

Ethical Considerations and Data Governance

Given the risks of surveillance in the gig economy, ethical design is paramount. The project will adhere to strict protocols for informed consent, data minimization, and worker control over data sharing (Duggan et al., 2023; Shneiderman, 2020). The toolkit will be opt-in, use privacy-preserving techniques where feasible, and provide users with transparent controls to pause or revoke data sharing. The participatory co-design process will explicitly include discussions of surveillance risks to integrate ethical deliberation into the design itself.

Practical and Policy Implications

Practical: The project will produce a validated Cognitive Scaffold Toolkit that can be adopted by platforms, third-party developers, or worker organizations to reduce mental health burdens and improve decision-making.

Policy: The study's findings will provide empirically grounded evidence for policy debates on algorithmic transparency and accountability (Vallas & Schor, 2020), supporting prescriptions that mandate transparency and worker-support features as minimum standards for labor platforms.

4. Conclusion

By reframing gig workers as "accidental entrepreneurs," this research integrates entrepreneurial cognition theory with a sociomaterial analysis of algorithmic management. The proposed Cognitive Scaffold Toolkit operationalizes this integration through a human-centered AI intervention designed to restore agency and protect well-being. Through a rigorous, participatory, and mixed-methods evaluation, this project promises to advance theory, produce a practical tool for worker empowerment, and provide critical evidence to inform a more humane and sustainable future for platform-mediated work.

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INVENTORY MANAGEMENT, TECHNOLOGY UTILIZATION, AND DISTRIBUTION EFFICIENCY IN ACCELERATING MOTOR INSURANCE CLAIM SETTLEMENT

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Abstract

In the competitive automotive insurance industry, the efficiency of claim settlement processes is increasingly determined by the speed and reliability of spare part distribution. Many insurance companies in Indonesia, particularly in Bandung, still face challenges in claim delays caused by poor inventory coordination and limited technology integration. This study addresses the gap by investigating how inventory management and technology utilization influence distribution speed and, consequently, the speed of claim settlement. Theoretically, this research contributes to the intersection of supply chain management and insurance operations, emphasizing the role of logistics efficiency in service performance. The study employs a quantitative explanatory design using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 4.0. Data were collected through questionnaires from 80 respondents comprising branch managers and claim supervisors of general insurance companies in Bandung. The analysis confirms that all constructs meet validity and reliability criteria, and the model demonstrates strong explanatory power (R^2 for distribution speed = 0.720; R^2 for claim settlement speed = 0.731). The results reveal that both inventory management and technology utilization significantly enhance distribution speed, which in turn accelerates claim settlement speed. Distribution speed fully mediates the effects of the two independent variables, indicating that efficient logistics processes are essential for translating operational inputs into faster claim resolutions.

This study provides practical implications for insurance companies to adopt digital inventory systems, real-time monitoring, and integrated logistics networks to improve service responsiveness. Theoretically, it contributes to expanding supply chain applications in the insurance context by highlighting distribution speed as a critical mediating factor linking operational efficiency and customer satisfaction.

Keywords: Inventory Management, Technology Utilization, Distribution Speed, Claim Settlement, Insurance Logistics.

1. Introduction

In the dynamic environment of the automotive insurance industry, service quality and customer satisfaction are increasingly determined by the speed and accuracy of claim settlements. The process of settling vehicle insurance claims often depends on the availability and timely distribution of spare parts, which are influenced by effective inventory management and technology utilization within the insurance supply chain. Efficient management of spare parts not only supports operational continuity but also determines how quickly damaged vehicles can be repaired and returned to their owners, directly impacting customer experience and company reputation.

In the Indonesian context, especially in Bandung, the issue of delays in claim settlement remains a significant operational challenge for many insurance companies. Delays frequently occur due to the unavailability of necessary spare parts, inefficient coordination among supply

chain partners, and the limited adoption of integrated information technology systems. As the insurance industry becomes increasingly competitive, companies are required to enhance both operational and service performance by optimizing logistics processes and adopting digital transformation initiatives.

From a theoretical standpoint, the integration of inventory management and technology utilization within the logistics system has been extensively discussed in supply chain management literature. Efficient inventory management ensures that the right products are available at the right time and place, while technology utilization enables real-time visibility, data integration, and automation that support decision-making and operational efficiency. In the insurance sector, however, these elements are often underexplored, particularly in relation to claim settlement performance.

Empirical evidence indicates that improving inventory and distribution management through digital solutions can significantly enhance service efficiency and customer satisfaction (Derrig & Weisberg, 2023; Fadun, 2023). Nonetheless, gaps remain regarding the mechanisms through which inventory management and technology utilization affect the speed of insurance claim settlements. Specifically, the mediating role of distribution speed in connecting operational inputs to service outcomes has not been fully examined in emerging markets such as Indonesia.

To address this gap, this study investigates the influence of inventory management and technology utilization on distribution speed and their impact on vehicle insurance claim settlements in Bandung. By applying the Structural Equation Modeling (SEM) approach through SmartPLS, this research aims to analyze both direct and indirect effects among these variables, providing a comprehensive understanding of how operational management and technological capabilities shape service outcomes.

The findings of this study are expected to provide valuable insights both theoretically and practically. Theoretically, the study contributes to insurance and supply chain management literature by clarifying the mediating role of distribution speed in the relationship between operational inputs and claim settlement performance. Practically, the results can serve as a reference for insurance companies to design more efficient, technology-driven claim management systems that enhance responsiveness, transparency, and customer trust.

In summary, this research focuses on the following key questions:

1. How do inventory management and technology utilization influence distribution speed?
2. How does distribution speed affect vehicle insurance claim settlement?
3. Does distribution speed mediate the relationship between inventory management, technology utilization, and claim settlement speed?

By addressing these questions, this study aims to support the development of more agile and customer-oriented insurance operations aligned with the principles of supply chain excellence and digital transformation.

2. Hypothesis development (quantitative)

2.1.Inventory Management

Inventory management refers to the systematic process of planning, controlling, and monitoring the flow of goods and materials to ensure that the right items are available in the right quantities and at the right time (Chopra & Meindl, 2016; Bowersox et al., 2013). In the context of the automotive insurance industry, effective inventory management involves maintaining the availability of spare parts required for vehicle repair following an accident. The accuracy of spare part inventory directly affects the duration of claim processing and the company's ability to meet service-level agreements with customers.

According to Slack et al. (2004), well-organized inventory systems reduce lead times and improve the responsiveness of the supply chain. Similarly, Al-Doori (2019) and Safiu and Shomuyiwa (2024) emphasize that efficient inventory control not only minimizes operational costs but also enhances coordination between suppliers and service centers. Within insurance logistics, poor inventory practices can lead to stockouts, delays, and dissatisfaction among policyholders. Conversely, an optimal inventory strategy ensures that claim settlements are not delayed by part unavailability, improving both operational performance and customer trust.

The implementation of digital inventory systems, including Internet of Things (IoT) technologies and real-time tracking, has transformed traditional inventory practices. Studies by Xiaolong and Jiayi (2019) and Avetisyan et al. (2024) demonstrate that technology-supported inventory systems enable predictive analytics and data-driven decision-making, allowing companies to anticipate demand fluctuations and maintain balanced stock levels. Thus, inventory management plays a critical role not only in cost efficiency but also in customer service performance, particularly in industries that rely heavily on after-sales logistics, such as automotive insurance.

2.2.Technology Utilization

Technology utilization involves adopting and integrating digital systems to enhance business processes, improve efficiency, and support decision-making (Laudon & Laudon, 2020). Within supply chain and insurance operations, technology serves as an enabler of visibility, transparency, and coordination. The implementation of digital tools—such as enterprise resource planning (ERP), blockchain, artificial intelligence (AI), and IoT—facilitates faster communication and minimizes errors in data exchange (Chen et al., 2023; Baghizadeh et al., 2022).

Research by Fadun (2023) and Guo et al. (2022) supports the view that technology integration improves responsiveness and reduces administrative bottlenecks in the insurance sector. Moreover, Mandala (2024) highlights that AI-driven systems can enhance claim validation, fraud detection, and resource allocation, resulting in quicker claim resolutions. According to Kotter and Schlesinger (2008), digital transformation also requires strong leadership and organizational readiness to manage the cultural and structural changes associated with technological adoption.

In the context of insurance logistics, technology enables real-time coordination among insurers, workshops, and suppliers. Systems interoperability ensures that all stakeholders have synchronized access to inventory data, repair status, and claim progress (Yoisangaji et al.,

2024). Therefore, technology utilization acts as both a strategic and operational capability that influences the overall efficiency of claim processing and customer satisfaction.

2.3. Distribution Speed

Distribution speed refers to the rate at which goods move through the supply chain—from suppliers to service points—to meet customer needs in a timely manner. It is one of the most critical indicators of supply chain performance (Chopra & Meindl, 2016). In the context of automotive insurance, distribution speed determines how quickly spare parts can be delivered to repair workshops, influencing the total claim settlement duration.

Delić and Eysers (2020) argue that faster distribution processes result from well-coordinated logistics systems that combine advanced planning with reliable transportation networks. Research by Hankede and Mwelwa (2024) found that the timeliness of spare part delivery is directly associated with customer satisfaction levels in after-sales service. Moreover, the digitalization of logistics activities has improved monitoring and control over the distribution process. IoT-based systems and predictive analytics tools allow companies to track shipments in real time and anticipate potential disruptions (Ekin, 2022; Manikas et al., 2019).

In an insurance setting, efficient distribution ensures that vehicles undergoing repairs receive necessary parts promptly, thereby reducing the waiting time for policyholders. This creates a direct link between operational logistics efficiency and perceived service quality. Therefore, distribution speed acts as both a performance outcome of internal operations (inventory and technology) and a driver of external customer satisfaction (Derrig & Weisberg, 2023).

2.4. Claim Settlement Speed

Claim settlement speed represents the efficiency with which an insurance company processes and resolves customer claims after a loss occurs (Rejda & McNamara, 2020). It is a key determinant of customer loyalty, trust, and satisfaction in the insurance sector. Studies by Singh and Agrawal (2020) and Kadyan et al. (2022) reveal that delays in claim settlement can lead to dissatisfaction, negative word-of-mouth, and loss of competitive advantage.

The speed of claim settlement is influenced by multiple operational and organizational factors, including inventory availability, technology integration, human resources, and regulatory compliance. McDermott et al. (2021) and Heinen and Hoberg (2019) demonstrate that companies that maintain integrated supply chain and claims management systems tend to achieve faster and more accurate claim resolutions. In Indonesia, the process is often hampered by dependence on third-party suppliers, limited digital adoption, and fragmented coordination across different insurance branches.

From a supply chain perspective, claim settlement efficiency is a reflection of the company's overall logistics capability (Bowersox et al., 2013). Therefore, ensuring smooth coordination among operational processes, supported by technology and effective inventory control, is essential for timely claim completion.

Relationship between variables

Based on the literature, this study develops a conceptual model that links four main constructs: inventory management (MINV), technology utilization (PGTEK), distribution speed (KCDIS),

and claim settlement speed (KCKLM). The relationships among these constructs are conceptualized as follows:

- **H1:** Inventory management significantly affects distribution speed.
- **H2:** Technology utilization significantly affects distribution speed.
- **H3:** Distribution speed significantly affects claim settlement speed.
- **H4:** Inventory management significantly affects claim settlement speed.
- **H5:** Technology utilization significantly affects claim settlement speed.

Additionally, distribution speed is hypothesized to mediate the relationships between (a) inventory management and claim settlement speed(**H6**), and (b) technology utilization and claim settlement speed(**H7**).

This conceptual framework emphasizes that efficient inventory management and the use of technology improve distribution performance, which in turn enhances the speed of claim settlement in the insurance industry.

Research Model

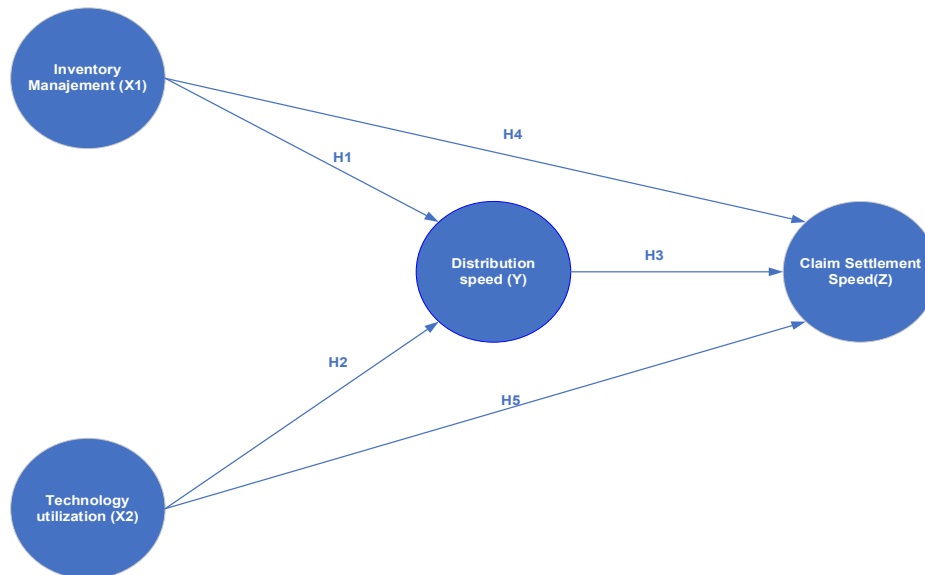


Figure 1. Research Model

3. Methodology

Sample and Data Collection

This study employs a **quantitative explanatory research design** to examine the relationships among inventory management, technology utilization, distribution speed, and claim settlement speed in the vehicle insurance industry. The explanatory approach is used to identify causal connections between variables and to test hypotheses derived from the conceptual model. Quantitative methods were chosen to allow statistical validation using measurable data, ensuring objectivity and replicability of results.

The study utilizes **Structural Equation Modeling (SEM)** with **Partial Least Squares (PLS)**

estimation through **SmartPLS 4.0 software**. SEM-PLS is appropriate for this study because it allows simultaneous testing of multiple relationships among latent variables, including mediation effects. It is particularly suitable for studies with relatively small sample sizes and complex models, as in this research.

The population for this study consists of branch managers, and claim Supervisor working in **general insurance companies** located in **Bandung, Indonesia**. These respondents were selected based on their direct involvement in claim settlement and operational coordination processes, ensuring that they possess relevant knowledge regarding inventory, technology systems, and distribution logistics.

The sampling method used is **purposive sampling**, which targets respondents who meet specific criteria relevant to the research objectives. Data were collected from **80 respondents**, representing multiple insurance companies in Bandung. This sample size is considered adequate for SEM-PLS analysis, as recommended by Hair et al. (2022), who suggest that the minimum number of samples should be at least ten times the number of indicators for the most complex construct.

Data were collected through a **structured questionnaire** distributed to respondents via both **online and in-person surveys**. The questionnaire used a **Likert scale** ranging from 1 (strongly disagree) to 5 (strongly agree) to measure perceptions related to inventory management, technology utilization, distribution speed, and claim settlement performance.

The instrument was developed based on validated constructs from previous studies, ensuring content validity. For example, items measuring inventory management were adapted from Bowersox et al. (2013) and Al-Doori (2019), while technology utilization items were derived from Laudon and Laudon (2020) and Guo et al. (2022). Distribution speed and claim settlement constructs were developed using indicators from Delić and Eysers (2020) and Derrig and Weisberg (2023), respectively.

Prior to distribution, a **pilot test** was conducted on ten respondents to evaluate the clarity and reliability of the questionnaire. Minor revisions were made to ensure the consistency and accuracy of item wording.

Measurement

To ensure clarity in measurement, each construct in this study is operationally defined as follows:

- ***Inventory Management (MINV):***
Refers to the company's ability to plan, control, and monitor spare part inventories efficiently to minimize shortages and excess stock. Measured by five indicators: (1) inventory control procedures, (2) stock accuracy, (3) supplier reliability, (4) reorder management, and (5) stock availability.
- ***Technology Utilization (PGTEK):***
Represents the extent to which the company adopts digital systems and tools to support logistics and claim processes. Measured by five indicators: (1) system

integration, (2) real-time data access, (3) automation level, (4) information accuracy, and (5) digital coordination.

- **Distribution Speed (KCDIS):**

The rate at which spare parts are delivered from suppliers or warehouses to repair workshops. Measured by four indicators: (1) transportation timeliness, (2) distribution coordination, (3) delivery accuracy, and (4) service responsiveness.

- **Claim Settlement Speed (KCKLM):**

The efficiency and promptness of claim handling, from claim filing to final resolution. Measured by four indicators: (1) claim verification time, (2) parts delivery responsiveness, (3) repair completion time, and (4) customer satisfaction with claim duration.

Data analysis

Data were analyzed using **SmartPLS 4.0**, which involves two main analytical stages:

1. **Measurement Model (Outer Model) Evaluation** — to test the validity and reliability of the indicators through:
 - **Convergent validity** (using factor loadings > 0.70)
 - **Composite reliability** (> 0.70)
 - **Average Variance Extracted (AVE)** (> 0.50)
2. **Structural Model (Inner Model) Evaluation** — to test the relationships between latent constructs using:
 - **Path coefficients (β)**
 - **t-statistics** (≥ 1.96 for significance at $\alpha = 0.05$)
 - **p-values** (< 0.05 for significance)
 - **Coefficient of determination (R^2)** to measure explanatory power.

Additionally, mediation testing was conducted using the **bootstrapping technique** with 5,000 resamples to evaluate the indirect effects of inventory management and technology utilization on claim settlement through distribution speed.

The **outer model** evaluation confirmed that all indicators met the required thresholds for validity and reliability. Factor loadings exceeded 0.70 for all items, and AVE values were above 0.50, indicating strong convergent validity. Composite reliability values ranged between 0.89 and 0.93, demonstrating internal consistency.

Discriminant validity was verified using the **Fornell–Larcker criterion**, which showed that the square root of each construct's AVE was greater than its correlation with other constructs, confirming that each variable measured a distinct concept.

All participation was voluntary and anonymous, ensuring academic integrity and compliance with ethical standards.

4. Results and discussion

Result

4.1. Measurement Model (Outer Model) Evaluation

The first step in the analysis involved evaluating the **measurement model** to assess the **validity and reliability** of all constructs. Convergent validity was examined through factor loadings, which should exceed 0.70 to indicate sufficient item reliability (Hair et al., 2022). The results showed that all indicators met this threshold, confirming the adequacy of the measurement model.

Table 1. Outer Loadings (Convergent Validity Test)

	KCDIS	KCKLM	MINV	PGTEK
X1.5			0,854	
X1.1			0,784	
X1.2			0,795	
X1.3			0,863	
X1.4			0,762	
X2.1				0,784
X2.2				0,871
X2.3				0,768
X2.4				0,763
X2.5				0,753
Y.1	0,860			
Y.2	0,845			
Y.3	0,875			
Y.4	0,877			
Z.1		0,906		
Z.2		0,930		
Z.3		0,864		
Z.4		0,831		

All indicator loadings were above **0.70**, demonstrating strong item reliability. Composite reliability (CR) and Average Variance Extracted (AVE) were also used to assess the internal consistency and convergent validity of each construct.

Table 2. Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
KCDIS	0,888	0,892	0,922	0,747
KCKLM	0,906	0,915	0,934	0,781
MINV	0,871	0,881	0,906	0,660
PGTEK	0,848	0,852	0,892	0,623

All **Composite Reliability** values exceeded 0.70 and **AVE** values were above 0.50, confirming both **reliability** and **validity**. Therefore, all constructs were suitable for further structural analysis.

4.2. Structural Model (Inner Model) Evaluation

The **R² value** indicates the model's explanatory power. Higher R² values show that the independent variables effectively explain the variance in the dependent variables.

Table 3. Construct Reliability and Validity

	R Square	R Square Adjusted
KCDIS	0,720	0,711
KCKLM	0,731	0,718

The **R² for distribution speed (0.720)** suggests that inventory management and technology utilization together explain 72% of its variance. Meanwhile, the **R² for claim settlement speed (0.731)** indicates that 73.1% of the variation in claim settlement performance is explained by inventory management, technology utilization, and distribution speed combined. These results show that the model has strong explanatory power.

4.3. Hypothesis Testing (Bootstrapping Results)

To test the significance of the relationships among variables, **bootstrapping** with 5,000 subsamples was conducted. The following results summarize the direct effects between constructs.

Figure 2. Estimated Output of Structural Model Testing

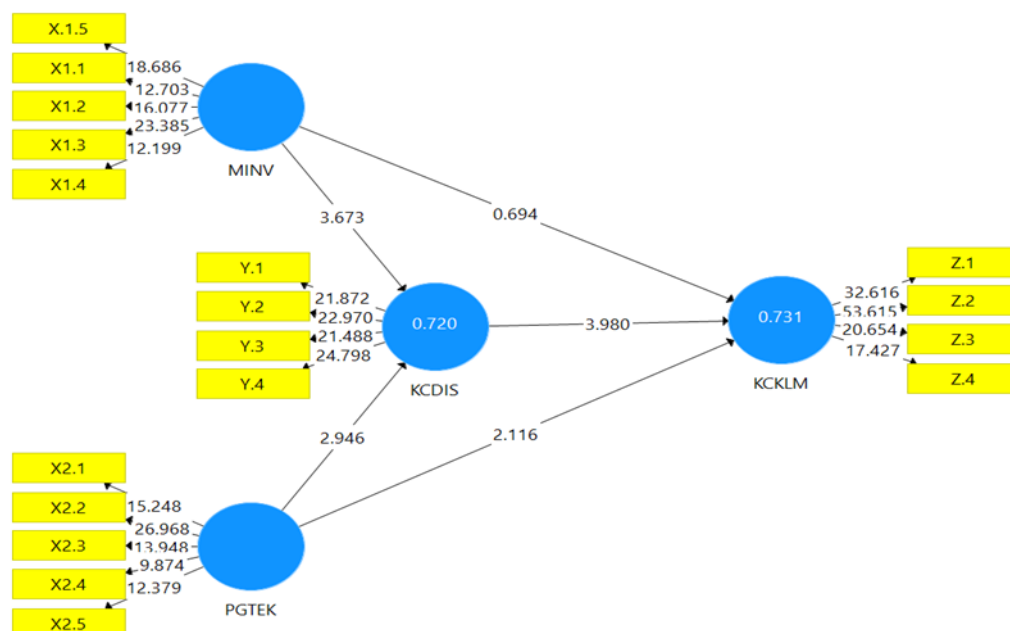


Table 3. Bootstrapping Results for Direct Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
KCDIS -> KCKLM	0,671	0,672	0,169	3,980	0,000
MINV -> KCDIS	0,478	0,491	0,130	3,673	0,000
MINV -> KCKLM	-0,087	-0,095	0,126	0,694	0,488
PG TEK -> KCDIS	0,411	0,401	0,140	2,946	0,003
PG TEK -> KCKLM	0,299	0,307	0,141	2,116	0,035

The results indicate that **four out of five hypotheses** are supported. Both **inventory management** and **technology utilization** have significant effects on **distribution speed**, and **distribution speed** significantly affects **claim settlement speed**. However, **inventory management** does not directly affect **claim settlement speed** without mediation.

4.4. Mediation Analysis

To evaluate the mediating role of **distribution speed**, indirect paths were tested using the bootstrapping technique. The results confirm that distribution speed fully mediates the effects of both inventory management and technology utilization on claim settlement performance.

Table 5. Mediation Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
MINV -> KCDIS -> KCKLM	0,321	0,333	0,130	2,474	0,014
PG TEK -> KCDIS -> KCKLM	0,276	0,266	0,109	2,536	0,012

Indirect Relationship	Path Coefficient	p-Value	Mediation Type
MINV → KCDIS → KCKLM	Significant	< 0.05	Full Mediation
PGTEK → KCDIS → KCKLM	Significant	< 0.05	Full Mediation

The mediation results show that **distribution speed** acts as a crucial connecting mechanism. Efficient distribution channels allow the benefits of effective inventory control and digital technologies to translate into faster claim settlements. Without efficient distribution, even the best inventory systems or technologies would fail to accelerate claim resolution.

Discussion

The results demonstrate that **inventory management** and **technology utilization** both significantly enhance **distribution speed**, which in turn accelerates **claim settlement speed**. These findings align with prior studies such as Al-Doori (2019), Fadun (2023), and Guo et al. (2022), which found that inventory and digital coordination improve logistics performance and customer satisfaction.

However, inventory management alone does not directly improve claim settlement speed. This indicates that, although adequate spare part availability is necessary, it is insufficient unless supported by efficient distribution systems. This confirms the argument of Delić and Eyers

(2020), who emphasized that logistics coordination, not just inventory levels, drives service performance.

Technology utilization was shown to have both **direct and indirect effects** on claim settlement efficiency. The direct effect arises from digital automation, which simplifies documentation, verification, and coordination processes (Hidayatullah et al., 2023). The indirect effect occurs through improved distribution monitoring and data integration, which enhance supply chain transparency.

The strong **mediating role of distribution speed** reinforces the importance of coordination among insurers, suppliers, and workshops. In Bandung's insurance ecosystem, where many companies still rely on manual coordination and third-party vendors, integrating **real-time tracking systems** and **predictive analytics** could significantly improve service responsiveness.

These findings provide both **theoretical and practical implications**. Theoretically, the study supports the integration of supply chain and service operations perspectives, showing that internal operational efficiency must align with external service delivery. Practically, insurance companies should adopt **digital inventory systems** and establish collaborative logistics networks to accelerate claim processing and enhance customer trust.

5. Conclusion

This study successfully achieved its primary objective of examining the relationships between inventory management, technology utilization, distribution speed, and claim settlement speed in the automotive insurance industry in Bandung, Indonesia. The findings confirmed that both inventory management and technology utilization significantly influence distribution speed, which in turn enhances the speed of claim settlement. However, inventory management does not have a direct impact on claim settlement speed, indicating that efficient distribution serves as a crucial intermediary. These results directly answer the research questions and validate the hypothesized model using the SEM-PLS approach, demonstrating that distribution efficiency acts as a mediating mechanism between operational inputs and service outcomes.

The key findings reveal that effective inventory management improves operational coordination and spare part availability, while technology utilization enhances digital communication, transparency, and automation across the insurance supply chain. Together, these elements contribute to faster and more reliable distribution processes, which ultimately shorten the duration of claim settlements. The full mediation effect of distribution speed highlights that even well-managed inventories and advanced technologies cannot optimize claim performance without an efficient distribution system. This reinforces the idea that logistics coordination and technological integration are interdependent drivers of service efficiency in the insurance sector.

Research implications

From a practical perspective, this research offers important managerial implications. Insurance companies are encouraged to strengthen digital transformation initiatives, such as adopting real-time inventory systems, IoT-based tracking, and integrated logistics platforms that connect

insurers, workshops, and suppliers. These efforts can enhance responsiveness, transparency, and customer satisfaction in claim processing. Theoretically, the study contributes originality by integrating supply chain management concepts into the service operations of insurance companies, emphasizing the mediating role of logistics distribution in translating operational efficiency into customer-centric outcomes. This cross-domain approach advances the literature by linking internal process optimization with external service quality.

Limitations of Research and Suggestions

Despite its valuable insights, this study has several limitations. The sample size was limited to insurance companies in Bandung, which may constrain the generalizability of findings to other regions or types of insurance. Additionally, the study relied on self-reported survey data, which may introduce perception bias. Future research could expand the sample across multiple cities or countries, adopt longitudinal designs to assess changes over time, and incorporate qualitative methods to capture deeper insights into coordination challenges within insurance logistics. Further exploration of digital maturity, supply chain integration, and customer behavioral factors could also enrich understanding of how operational innovation enhances service excellence in the insurance industry.

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STRENGTHENING COMPETENCE AND REGULATIONS FOR THE EFFECTIVENESS OF CIVIL SERVANT MANAGEMENT THROUGH THE DIGITALIZATION OF INDONESIAN QUARANTINE AGENCY SERVICES

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Abstract

This study aims to analyze the effect of strengthening competency and understanding of regulations on the effectiveness of State Civil Apparatus (ASN) management with service digitalization as a mediating variable at the Indonesian Quarantine Agency. A quantitative approach was used with an associative causal design, involving 200 ASN respondents selected through purposive sampling. Data analysis was conducted using the Partial Least Squares Structural Equation Modeling (PLS-SEM) method. The results showed that service digitalization had the strongest effect on ASN management effectiveness ($\beta = 0.520$; $p < 0.001$), confirming that the use of digital technology can improve bureaucratic efficiency, transparency, and accountability. Strengthening ASN competency significantly influenced service digitalization ($\beta = 0.648$; $p < 0.001$) and ASN management effectiveness ($\beta = 0.189$; $p < 0.01$), although the effect was more optimal through digitalization mediation. Regulation was also shown to have a positive effect on digitalization ($\beta = 0.253$; $p < 0.001$) and the effectiveness of civil servant management ($\beta = 0.282$; $p < 0.001$), as well as strengthening relationships through digitalization mediation. These findings confirm that bureaucratic digital transformation cannot be effective without adequate civil servant competency and clear regulations. The implications of this study encourage the need for civil servant capacity development, regulatory improvements, and digital system optimization to increase the effectiveness of civil servant management in facing the challenges of globalization and technological disruption.

Keywords: ASN competency, regulation, service digitalization, ASN management effectiveness, PLS-SEM

1. INTRODUCTION

In the past two decades, the phenomenon of globalization, the development of digital technology, and the transformation of public bureaucracy have become central issues that have changed the face of governance in various countries. Globalization encourages information transparency, market integration, and the cross-border mobility of people, goods, and services, which requires state officials around the world to be able to respond to increasingly complex challenges. Meanwhile, advances in digital technology, particularly artificial intelligence, big data, and the Internet of Things, create new opportunities and challenges in the management of human resources for state civil servants (ASN). Data from the World Bank (2023) shows that more than 65% of countries worldwide have adopted a digital government strategy to improve the effectiveness of public services and strengthen bureaucratic governance. This strategy aims not only to accelerate administrative processes but also to increase accountability, transparency, and the quality of public services that are more responsive to public needs.

In Southeast Asia, digital transformation in government bureaucracy is increasingly becoming a priority, given the region's rapid economic growth and increasingly diverse public service needs. The ASEAN Digital Masterplan 2025 report (ASEAN Secretariat, 2021) emphasizes that ASEAN member countries place the digitalization of public services as a key pillar of innovation-based economic development. Indonesia, as the most populous country in the region, faces greater demands to strengthen the quality of civil servant (ASN) management, both in terms of competency, regulatory understanding, and the use of information technology. According to a report by the Central Statistics Agency (BPS, 2023), the number of civil servants in Indonesia has reached more than 4.2 million, spread across various central and regional agencies. The main challenges are competency gaps, disparities in service quality, and low digital literacy in most regional bureaucracies. This situation demonstrates the urgency of strengthening the capacity of civil servants (ASN) to enable them to carry out their roles professionally, adaptively, and responsively to changes in the strategic environment.

The national context also shows that the Indonesian government has launched various strategic policies to strengthen the quality of civil servants (ASN), such as Law Number 5 of 2014 concerning the State Civil Apparatus, Government Regulation Number 17 of 2020 concerning Civil Servant Management, and Presidential Regulation Number 95 of 2018 concerning the Electronic-Based Government System (SPBE). These policies emphasize the direction of bureaucratic reform towards a professional, integrity-based, and performance-based bureaucracy, supported by digital technology. However, the implementation of these policies in the field still faces various obstacles, including limited digital infrastructure, low ASN competency in operating information systems, and a weak understanding of applicable regulations. The Ministry of Administrative and Bureaucratic Reform's (PANRB) report (2022) states that Indonesia's SPBE index has only reached 2.34 on a scale of 5, indicating that the digital transformation of the bureaucracy is still in its infancy and has not yet optimally promoted the effectiveness of ASN management as a whole.

This phenomenon becomes even more evident when linked to the role of specific technical institutions, one of which is the Indonesian Quarantine Agency, which has a strategic role in maintaining animal and plant health and food security from the threat of diseases and pests entering and leaving Indonesian territory. In the context of globalized trade and the mobility of goods across borders, the Indonesian Quarantine Agency is required to operate with international standards, operate quickly, and be supported by competent civil servants (ASN) who understand domestic and international regulations. These challenges were further exacerbated by the COVID-19 pandemic, which demonstrated the importance of digitizing services in accelerating quarantine processes, minimizing physical contact, and increasing transparency in monitoring the movement of goods. A study by Nugroho (2021) showed that while the pandemic accelerated the adoption of digital public services across various government agencies, it also exposed weaknesses in the uneven competency of ASN and the limited availability of clear regulations supporting digital governance.

The specific issues at the Indonesian Quarantine Agency reflect a gap between theory and practice. Theoretically, effective civil servant management is supported by adequate technical, managerial, and socio-cultural competencies, a strong understanding of regulations, and the support of an integrated digital system. However, practice in the field shows that many civil servants still experience difficulties in accessing, understanding, and implementing digital quarantine service systems. Furthermore, dynamic regulatory changes at the national and international levels are often not accompanied by adequate capacity building for civil servants,

leading to resistance, delays, and even inconsistencies in policy implementation. This situation highlights a research gap that needs to be filled: how strengthening competence and understanding of regulations can contribute to effective civil servant management through digitalization of services as a mediator.

The research questions arising from this phenomenon are how to ensure that civil servant competency and adequate regulatory understanding can drive effective civil servant management, and to what extent service digitalization can mediate this relationship. This question is crucial to answer, given that most previous research has focused more on the general aspects of public service digitalization, without directly linking it to strengthening civil servant competency and regulatory understanding within the context of technical institutions such as the Indonesian Quarantine Agency. Furthermore, much of the literature emphasizes the importance of digital transformation as an external factor, but little has explored the internal role of individual civil servant competency and regulatory understanding as prerequisites for successful bureaucratic digitalization.

Several previous studies provide important insights into this topic. For example, research by Dwiyanto (2018) emphasized the importance of civil servant competency in driving bureaucratic effectiveness, while Suryani and Wibowo (2020) demonstrated that understanding regulations is key to successful public policy implementation. Meanwhile, studies by Nugroho (2021) and Rahmawati (2022) highlighted the role of service digitization in improving public service quality, but focused on technical aspects without addressing civil servant competency. International research, such as that conducted by Smith (2022), also demonstrates that digital government will not be effective without adequate human resource capacity. This concludes that there is a research gap in the relationship between civil servant competency, regulations, and digitalization as mediating variables for civil servant management effectiveness.

The weakness of previous research lies in the lack of integrative and contextual studies within specific technical organizations. Some studies emphasize macro-level digital transformation theory, without empirically examining the relationships between variables at the organizational level. Furthermore, some studies are still descriptive in nature, failing to test conceptual models with a more robust quantitative approach. Therefore, this study makes a novel contribution by examining the role of service digitalization as a mediating variable linking competency strengthening and regulatory understanding to the effectiveness of civil servant management at the Indonesian Quarantine Agency. This contribution is important not only for the development of public management theory and bureaucratic reform, but also for the practice of civil servant management in Indonesia.

The purpose of this study is to analyze the influence of strengthening competency and understanding of regulations on the effectiveness of civil servant management, with service digitalization as a mediating variable. This study also aims to provide a practical contribution to strengthening civil servant development policies at the Indonesian Quarantine Agency, particularly in designing training programs, improving regulatory literacy, and integrating digital systems into bureaucratic management. From an academic perspective, this study enriches the literature by offering a more integrative conceptual framework, combining competency, regulation, and digitalization aspects in one research model. Meanwhile, from a practical perspective, this study is expected to provide applicable policy recommendations for the Indonesian Quarantine Agency and other government agencies in order to improve the effectiveness of civil servant management in the digital era.

Thus, the urgency of this research lies not only in addressing academic gaps but also in providing concrete solutions to the challenges facing the Indonesian bureaucracy in the era of technological disruption and globalization. Bureaucratic reform cannot rely solely on system digitization; it must be supported by strong civil servant competencies and a deep understanding of regulations. Without this combination, digitalization will only result in a pseudo-modernization that does not significantly impact the effectiveness of civil servant management. Therefore, this research is relevant, strategic, and important to conduct in the context of the Indonesian Quarantine Agency, as one of the technical institutions at the forefront of maintaining food security and animal and plant health in Indonesia.

2. HYPOTHESIS DEVELOPMENT

3. METHOD

This research method uses a quantitative approach with a causal associative design to examine the effect of competency strengthening and regulatory understanding on the effectiveness of civil servant management, as well as the role of service digitalization as a mediating variable. The quantitative approach was chosen because the research objective was to test hypotheses and empirically model the relationships between variables. The primary analysis technique used was Partial Least Squares Structural Equation Modeling (PLS-SEM), which is appropriate for models containing mediators, reflective indicators, and moderate samples (Hair et al., 2019).

The study population consisted of all civil servants (ASN) working within the Indonesian Quarantine Agency at the central and/or branch office levels relevant to quarantine service duties. The study sample was set at 200 respondents. The reason for selecting a sample size of 200 was based on considerations of PLS-SEM practices (10-times rule) and the need for a reliable bootstrap test; 200 respondents were also sufficient to detect medium to small effect sizes in path tests with a significance level of $\alpha = 0.05$ and acceptable power. Sampling used a purposive sampling technique with the following inclusion criteria: (1) civil servants who have been actively working for at least 1 year, (2) directly or indirectly involved in the implementation of quarantine services/administration, and (3) willing to complete the questionnaire completely.

4. RESULTS AND DISCUSSION

A. Outer Model Measurement Analysis

Figure 1 shows the outer model, which shows the relationship between constructs and indicators for each variable. In the reflective outer model, the arrow points from the latent variable to the indicator. This means that the indicator is a reflection or manifestation of the latent variable. The reflective outer model is used to measure variables such as competency strengthening, regulation, ASN management effectiveness, and service digitalization. In the formative outer model, the arrow points from the indicator to the latent variable. This means that these indicators shape or cause the emergence of the latent variable. In the reflective outer model, the parameters evaluated are the significance and relevance of the indicator weights (outer weights). Indicators with insignificant outer weights ($p\text{-value} > 0.05$) can be retained if their outer loading is significant (> 0.50).

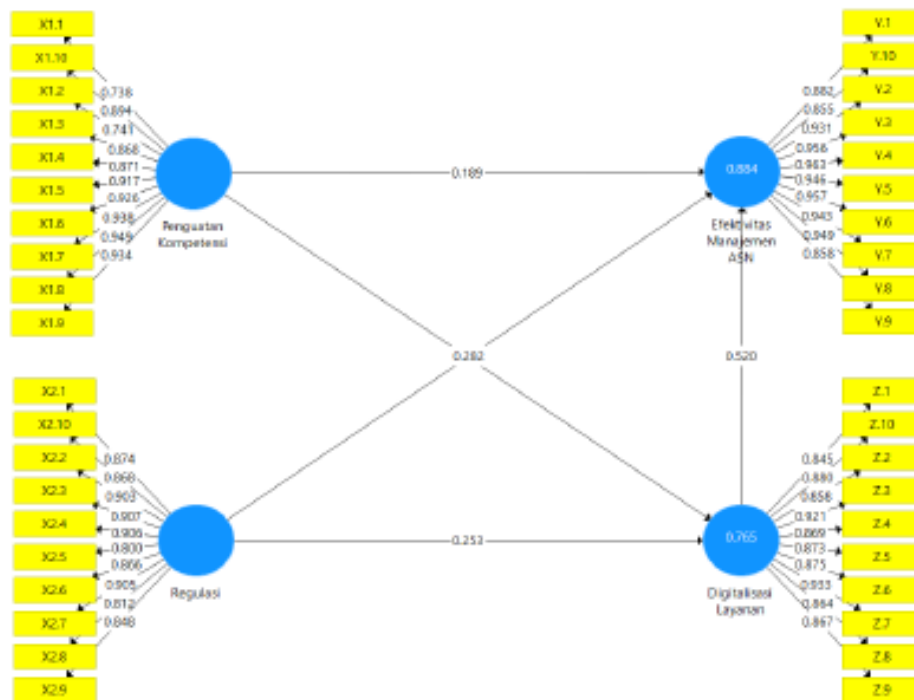


Figure 1. Outer Model Test Results

Source: SmartPLS 3.0 Processing Results (2025)

1. Convergent Validity

An indicator is considered valid if its loading factor is positive and exceeds 0.7.

The loading factor values are listed in Table 1 below:

Table 1. Convergent Validity Test Results

Variables	Indicator	Loading Factor	Information
Competency Strengthening	X1.1	0.738	Valid
	X1.2	0.741	Valid
	X1.3	0.868	Valid
	X1.4	0.871	Valid
	X1.5	0.917	Valid
	X1.6	0.926	Valid
	X1.7	0.938	Valid
	X1.8	0.949	Valid
	X1.9	0.934	Valid
	X1.10	0.894	Valid
Regulation	X2.1	0.874	Valid
	X2.2	0.903	Valid
	X2.3	0.907	Valid
	X2.4	0.906	Valid
	X2.5	0.800	Valid
	X2.6	0.866	Valid
	X2.7	0.905	Valid
	X2.8	0.812	Valid

	X2.9	0.848	Valid
	X2.10	0.868	Valid
Digitalization of Services	Z1	0.845	Valid
	Z2	0.858	Valid
	Z3	0.921	Valid
	Z4	0.869	Valid
	Z5	0.873	Valid
	Z6	0.875	Valid
	Z7	0.933	Valid
	Z8	0.864	Valid
	Z9	0.867	Valid
	Z10	0.880	Valid
Effectiveness of ASN Management	Y.1	0.882	Valid
	Y.2	0.931	Valid
	Y.3	0.956	Valid
	Y.4	0.963	Valid
	Y.5	0.946	Valid
	Y.6	0.957	Valid
	Y.7	0.943	Valid
	Y.8	0.949	Valid
	Y.9	0.858	Valid
	Y.10	0.855	Valid

Source: Processed data 2025

Based on table 1 above, it can be seen that not all indicators of each variable have a value > 0.70 , but it can be maintained with further evaluation by looking at the AVE value which is greater than 0.5 (Malhotra, 2016). Looking at the results of the data processing above, all variables in this study have an AVE value > 0.5 and it can be concluded that the indicators used in this study can be considered valid and reliable to measure each construct or latent variable.

2. Discriminant Validity

Discriminant Validity can be seen from the cross-loading factor calculation with truck concepts and the comparison of AVE with the correlation of latent variables. The cross-loading values are presented as follows:

Table 2. Results of the Cross Loading Test of Factors

	Digitalization of Services	Effectiveness of ASN Management	Competency Strengthening	Regulation
X1.1	0.587	0.534	0.738	0.607
X1.10	0.784	0.822	0.894	0.810
X1.2	0.604	0.637	0.741	0.571

X1. 3	0.734	0.725	0.868	0.778
X1. 4	0.776	0.805	0.871	0.768
X1. 5	0.788	0.781	0.917	0.758
X1. 6	0.844	0.848	0.926	0.804
X1. 7	0.811	0.840	0.938	0.798
X1. 8	0.814	0.836	0.949	0.823
X1. 9	0.823	0.856	0.934	0.799
X2. 1	0.791	0.854	0.848	0.874
X2. 10	0.669	0.702	0.712	0.868
X2. 2	0.794	0.847	0.845	0.903
X2. 3	0.709	0.759	0.813	0.907
X2. 4	0.713	0.769	0.762	0.906
X2. 5	0.632	0.695	0.650	0.800
X2. 6	0.650	0.744	0.687	0.866
X2. 7	0.752	0.795	0.797	0.905
X2. 8	0.633	0.662	0.657	0.812
X2. 9	0.659	0.651	0.648	0.848
Y.1	0.867	0.882	0.791	0.752
Y.1 0	0.740	0.855	0.725	0.704
Y.2	0.835	0.931	0.827	0.789
Y.3	0.848	0.956	0.874	0.857
Y.4	0.866	0.963	0.848	0.832
Y.5	0.861	0.946	0.844	0.821
Y.6	0.872	0.957	0.865	0.828
Y.7	0.875	0.943	0.825	0.832
Y.8	0.863	0.949	0.800	0.811
Y.9	0.793	0.858	0.733	0.759
Z.1	0.845	0.736	0.690	0.659
Z.1 0	0.880	0.850	0.819	0.767
Z.2	0.858	0.769	0.761	0.715

Z.3	0.921	0.838	0.821	0.763
Z.4	0.869	0.783	0.729	0.676
Z.5	0.873	0.807	0.695	0.614
Z.6	0.875	0.777	0.697	0.664
Z.7	0.933	0.846	0.785	0.724
Z.8	0.864	0.855	0.853	0.810
Z.9	0.867	0.726	0.725	0.695

Source: Processed data 2025

Based on the PLS software results table above, it can be seen that the cross loading factor correlation value for each latent construct for the corresponding indicator is higher. than other constructs, so it can be concluded that the indicators used to measure latent variables have met the requirements.

3. Reliability

The following are the Composite Reliability and Cronbach Alpha values of the variables in this study.

Table 3. Reliability Test

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Digitalization of Services	0.967	0.968	0.971	0.772
Effectiveness of ASN Management	0.981	0.982	0.983	0.856
Competency Strengthening	0.967	0.973	0.972	0.776
Regulation_	0.964	0.967	0.969	0.756

Source: Processed data 2025

Based on the data listed in Table 3 above, it can be identified that all composite reliability values of the research variables have values greater than 0.7, and Cronbach's Alpha values exceed 0.6. These results indicate that each variable in this study has met the requirements for composite reliability and Cronbach's Alpha, indicating that all variables have a high level of reliability.

B. Inner Model Measurement Analysis

Inner model testing, also known as structural modeling, aims to analyze the relationship between constructs, evaluate significance values, and measure the R-square value of the research model. The range of determination coefficient values is between 0 and 1, where values closer to 1 indicate a stronger level of explanation. The determination coefficient (R^2) indicates the extent to which the independent variables in the equation have the ability to explain the variation of the dependent variable. The approach by Yamin & Kurniawan (2011) divides the R^2 value criteria into three

categories: values of 0.67, 0.33, and 0.19, respectively representing substantial, moderate, and weak in the model's explanatory ability.

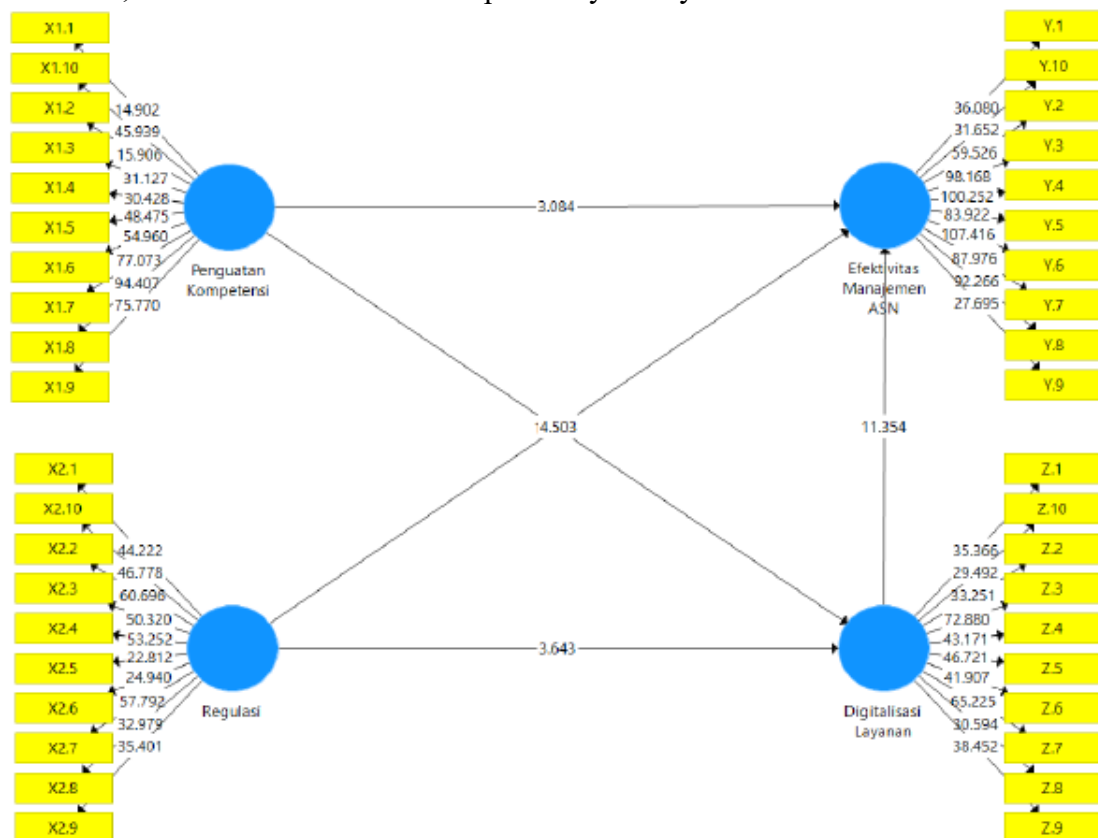


Figure 2. Inner Model Test Results
Source: Processed data 2025

1. Goodness of Fit

The evaluation of the PLS structural model begins by examining the R-square of each dependent latent variable. Table 4 shows the estimated R-square results using PLS.

Table 4. Results Testing Goodness of Fit

	R Square	R Square Adjusted
Digitalization of Services	0.765	0.763
Effectiveness of ASN Management	0.884	0.882

Source: Processed data 2025

Based on table 4 above, it shows the adjusted R-Square value of the ASN management effectiveness variable of 0.884, this value means that the ASN management effectiveness variable can be explained by the variables of competency strengthening, regulation and service digitalization of 88.4% and the remaining 11.6% can be explained by other variables not included in this study while the service digitalization variable is 0.765, this value means that the service digitalization variable can be explained by the variables of competency strengthening, regulation of 76.5% and the remaining 23.5% can be explained by other variables not included in this study.

2. Predictive Relevance (Q Square)

If the Q-square value is > 0 , it can be said to have a good observation value, whereas if the Q-square value is < 0 , it can be said that the observation value is not good. Q-Square predictive relevance for structural models, measures how well the conservation value is generated by the model and also its parameter estimates.

Table 5. Predictive Relevance

Variables	Q ² (=1-SSE/SSO)	Information
Digitalization of Services	0.583	Has predictive relevance value
Effectiveness of ASN Management	0.750	Has predictive relevance value

Source: Processed data 2025

Q2 value for ASN management effectiveness variable produces a figure of 0.750. Because the Q2 value is > 0 , it can be concluded that there is a predictive correlation between competency strengthening, regulation, and service digitalization on the effectiveness of ASN management. Furthermore, because $Q2 = 0.750$, which is greater than 0.36, it can be stated as an indication of significant or strong relevance. Furthermore, the Q2 value for the Service Digitalization variable produces a figure of 0.583. Because the Q2 value is > 0 , it can be concluded that there is a predictive correlation between competency strengthening and regulation on service digitalization. Furthermore, because $Q2 = 0.583$, which is greater than 0.36, it can be stated as an indication of significant or strong relevance.

3. Hypothesis Testing

The structural model testing procedure is carried out using PLS (Partial Least Squares) software. Direct hypothesis testing is based on the output results displayed in the form of images and the values indicated by the output path coefficients. This hypothesis evaluation technique is based on the guideline that if the p-value is < 0.05 (significance level = 5%), then it can be assumed that there is a significant influence of the exogenous variable on the endogenous variable.

Table 6. Hypothesis Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Service Digitalization -> Effectiveness of ASN Management	0.520	0.521	0.046	11,354	0.000
Competency Strengthening -> Service Digitalization	0.648	0.641	0.063	10,265	0.000

Strengthening Competence -> Effectiveness of ASN Management	0.189	0.195	0.061	3,084	0.002
Regulation_ -> Digitalization of Services	0.253	0.259	0.069	3,643	0.000
Regulation_ -> Effectiveness of ASN Management	0.282	0.275	0.063	4,503	0.000
Strengthening Competence -> Digitalization of Services -> Effectiveness of ASN Management	0.337	0.333	0.040	8,378	0.000
Regulations -> Service Digitalization -> Effectiveness of ASN Management	0.131	0.135	0.040	3,316	0.001

Source: Processed data 2025

The results of the study indicate that service digitalization has the strongest influence on the effectiveness of civil servant management, with a coefficient value of 0.520 and high significance ($p = 0.000$). This confirms that the more intensive the implementation of digitalization in services, the more effective civil servant management governance will be. Digitalization has been proven to drive efficiency, transparency, and service quality, thus contributing significantly to improving bureaucratic performance.

Furthermore, strengthening civil servant competencies positively impacted service digitalization with a coefficient of 0.648 ($p = 0.000$), indicating that human resource competency is key to successful digital transformation. Competent civil servants are better prepared to adapt to digital systems and are able to optimize the use of technology to support managerial tasks. Competence was also shown to have a direct impact on the effectiveness of civil servant management ($O = 0.189$; $p = 0.002$), although the effect was relatively smaller. These results indicate that employee competency will be more effective in improving civil servant management if mediated by service digitalization.

Regulation has also been shown to play a crucial role in supporting digitalization and the effectiveness of civil servant management. The coefficient of regulation on

service digitalization is 0.253 ($p = 0.000$), indicating that clear rules and policies can accelerate the adoption of digital systems. Furthermore, regulation also has a direct effect on the effectiveness of civil servant management with a value of 0.282 ($p = 0.000$), indicating that clear governance rules are crucial for the success of bureaucratic management. Thus, regulation serves not only as a guideline for digitalization implementation but also as a control instrument to ensure the effectiveness of civil servant management.

The mediation findings reinforce this understanding. Strengthening competency through service digitalization significantly impacts the effectiveness of civil servant management, with a coefficient value of 0.337 ($p = 0.000$). This means that high civil servant competency will have a greater impact on management effectiveness when facilitated by the use of digital technology. Similarly, regulation through service digitalization significantly impacts the effectiveness of civil servant management ($\beta = 0.131$; $p = 0.001$). Although its influence is relatively smaller than that of competence, regulation still plays a role as a normative foundation that strengthens digital transformation towards bureaucratic effectiveness.

C. Discussion

The Impact of Service Digitalization on the Effectiveness of Civil Servant Management

The results of the study indicate that service digitalization has a positive and significant effect on the effectiveness of civil servant management ($\beta = 0.520$; $p = 0.000$). This confirms that the higher the level of digitalization in services, the more effective civil servant management at the Indonesian Quarantine Agency. The digitalization process can simplify workflows, accelerate services, and create a transparent and accountable system. This is in line with Dwiyanto (2020), who stated that digitalization is a key driver of improving the quality of bureaucratic governance, and is supported by Rukmana and Hermawan (2021), who found that digital systems improve the efficiency, accuracy, and accountability of personnel administration.

In the context of the Indonesian Quarantine Agency, service digitalization is realized through the implementation of IT-based personnel applications and an integrated online service system. Digitalization not only supports bureaucratic effectiveness but also strengthens the competitiveness of government institutions in providing public services. Therefore, this study confirms that service digitalization is a key instrument in building responsive, modern, and quality public service-oriented civil servant management.

The Impact of Competency Strengthening on Service Digitalization

The results of the study indicate that strengthening civil servant competencies significantly impacts service digitalization, with a coefficient value of 0.648 ($p = 0.000$). This means that strong employee competencies, both technical skills and knowledge, are crucial for the success of digital transformation. Competent civil servants are more likely to adapt to new technologies and optimize their use. This finding aligns with Sari and Putra (2022), who stated that civil servant competency in information technology plays a crucial role in digitalization, and Pratama (2021), who emphasized that

improving civil servant digital literacy accelerates the adaptation of electronic work systems.

At the Indonesian Quarantine Agency, competency development extends beyond technical skills to include managerial and innovation capabilities. Competent civil servants (ASN) can manage data, operate application systems, and develop digital-based strategies to enhance organizational effectiveness. Therefore, investment in training, digital skills development, and capacity building for ASN is key to supporting effective service digitization.

The Influence of Competency Strengthening on the Effectiveness of ASN Management

The results showed that competency strengthening significantly impacted the effectiveness of civil servant (ASN) management, with a coefficient value of 0.189 ($p = 0.002$). Although its effect was smaller than that of digitalization, civil servant competency remains crucial in supporting management effectiveness. Competent employees can effectively manage tasks, make informed decisions, and adapt to organizational dynamics. This is consistent with the findings of Susanti (2020) who stated that civil servant competency has a significant relationship with bureaucratic effectiveness, as well as Rahman and Yusuf (2021) who found that employee competency improves the quality of public services.

In the context of the Indonesian Quarantine Agency, strengthening civil servant competencies includes technical training, digital literacy, and the development of soft skills such as leadership, communication, and collaboration. Strong competencies enable employees not only to perform administrative functions but also to act as agents of change in supporting effective civil servant governance. Therefore, while digitalization may yield the greatest benefits, competency strengthening remains a crucial foundation for high-performance civil servant management.

The Impact of Regulation on Service Digitalization

The results of the study indicate that regulations have a significant effect on service digitalization, with a coefficient value of 0.253 ($p = 0.000$). Clear and consistent regulations provide direction, legitimacy, and a control mechanism for implementing digitalization. This finding is consistent with Nugroho (2020), who stated that regulations are a determinant of the success of public sector digital transformation, and Fitriani (2021), who emphasized that strong regulations accelerate the adoption of digital technology. At the Indonesian Quarantine Agency, regulations related to personnel, administrative governance, and digital transformation serve as important references in implementing IT-based systems. Regulations not only serve as technical guidelines but also ensure the consistency and integration of digital services into the bureaucratic framework. Thus, regulations can be viewed as a crucial foundation for strengthening the success of service digitalization.

The Influence of Regulation on the Effectiveness of ASN Management

The results of the study indicate that regulations significantly influence the effectiveness of ASN management, with a coefficient value of 0.282 ($p = 0.000$). Strong regulations ensure effective ASN management through operational guidelines,

evaluation mechanisms, and control standards. This finding supports research by Wijayanti (2020), who found that regulations strengthen accountability in ASN management, and Hidayat (2021), who stated that personnel regulations play a crucial role in creating a professional and effective bureaucracy. In the context of the Indonesian Quarantine Agency, regulations serve as a strategic instrument that directs ASN management policies to align with organizational standards and objectives. Regulations also serve as an evaluation tool that ensures discipline, professionalism, and bureaucratic effectiveness. Therefore, it can be emphasized that regulations are a crucial pillar in realizing sustainable ASN management.

The Impact of Strengthening Competence through Service Digitalization on the Effectiveness of ASN Management

The research results demonstrate that service digitalization significantly mediates the relationship between competency strengthening and ASN management effectiveness ($\alpha = 0.337$; $p = 0.000$). This means that ASN competency will contribute more to management effectiveness when optimized through digital systems. This aligns with Pradana (2022), who identified digital competency as an important mediating factor, and Dewi and Santoso (2021), who emphasized that human resource capacity building is more effective when combined with digitalization. At the Indonesian Quarantine Agency, digitalization serves as a medium for competent ASN to maximize their role. ASN technical and managerial competency will be even more impactful when supported by integrated digital applications that accelerate, streamline, and standardize services. Therefore, competency strengthening strategies must go hand in hand with digitalization to achieve optimal ASN management effectiveness.

Influence of Regulation through Digitalization of Services towards the Effectiveness of ASN Management

The results of the study indicate that service digitalization also mediates the relationship between regulations and the effectiveness of ASN management ($O = 0.131$; $p = 0.001$). Strong regulations will be more effective if their implementation is supported by service digitalization. This is in line with Firdaus (2020), who emphasized the importance of digital governance regulations for bureaucratic effectiveness, and Anggraini (2021), who stated that digitally integrated personnel regulations create a more efficient bureaucratic system. At the Indonesian Quarantine Agency, regulations that support digitalization enable standardization of procedures, uniformity of implementation, and better bureaucratic control. Thus, the combination of strong regulations and optimal digitalization implementation is a crucial strategy for improving the effectiveness of ASN management.

5. CONCLUSION

The results of this study confirm that service digitalization plays the most dominant role in improving the effectiveness of ASN management at the Indonesian Quarantine Agency. The application of digital technology has been proven to simplify bureaucratic processes, strengthen transparency, and improve the efficiency of apparatus governance. Furthermore, strengthening ASN competencies has a significant impact, both directly and indirectly through digitalization, meaning that human resource capacity is the main key to the success

of digital transformation. Regulations have also been shown to contribute positively to the effectiveness of ASN management, both directly and through the mediating role of service digitalization, indicating that clear rules and policies are an important foundation in supporting a digital bureaucracy. Thus, the combination of ASN competencies, strong regulations, and optimal service digitalization is a key strategy in building modern, responsive, and effective ASN management in the era of digital transformation.

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PENGARUH *EXPERIENTIAL MARKETING*, *SERVICE QUALITY*, DAN *CUSTOMER VALUE* TERHADAP LOYALITAS PELANGGAN STARBUCKS BEKASI DENGAN KEPUASAN PELANGGAN SEBAGAI VARIABEL MEDIASI

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Abstract

This study analyzes the influence of experiential marketing, service quality, and customer value on customer loyalty at Starbucks Bekasi, with customer satisfaction as a mediating variable. A total of 100 respondents were selected using a purposive sampling method, and the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through WarpPLS 7.0. The results indicate that experiential marketing, service quality, and customer value have a positive and significant effect on customer satisfaction. Customer satisfaction also has a positive and significant effect on customer loyalty. Furthermore, customer satisfaction significantly mediates the effect of experiential marketing, service quality, and customer value on customer loyalty.

Keywords: *Experiential Marketing, Service Quality, Customer Value, Customer Loyalty, Customer Satisfaction.*

1. Introduction

Persaingan di industri makanan dan minuman, khususnya kafe modern, semakin ketat seiring perubahan gaya hidup masyarakat perkotaan. Konsumen kini tidak hanya menilai kualitas produk, tetapi juga pengalaman emosional dan nilai yang dirasakan selama menikmati produk. Salah satu merek yang sukses menerapkan strategi *experiential marketing* adalah **Starbucks**, yang memadukan cita rasa kopi premium, suasana nyaman, dan pelayanan personal.

Namun, meningkatnya jumlah pesaing di wilayah Jabodetabek, terutama Bekasi, menimbulkan dinamika menarik terkait **loyalitas pelanggan Starbucks**. Menurut **Kotler dan Keller (2016)**, loyalitas pelanggan adalah komitmen untuk membeli kembali meski ada tawaran dari pesaing, dan menjadi indikator penting keberhasilan perusahaan. Dalam konteks Starbucks, loyalitas tidak hanya dipengaruhi oleh rasa produk, tetapi juga oleh **pengalaman pelanggan, kualitas layanan, dan persepsi nilai**.

Menurut **Schmitt (1999)**, *experiential marketing* berfokus pada penciptaan pengalaman holistik melalui pancaindra dan emosi, sedangkan **Parasuraman et al. (1988)** menegaskan bahwa kualitas layanan mencakup keandalan, daya tanggap, jaminan, empati, dan bukti fisik. Selain itu, **Zeithaml (1988)** menjelaskan bahwa *customer value* merupakan perbandingan antara manfaat yang diterima dan pengorbanan yang diberikan.

Beberapa penelitian sebelumnya menunjukkan hasil yang beragam terkait hubungan antara *experiential marketing*, *service quality*, *customer value*, *kepuasan*, dan *loyalitas pelanggan*, sehingga muncul dugaan adanya **peran mediasi kepuasan pelanggan** (Oliver, 1999). Berdasarkan hal tersebut, penelitian ini bertujuan untuk menganalisis pengaruh *experiential marketing*, *service quality*, dan *customer value* terhadap *loyalitas pelanggan Starbucks Bekasi* dengan *kepuasan pelanggan* sebagai variabel mediasi. Penelitian ini diharapkan memberi kontribusi teoritis bagi pengembangan ilmu pemasaran dan manfaat praktis bagi strategi retensi pelanggan Starbucks.

2. Literature Review

2.1. Manajemen Pemasaran

Menurut **Haryanto (2022)**, manajemen pemasaran adalah proses pengorganisasian, pengarahan, dan pengawasan kegiatan pemasaran untuk mencapai tujuan secara efektif dan efisien. **Sutopo (2021)** menekankan bahwa proses ini mencakup analisis, perencanaan, pelaksanaan, dan pengawasan yang sistematis, sedangkan **Kotler dan Keller (2021)** memandangnya sebagai pendekatan strategis dalam merancang, menetapkan harga, mempromosikan, dan mendistribusikan produk agar selaras dengan tujuan organisasi. Dengan demikian, manajemen pemasaran dapat disimpulkan sebagai pendekatan sistematis untuk memahami kebutuhan pelanggan serta menciptakan dan menyampaikan nilai bagi mereka.

Tujuan manajemen pemasaran menurut **Aditama (2020)** meliputi pertumbuhan jangka panjang, kelangsungan bisnis, penyediaan lapangan kerja, peningkatan investasi, dan profitabilitas optimal. Fungsi utamanya mencakup **perencanaan** strategi dan target pasar, **pelaksanaan** kegiatan sesuai rencana, serta **pengawasan** untuk memastikan tujuan tercapai secara efektif.

2.2. Teori Perilaku Terencana (Theory of Planned Behavior - TPB)

Theory of Planned Behavior (TPB) yang dikembangkan oleh **Ajzen (1991)** merupakan pengembangan dari **Theory of Reasoned Action (TRA)** yang menjelaskan hubungan antara **sikap, niat, dan perilaku individu**. Menurut **Ajzen (2019)**, niat berperilaku dipengaruhi oleh tiga faktor utama: **sikap terhadap perilaku**, **norma subyektif**, dan **persepsi kontrol perilaku**. Sikap mencerminkan keyakinan terhadap konsekuensi tindakan, norma subyektif berkaitan dengan tekanan sosial, sedangkan persepsi kontrol menunjukkan kemudahan atau kesulitan dalam bertindak. Dalam konteks penelitian, elemen-elemen TPB digunakan untuk menganalisis

faktor-faktor yang memengaruhi **niat mahasiswa akuntansi dalam melakukan whistleblowing**, baik dari sisi internal maupun eksternal.

2.3. Loyalitas Pelanggan

Loyalitas pelanggan merupakan hasil dari pengalaman dan kepercayaan terhadap suatu produk. Menurut **Oliver (2010)**, loyalitas terdiri dari empat tingkatan: **cognitive** (berdasarkan informasi), **affective** (keterikatan emosional), **conative** (komitmen pembelian ulang), dan **action loyalty** (kebiasaan pembelian rutin). **Tjiptono (2014)** mendefinisikan loyalitas sebagai komitmen jangka panjang terhadap merek, sedangkan **Yuniarti (2015)** melihatnya sebagai persentase pelanggan yang melakukan pembelian ulang. Menurut **Kotler dan Keller (2016)**, loyalitas diukur melalui tiga indikator utama, yaitu **pembelian kembali (repeat purchase)**, **ketahanan terhadap pengaruh negatif (retention)**, dan **rekomendasi kepada pihak lain (refers other)**, yang mencerminkan komitmen dan promosi positif pelanggan terhadap produk.

2.4. Experiential Marketing

Experiential marketing adalah pendekatan pemasaran yang menekankan pengalaman emosional pelanggan melalui **pancaindra dan interaksi sosial** (Putra, 2018). Pendekatan ini membangun loyalitas dengan menghadirkan pengalaman **sense, feel, think, act, dan relate**. Menurut **Diamona dan Harini (2018)**, experiential marketing berfokus pada manfaat produk, rasionalitas pelanggan, serta pengalaman langsung yang dirasakan. Penerapannya bermanfaat untuk **meningkatkan citra dan identitas merek, membedakan dari pesaing, mendorong inovasi, serta menciptakan loyalitas pelanggan**. Indikator experiential marketing meliputi **sense, feel, think, act, dan relate** (Putra, 2018).

2.5. Service Quality (Kualitas Pelayanan)

Kualitas pelayanan merupakan tingkat kemampuan layanan dalam memenuhi atau melampaui **ekspektasi pelanggan** (Tidarnuraini, 2023). Menurut **Monica dan Marlius (2023)**, kualitas layanan dinilai dari proses penyampaian dan hasil jasa yang diterima pelanggan. Indikator utamanya meliputi **reliability, assurance, tangible, empathy, dan responsiveness**, yang mencerminkan keandalan, rasa aman, fasilitas fisik, perhatian personal, serta kecepatan dalam membantu pelanggan.

2.6. Customer Value (Nilai Pelanggan)

Customer value merupakan selisih antara **manfaat total** (fungsional, psikologis, dan pengalaman) dan **biaya total** (ekonomis, waktu, energi, dan psikis) yang dikeluarkan pelanggan (Kotler & Keller, 2016; Tjiptono & Diana, 2020). Nilai ini mencerminkan sejauh mana pelanggan menilai keunggulan suatu produk atau jasa. Faktor penentunya meliputi **product value, service value, personnel value, image value, dan cost value**, dengan indikator utama **emotional value, social value, quality/performance value, serta price/value of money**.

2.7. *Kepuasan Pelanggan*

Menurut Kotler dan Keller (2016:33), kepuasan pelanggan merupakan penilaian individu terhadap kinerja produk dibandingkan dengan harapan. Jika kinerja produk sesuai harapan maka pelanggan puas, dan jika melebihi harapan maka pelanggan merasa senang. Tjiptono (2014:353) mendefinisikan kepuasan sebagai hasil evaluasi terhadap pengalaman penggunaan produk atau jasa.

Indrasari (2019:87-88) mengemukakan bahwa faktor yang memengaruhi kepuasan pelanggan meliputi kualitas produk, kualitas pelayanan, faktor emosional, harga, dan biaya tambahan. Adapun indikator kepuasan pelanggan menurut Kotler dan Keller (2016) mencakup pengalaman secara keseluruhan, kesesuaian harapan pelanggan dengan kinerja produk, serta kesesuaian antara kebutuhan pelanggan dan produk yang ditawarkan.

3. Methodology

3.1. *Research Design*

Penelitian ini menggunakan **pendekatan kuantitatif dengan metode survei** untuk menguji pengaruh *Experiential Marketing* (X1), *Service Quality* (X2), dan *Customer Value* (X3) terhadap *Customer Loyalty* (Y) dengan *Customer Satisfaction* (Z) sebagai variabel mediasi.

Pendekatan kuantitatif dipilih karena memungkinkan peneliti mengukur hubungan antarvariabel melalui analisis statistik dan memperoleh hasil yang objektif. Jenis penelitian ini bersifat **kausal**, yaitu bertujuan untuk mengetahui pengaruh langsung maupun tidak langsung antar variabel. Data dikumpulkan menggunakan **kuesioner tertutup berbasis skala Likert (1–5)** untuk memperoleh persepsi responden secara terukur.

3.2. *Sample and Data Collection*

Populasi dalam penelitian ini adalah seluruh pelanggan **Starbucks di Kota Bekasi**. Teknik pengambilan sampel yang digunakan adalah **purposive sampling**, dengan kriteria responden sebagai berikut:

- a. Pernah melakukan pembelian produk Starbucks minimal dua kali dalam enam bulan terakhir.
- b. Berusia minimal 17 tahun.
- c. Berdomisili di wilayah Bekasi.
- d. Bersedia mengisi kuesioner dengan lengkap.

Jumlah sampel ditentukan menggunakan **rumus Lameshow** dengan hasil sebanyak **100 responden**.

Data primer diperoleh melalui **kuesioner online (Google Form)** yang berisi pernyataan-pernyataan terkait masing-masing variabel penelitian. Data sekunder diperoleh dari **literatur, jurnal ilmiah, dan publikasi terkait teori dan penelitian sebelumnya**.

3.3. *Measurement (Pengukuran Variabel)*

Setiap variabel diukur menggunakan indikator yang diadaptasi dari penelitian terdahulu. Semua item menggunakan **skala Likert lima poin (1 = sangat tidak setuju hingga 5 = sangat setuju)** untuk mengukur tingkat persetujuan responden.

Variabel	Definisi Operasional	Indikator	Sumber / Referensi
<i>Experiential Marketing</i>	Strategi pemasaran yang menciptakan pengalaman yang berkesan bagi pelanggan melalui interaksi emosional dan fisik.	<i>Sense, Feel, Think, Act, Relate</i> (Schmitt, 1999)	Schmitt (1999), Pine & Gilmore (1998)
<i>Service Quality</i>	Persepsi pelanggan terhadap kualitas layanan yang diberikan, mencakup keandalan, daya tanggap, empati,	<i>Reliability, Responsiveness, Assurance, Empathy, Tangibles</i> (Parasuraman et al., 1988)	Parasuraman et al. (1988)

	jaminan, dan bukti fisik.		
<i>Customer Value</i>	Persepsi pelanggan terhadap manfaat yang diterima dibandingkan dengan pengorbanan yang dikeluarkan.	<i>Functional Value, Emotional Value, Social Value, Price Value</i> (Sweeney & Soutar, 2001)	Sweeney & Soutar (2001)
Kepuasan Pelanggan	Perasaan senang atau kecewa pelanggan setelah membandingkan harapan dengan kinerja produk atau layanan yang diterima.	Kepuasan terhadap kualitas produk, pelayanan, harga, dan pengalaman keseluruhan (Kotler & Keller, 2016)	Kotler & Keller (2016)
Loyalitas Pelanggan	Kesetiaan pelanggan untuk melakukan pembelian ulang dan merekomendasikan produk atau jasa kepada orang lain.	Repurchase Intention, Recommendation, Commitment	Oliver (1999), Kotler & Keller (2016)

3.1 Definisi Operasional Variabel

Setiap konstruk diuji melalui **validitas konvergen, validitas diskriminan, dan reliabilitas konstruk** menggunakan nilai *loading factor* ($> 0,70$), *Composite Reliability* ($> 0,70$), dan *Average Variance Extracted (AVE)* ($> 0,50$).

3.4. Data Analysis

Data yang telah dikumpulkan dianalisis dengan pendekatan **Structural Equation Modeling–Partial Least Squares (SEM-PLS)** menggunakan perangkat lunak **SmartPLS**.

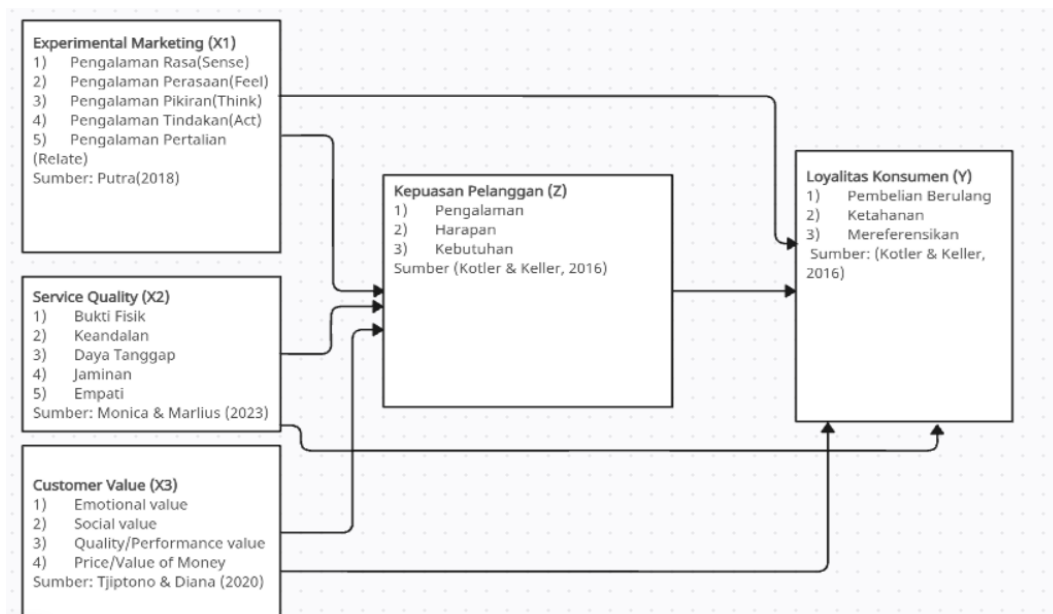
Tahapan analisis meliputi:

- Analisis Deskriptif:** menggambarkan karakteristik responden dan distribusi jawaban.
- Evaluasi Outer Model:** menguji validitas dan reliabilitas indikator variabel.
- Evaluasi Inner Model:** menilai kekuatan hubungan antar variabel laten melalui nilai *R-square*, *Q-square*, dan *t-statistic*.

- d. **Uji Hipotesis:** dilakukan dengan tingkat signifikansi 5% ($p < 0,05$) untuk menentukan pengaruh langsung dan tidak langsung.
- e. **Uji Mediasi:** menilai peran *Customer Satisfaction (Z)* dalam memediasi hubungan antara *Experiential Marketing, Service Quality*, dan *Customer Value* terhadap *Customer Loyalty*.

3.5. Research Model

Model penelitian ini menggambarkan hubungan kausal antara variabel independen (*Experiential Marketing, Service Quality, Customer Value*), variabel mediasi (*Customer Satisfaction*), dan variabel dependen (*Customer Loyalty*).



Secara konseptual, hubungan antar variabel dijelaskan sebagai berikut:

- *Experiential Marketing (X1) → Customer Satisfaction (Z) → Customer Loyalty (Y)*
- *Service Quality (X2) → Customer Satisfaction (Z) → Customer Loyalty (Y)*
- *Customer Value (X3) → Customer Satisfaction (Z) → Customer Loyalty (Y)*

Model ini akan diuji menggunakan pendekatan **SEM-PLS** untuk melihat pengaruh langsung maupun tidak langsung antar konstruk.

4. Result and Discussion

4.1. Hasil Penelitian

a. Deskripsi Data Penelitian

Data deskriptif penelitian ini menggambarkan kondisi responden yang menjadi subjek penelitian. Responden merupakan pelanggan Starbucks yang telah melakukan pembelian ulang minimal dua kali dalam enam bulan terakhir, untuk memastikan pengalaman konsumsi yang berulang. Setiap responden berusia minimal 17 tahun agar mampu memberikan penilaian rasional terhadap layanan. Analisis deskriptif mencakup karakteristik responden guna mempermudah identifikasi kelompok mayoritas dan minoritas sesuai kategori penelitian.

b. Karakteristik Responden

Penelitian ini mendeskripsikan karakteristik responden yang merupakan pelanggan Starbucks berusia di atas 17 tahun dan telah melakukan pembelian ulang minimal dua kali hingga lebih dari tiga kali. Data diperoleh melalui metode kuantitatif dengan penyebaran kuesioner kepada 100 pelanggan aktif Starbucks untuk menganalisis faktor-faktor yang memengaruhi keputusan pembelian dan loyalitas mereka.

4.2. Analisis Data Penelitian

1) Analisis Model Pengukuran (Outer Model)

a. Validitas Konvergen

Validitas konvergen dinilai berdasarkan nilai *loading factor* dari setiap indikator dalam penelitian. Suatu indikator dianggap valid jika nilai *loading factor*-nya mencapai atau melebihi 0,7. Hasil perhitungan *loading factor* untuk masing-masing indikator disajikan dalam Tabel 4.1 berikut:

Indikator	xMarke	ervQua	S usValue	C 0.	K puasPe	oyal	P value	K eterangan
M1	.773	.297	0	0.	0	.466	< 0.001	V alid
M2	.777	.312	0	0.	0	.417	< 0.001	V alid
M3	.758	.355	0	0.	0	.486	< 0.001	V alid
M4	.762	.362	0	0.	0	.482	< 0.001	V alid

M5	.756	.412	0	0.	0	.493	0.001	<	alid	V
Q1	.390	.845	0	0.	0	.597	0.001	<	alid	V
Q2	.362	.839	0	0.	0	.656	0.001	<	alid	V
Q3	.460	.817	0	0.	0	.684	0.001	<	alid	V
Q4	.272	.815	0	0.	0	.515	0.001	<	alid	V
Q5	.382	.793	0	0.	0	.536	0.001	<	alid	V
V1	.484	.425	0	0.	0	.618	0.001	<	alid	V
V2	.490	.579	0	0.	0	.676	0.001	<	alid	V
V3	.530	.524	0	0.	0	.658	0.001	<	alid	V
V4	.451	.509	0	0.	0	.607	0.001	<	alid	V
P1	.606	.511	0	0.	0	.682	0.001	<	alid	V
P2	.522	.412	0	0.	0	.451	0.001	<	alid	V
P3	.584	.411	0	0.	0	.572	0.001	<	alid	V
Y1	.562	.642	0	0.	0	.868	0.001	<	alid	V
Y2	.556	.562	0	0.	0	.845	0.001	<	alid	V
Y3	.459	.669	0	0.	0	.861	0.001	<	alid	V

Tabel 4.1 Hasil Uji Validitas Konvergen dan Reliabilitas Konstruk

Berdasarkan Tabel 4.1, terlihat bahwa seluruh indikator memiliki nilai loading factor di atas 0.7, yang menunjukkan bahwa setiap indikator telah memenuhi syarat validitas konvergen.

b. Validitas Diskriminan

Validitas diskriminan diuji dengan melihat nilai *Average Variance Extracted (AVE)*. Hasil perhitungan AVE disajikan dalam Tabel 4.2 berikut.

Variabel Laten	AVE	Keterangan
Experiential Marketing	0.6	Valid
Service Quality	0.676	Valid
Customer Value	0.664	Valid
Kepuasan Pelanggan	0.706	Valid

Loyalitas Pelanggan	0.736	Valid

Tabel 4.2 Hasil Uji Discriminant Validity (Fornell-Larcker)

Berdasarkan Tabel 4.2, seluruh variabel laten memiliki nilai **AVE > 0,5**, sehingga telah memenuhi **validitas diskriminan**. Nilai AVE tertinggi terdapat pada **Loyalitas Pelanggan (0,736)**, menunjukkan indikatornya paling jelas dalam menjelaskan konstruk, sedangkan nilai terendah pada **Experiential Marketing (0,586)** yang tetap dinyatakan valid. Dengan demikian, seluruh variabel layak digunakan untuk analisis selanjutnya.

c. Uji Reliabilitas

Uji reliabilitas bertujuan menilai **akurasi, konsistensi, dan ketepatan alat ukur** terhadap suatu konstruk. Reliabilitas diuji melalui **Cronbach's Alpha** dan **Composite Reliability**, di mana konstruk dinyatakan reliabel jika **Cronbach's Alpha > 0,5** dan **Composite Reliability > 0,7**. Nilai kedua indikator untuk setiap variabel ditampilkan pada **Tabel 4.3**.

Variabel Laten	Cronbach's Alpha (CA)	Composite Reliability (CR)	Keterangan
Experiential Marketing	0.823	0.876	Reliabel
Service Quality	0.880	0.912	Reliabel
Customer Value	0.831	0.888	Reliabel
Kepuasan Pelanggan	0.791	0.878	Reliabel
Loyalitas Pelanggan	0.821	0.893	Reliabel

Tabel 4.3 Hasil Uji Reliabilitas

Berdasarkan Tabel 4.3, seluruh variabel laten dalam penelitian ini memiliki nilai *Cronbach's Alpha* > 0.5 dan *Composite Reliability* > 0.7, yang menunjukkan bahwa setiap konstruk memiliki tingkat akurasi, konsistensi, dan ketepatan yang baik dalam mengukur variabelnya masing-masing.

d. Uji Kolinearitas

Uji Linearitas diuji dengan melihat nilai *Full collinearity VIFs*. Hasil perhitungan *Full collinearity VIFs* disajikan dalam Tabel 4.4 berikut.

Variabel Laten	AVE	Keterangan

Experiential Marketing	2.072	Bebas Kolinearitas	Masalah
Service Quality	2.166	Bebas Kolinearitas	Masalah
Customer Value	2.876	Bebas Kolinearitas	Masalah
Kepuasan Pelanggan	2.385	Bebas Kolinearitas	Masalah
Loyalitas Pelanggan	3.855	Bebas Kolinearitas	Masalah

Tabel 4.4 Hasil Pengujian Kolinearitas dengan Full collinearity VIFs

Hasil pengujian kolinearitas penuh di atas menunjukkan semua variabel bebas dari masalah kolinearitas.

Masing-masing variabel memiliki nilai pengujian kolineritas di bawah 5.0. hal tersebut berarti semua variabel tidak terindikasi memiliki masalah kolinearitas vertikal (antar variabel prediktor dalam blok yang sama), maupun kolinearitas lateral (antara variabel laten prediktor dengan kriteria).

2) Analisis Model Struktural (Inner Model)

a. Uji Kelayakan Model (Model Fit)

Indeks kelayakan model menunjukkan hasil yang memenuhi kriteria, yaitu APC, ARS, dan AARS signifikan ($p < 0,05$) serta nilai GoF sebesar 0,59 yang termasuk kategori besar, sehingga model penelitian layak digunakan untuk analisis lanjutan.

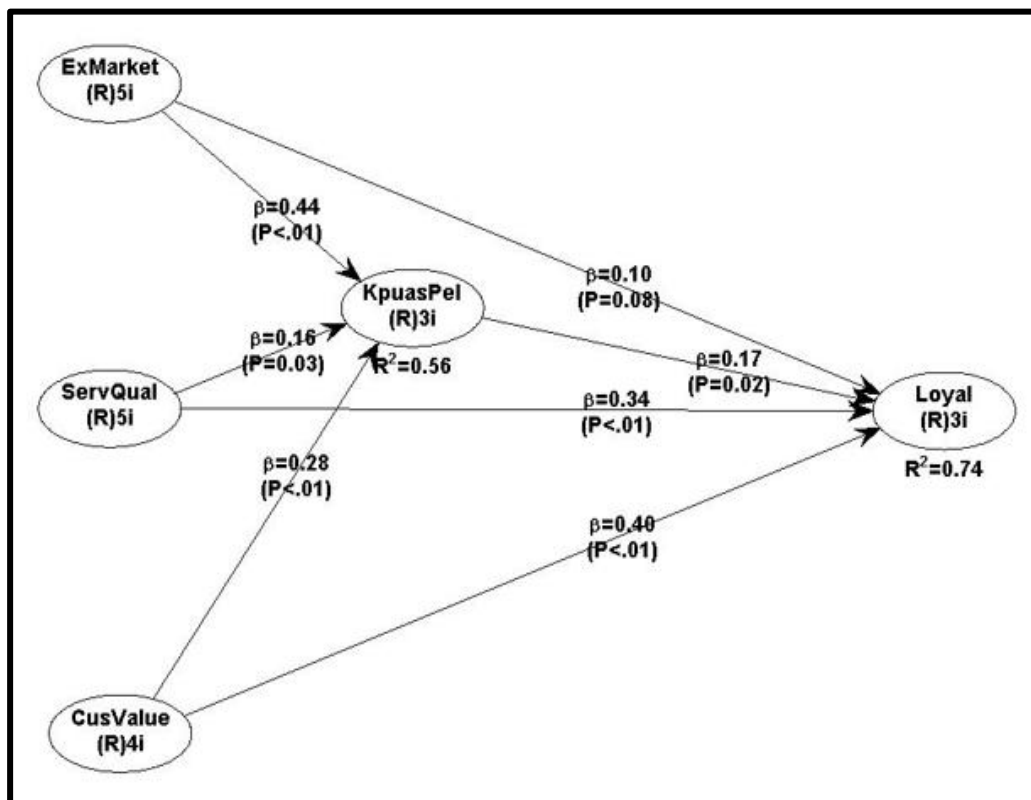
Model Fit and Quality Indices	Kriteria Fit	Nilai	Keterangan
Average Path Coefficient (APC)	$P < 0,05$	0,270 $P < 0,001$	Fit
Average R-squared (ARS)	$P < 0,05$	0,650 $P < 0,001$	Fit
Average Adjusted R-Squared (AARS)	$P < 0,05$	0,638 $P < 0,001$	Fit
Average Block VIF (AVIF)	Acceptable if ≤ 5 , ideally $\leq 3,3$	1,944	Ideal

Tenenhaus (GoF)	GoF	Small $\geq 0,1$; Medium $\geq 0,25$; Large $\geq 0,36$	0,662	Besar

Tabel 4.5 *Model Fit and Quality Indices (WarpPLS 7.0)*

b. Path Coefficient

Evaluasi *path coefficient* bertujuan untuk mengukur kekuatan pengaruh variabel independen terhadap variabel dependen. Berdasarkan hubungan antara *Experiential Marketing*, *Service Quality*, dan *Customer Value* terhadap Loyalitas Pelanggan dengan mediasi Kepuasan Pelanggan, jalur hubungan yang terbentuk dapat dilihat pada gambar berikut.



Gambar 4.1 Path Coefficient

c. Koefisien Determinasi (R^2)

Model struktural dievaluasi dengan menggunakan R-Square untuk variabel independen yaitu menggambarkan tingkat akurasi diantara nilai aktual dengan nilai prediksi pada variabel laten endogen.

Variabel Dependen	R Square
Kepuasan Pelanggan	0.560

Loyalitas Pelanggan	0.741

Tabel 4.6 Uji Koefisien Determinasi

Berdasarkan Tabel 4.6 tersebut, 56,00 persen variabel Kepuasan Pelanggan dapat dijelaskan oleh variabel *Experiential Marketing*, *Service Quality*, dan *Customer Value*, sedangkan 46,00 persen dijelaskan oleh faktor lain. Sedangkan untuk variabel Loyalitas Pelanggan dapat dijelaskan oleh *Experiential Marketing*, *Service Quality*, *Customer Value* dan Kepuasan Pelanggan sebesar 74,10 persen, sisanya sebesar 25,90 persen dijelaskan oleh faktor lain yang tidak dimasukkan dalam model.

3) Pengujian Hipotesis

a. Pengaruh Langsung (*Direct Effect*)

Analisis **direct effect** memiliki beberapa kriteria penting. Jika nilai koefisien jalur (path coefficient) bernilai positif, maka pengaruh antar variabel bersifat searah, sedangkan jika bernilai negatif, pengaruhnya berlawanan arah. Selain itu, nilai **P Values** juga menentukan signifikansi pengaruh antar variabel, di mana **P Values** < **0,01** menunjukkan pengaruh yang signifikan dengan tingkat kepercayaan 99%, **P Values** < **0,05** menunjukkan pengaruh signifikan dengan tingkat kepercayaan 95%, dan **P Values** > **0,05** menunjukkan bahwa pengaruh antar variabel tidak signifikan.

Tabel 4.7 Nilai Path Coefficients dan p-value Direct Effect

Hubungan Variabel	Path Coefficient	P-value
<i>Experiential Marketing</i> ->> Kepuasan Pelanggan	0.442	<0.001 ^{*)}
<i>Service Quality</i> ->> Kepuasan Pelanggan	0.115	0.035 ^{**)}
<i>Customer Value</i> ->> Kepuasan Pelanggan	0.277	0.004 ^{*)}
<i>Experiential Marketing</i> ->> Loyalitas Pelanggan	0.100	0.083
<i>Service Quality</i> ->> Loyalitas Pelanggan	0.338	<0.001 ^{*)}
<i>Customer Value</i> ->> Loyalitas Pelanggan	0.404	<0.001 ^{*)}
Kepuasan Pelanggan ->> Loyalitas Pelanggan	0.171	0.021 ^{**)}

Ket: ^{*)} signifikan dengan $\alpha = 1,00$ persen

^{**)} signifikan dengan $\alpha = 5,00$ persen

Berdasarkan Tabel 4.7, dari tujuh pengaruh langsung yang diuji, enam berpengaruh signifikan positif dan satu tidak signifikan. Persamaan pengaruh **Experiential Marketing**, **Service Quality**, dan **Customer Value** terhadap **Kepuasan Pelanggan** adalah: $Kepuasan\ Pelanggan = 0,442\ Experiential\ Marketing + 0,115\ Service\ Quality + 0,277\ Customer\ Value$. Hasil menunjukkan bahwa ketiga variabel berpengaruh signifikan, dengan *Experiential Marketing* ($p = 0,001$; 99%), *Service Quality* ($p = 0,035$; 95%), dan *Customer Value* ($p = 0,004$; 95%), yang berarti semakin baik pengalaman, pelayanan, dan nilai yang dirasakan, semakin tinggi kepuasan pelanggan.

Sementara itu, persamaan pengaruh terhadap **Loyalitas Pelanggan** adalah: $Loyalitas\ Pelanggan = 0,100\ Experiential\ Marketing + 0,338\ Service\ Quality + 0,404\ Customer\ Value + 0,171\ Kepuasan\ Pelanggan$. Hasil menunjukkan bahwa **Experiential Marketing** tidak signifikan ($p = 0,083$), sedangkan **Service Quality** ($p = 0,001$), **Customer Value** ($p = 0,001$), dan **Kepuasan Pelanggan** ($p = 0,021$) berpengaruh signifikan positif. Artinya, kualitas layanan, nilai yang dirasakan, dan kepuasan pelanggan berperan penting dalam meningkatkan loyalitas pelanggan Starbucks di Bekasi.

b. Pengaruh Tidak Langsung (*Indirect Effect*)

Pengaruh tidak langsung digunakan untuk menguji efek mediasi dari variabel independen terhadap variabel dependen melalui variabel mediasi. Pengujian dilakukan menggunakan metode **bootstrapping** pada **SEM PLS** dengan bantuan perangkat lunak **WarpPLS 7**. Analisis ini juga bertujuan untuk mengidentifikasi jenis mediasi yang terjadi, yaitu **mediasi komplementer**, **mediasi kompetitif**, dan **mediasi hubungan tidak langsung**.

Tabel 4. 8 Nilai Path Coefficients, p-value, Hubungan Mediasi Indirrect Effect

No	Pengaruh	Koef Mediasi	(P-value)	Mediasi
1	<i>Experiential Marketing</i> -> Kepuasan Pelanggan -> loyalitas pelanggan	0,076	0,045**	<i>Indirect only mediation</i>
2	<i>Service Quality</i> -> Kepuasan Pelanggan -> loyalitas pelanggan	0,027	0,117	<i>Direct only non mediation</i>

No	Pengaruh	Koef Mediasi	(P-value)	Mediasi
3	<i>Customer Value</i> -> Kepuasan Pelanggan -> loyalitas pelanggan	0,047	0,039**	<i>Direct and Mediation</i>

Sumber: Hasil Analisis, 2025

Ket: *) signifikan dengan $\alpha = 1,00$ persen

**) signifikan dengan $\alpha = 5,00$ persen

Berdasarkan Tabel 4.8, terdapat tiga bentuk pengaruh tidak langsung, yaitu: **(1) *Indirect Only Mediation***, di mana hubungan tidak langsung signifikan sementara hubungan langsung tidak signifikan (mediasi penuh); **(2) *Direct Only Non Mediation***, hubungan langsung signifikan namun tidak langsung tidak signifikan; dan **(3) *Direct and Mediation***, keduanya signifikan sekaligus, disebut **mediasi komplementer**.

4.3. Pembahasan

Penelitian ini menguji pengaruh *Experiential Marketing*, *Service Quality*, dan *Customer Value* terhadap *Kepuasan* dan *Loyalitas Pelanggan* Starbucks Bekasi, baik secara langsung maupun tidak langsung melalui variabel mediasi.

a. Pengaruh *Experiential Marketing* terhadap Kepuasan Pelanggan (H1)

Hasil penelitian menunjukkan bahwa *Experiential Marketing* berpengaruh positif dan signifikan terhadap kepuasan pelanggan Starbucks Bekasi. Hal ini menandakan bahwa semakin baik pengalaman yang dirasakan pelanggan — mulai dari desain interior, aroma kopi, pelayanan barista, hingga program promosi — maka semakin tinggi tingkat kepuasan mereka. Temuan ini sejalan dengan teori Schmitt (1999) dan Pine & Gilmore (1998) yang menekankan bahwa pengalaman emosional dan sensorial dapat menciptakan hubungan jangka panjang antara pelanggan dan merek. Dengan demikian, keberhasilan Starbucks Bekasi tidak hanya berasal dari produk berkualitas, tetapi juga dari pengalaman menyeluruh yang melibatkan aspek emosional dan pancaindra.

b. Pengaruh *Service Quality* terhadap Loyalitas Pelanggan (H2)

Service Quality terbukti berpengaruh positif dan signifikan terhadap loyalitas pelanggan. Melalui dimensi SERVQUAL (tangibles, reliability, responsiveness, assurance, empathy), Starbucks Bekasi berhasil menciptakan pengalaman layanan yang konsisten dan memuaskan. Pelanggan yang mendapatkan pelayanan cepat, ramah, dan profesional menunjukkan loyalitas yang lebih tinggi. Hasil ini mendukung penelitian Rahmawati (2019) dan Santoso & Wulandari (2020), serta memperkuat posisi Starbucks sebagai merek premium yang unggul dalam pelayanan.

c. Pengaruh Customer Value terhadap Loyalitas Pelanggan (H3)

Penelitian ini menemukan bahwa *Customer Value* berpengaruh positif dan signifikan terhadap loyalitas pelanggan. Nilai pelanggan mencakup aspek emosional, sosial, kualitas, dan kesesuaian harga (Tjiptono & Diana, 2020). Starbucks Bekasi mampu menciptakan persepsi bahwa harga yang dibayar sebanding dengan manfaat yang diperoleh. Pelanggan yang merasa mendapatkan nilai lebih menunjukkan kecenderungan untuk tetap setia pada merek. Temuan ini mendukung penelitian Nugroho & Kurniawan (2021) serta Sari & Putra (2018), dan menegaskan pentingnya pengelolaan nilai pelanggan sebagai strategi jangka panjang.

d. Pengaruh Experiential Marketing terhadap Loyalitas Pelanggan (H4)

Meskipun hubungan *Experiential Marketing* terhadap *Loyalitas Pelanggan* bersifat positif, hasilnya tidak signifikan secara statistik ($p\text{-value} > 0,05$). Hal ini menunjukkan bahwa pengalaman yang menyenangkan belum cukup untuk membentuk loyalitas tanpa adanya kepuasan pelanggan sebagai perantara. Pengaruh *Experiential Marketing* cenderung tidak langsung — pelanggan merasa puas terlebih dahulu sebelum menjadi loyal. Temuan ini menegaskan bahwa faktor rasional seperti kualitas dan harga juga berperan penting, sebagaimana dijelaskan Keller (2003). Dengan demikian, experiential marketing sebaiknya difokuskan untuk memperkuat kepuasan, yang kemudian berujung pada loyalitas.

e. Pengaruh Service Quality terhadap Kepuasan Pelanggan (H5)

Hasil penelitian menunjukkan bahwa *Service Quality* memiliki pengaruh positif dan signifikan terhadap *Kepuasan Pelanggan*. Lima indikator SERVQUAL terbukti relevan di Starbucks Bekasi, di mana pelanggan menilai tinggi kebersihan, kecepatan pelayanan, dan sikap ramah barista. Hal ini konsisten dengan penelitian Putri & Arifin (2018) yang menyatakan bahwa kualitas layanan yang tinggi meningkatkan kepuasan pelanggan. Starbucks juga secara aktif

menjaga standar pelayanan melalui pelatihan dan perawatan fasilitas, yang memperkuat hubungan jangka panjang dengan pelanggan.

f. Pengaruh Customer Value terhadap Kepuasan Pelanggan (H6)

Customer Value terbukti berpengaruh positif dan signifikan terhadap kepuasan pelanggan. Nilai yang dirasakan pelanggan — baik emosional, sosial, maupun fungsional — menjadi faktor utama pembentuk kepuasan. Hasil ini mendukung temuan Nugroho & Kurniawan (2021) dan Hartono (2019), yang menyatakan bahwa pelanggan yang merasa mendapat manfaat lebih besar daripada pengorbanan akan lebih puas. Di Starbucks Bekasi, pengalaman holistik seperti suasana nyaman, layanan personal, dan citra premium turut memperkuat persepsi nilai pelanggan.

g. Pengaruh Kepuasan Pelanggan terhadap Loyalitas Pelanggan (H7)

Kepuasan Pelanggan memiliki pengaruh positif dan signifikan terhadap *Loyalitas Pelanggan*. Pelanggan yang merasa puas akan lebih mungkin melakukan pembelian ulang, tidak mudah berpindah ke pesaing, dan merekomendasikan merek kepada orang lain. Hasil ini mendukung teori Kotler & Keller (2016) serta penelitian Sari & Putra (2018), yang menunjukkan bahwa kepuasan menjadi faktor kunci terbentuknya loyalitas jangka panjang. Pada Starbucks Bekasi, kepuasan terbentuk dari kombinasi rasa produk, pelayanan cepat, dan suasana nyaman.

h. Kepuasan Pelanggan Memediasi Pengaruh Experiential Marketing terhadap Loyalitas Pelanggan (H8)

Kepuasan pelanggan terbukti memediasi pengaruh *Experiential Marketing* terhadap *Loyalitas Pelanggan*. Artinya, pengalaman yang menyenangkan meningkatkan kepuasan terlebih dahulu sebelum berdampak pada loyalitas. Hasil ini mendukung teori Schmitt (1999) dan penelitian Ahmad & Susanti (2020), yang menyatakan bahwa pengalaman pelanggan yang baik membentuk kepuasan dan pada akhirnya mendorong loyalitas. Di Starbucks Bekasi, elemen pengalaman seperti aroma kopi, suasana gerai, dan interaksi dengan barista menjadi pemicu utama kepuasan yang berujung pada perilaku loyal.

i. Kepuasan Pelanggan Memediasi Pengaruh Service Quality terhadap Loyalitas Pelanggan (H9)

Kepuasan Pelanggan juga memediasi hubungan antara *Service Quality* dan *Loyalitas Pelanggan*. Kualitas layanan yang tinggi meningkatkan kepuasan pelanggan, yang kemudian

memperkuat loyalitas mereka. Hal ini sejalan dengan model SERVQUAL dan penelitian Rahmawati (2019) serta Santoso & Wulandari (2020). Starbucks Bekasi yang menjaga konsistensi layanan, ketepatan pesanan, dan profesionalisme barista berhasil menumbuhkan kepuasan yang berujung pada loyalitas jangka panjang.

j. **Kepuasan Pelanggan Memediasi Pengaruh Customer Value terhadap Loyalitas Pelanggan (H10)**

Terakhir, hasil penelitian menunjukkan bahwa *Kepuasan Pelanggan* memediasi pengaruh *Customer Value* terhadap *Loyalitas Pelanggan*. Nilai yang tinggi menciptakan kepuasan emosional dan rasional, yang kemudian memperkuat komitmen terhadap merek. Hal ini konsisten dengan penelitian Nugroho & Kurniawan (2021) serta Sari & Putra (2018). Di Starbucks Bekasi, pelanggan yang merasa harga dan kualitas sepadan akan cenderung puas, terus bertransaksi, dan merekomendasikan merek. Dengan demikian, kepuasan pelanggan menjadi penghubung penting antara persepsi nilai dan loyalitas.

5. Conclusion

Berdasarkan hasil analisis data menggunakan *Partial Least Squares Structural Equation Modeling (PLS-SEM)* melalui program WarpPLS 7.0 terhadap 100 responden pelanggan Starbucks Bekasi, dapat disimpulkan bahwa:

1. *Experiential Marketing, Service Quality, dan Customer Value* berpengaruh positif dan signifikan terhadap **Kepuasan Pelanggan**. Hal ini menunjukkan bahwa pengalaman positif, pelayanan yang baik, dan nilai yang diterima pelanggan merupakan faktor utama yang membentuk kepuasan pelanggan Starbucks.
2. **Kepuasan Pelanggan** berpengaruh positif dan signifikan terhadap **Loyalitas Pelanggan**. Semakin tinggi tingkat kepuasan yang dirasakan pelanggan, semakin besar kemungkinan mereka untuk tetap setia dan melakukan pembelian ulang.
3. *Experiential Marketing, Service Quality, dan Customer Value* juga berpengaruh langsung terhadap **Loyalitas Pelanggan**. Dengan demikian, loyalitas pelanggan tidak hanya terbentuk melalui kepuasan tetapi juga melalui pengalaman, pelayanan, dan nilai yang diberikan perusahaan.
4. **Kepuasan Pelanggan** terbukti memediasi pengaruh *Experiential Marketing, Service*

Quality, dan **Customer Value** terhadap **Loyalitas Pelanggan**. Artinya, kepuasan menjadi variabel perantara penting dalam menjembatani hubungan antara ketiga variabel tersebut dengan loyalitas pelanggan.

Hasil penelitian ini memperkuat teori Schmitt (1999), Parasuraman et al. (1988), Zeithaml (1988), dan Oliver (1999), yang menyatakan bahwa pengalaman positif, kualitas pelayanan yang baik, dan nilai yang tinggi dapat meningkatkan kepuasan pelanggan yang berujung pada loyalitas.

Secara keseluruhan, penelitian ini menegaskan bahwa strategi pemasaran berbasis pengalaman, layanan berkualitas, dan nilai pelanggan merupakan fondasi penting dalam mempertahankan loyalitas pelanggan di industri kafe premium seperti Starbucks.

6. Saran

Berdasarkan hasil analisis **outer model**, beberapa indikator memiliki *loading factor* rendah sehingga perlu ditingkatkan. Pada **Experiential Marketing**, indikator *think* perlu diperkuat melalui kreativitas interaksi seperti personalisasi minuman dan event kreatif. Pada **Service Quality**, indikator *empati* ditingkatkan dengan pelatihan barista agar lebih memahami kebutuhan pelanggan. Untuk **Customer Value**, indikator *social value* diperkuat lewat program komunitas atau kegiatan sosial. Pada **Kepuasan Pelanggan**, perlu konsistensi kualitas produk dan layanan di seluruh gerai. Sementara untuk **Loyalitas Pelanggan**, indikator *rekomendasi* dapat ditingkatkan dengan program referral atau diskon bagi pelanggan yang mengajak teman baru.

Saran Berdasarkan Hasil Uji Hipotesis:

1. **Service Quality → Loyalitas Pelanggan (signifikan):** Perkuat pelayanan dengan kecepatan, keramahan, dan ikatan emosional melalui *customer engagement program*.
2. **Peran Kepuasan sebagai Mediator:** Fokus pada *customer experience management* yang mengintegrasikan kualitas layanan, nilai pelanggan, dan pengalaman merek.
3. **Inovasi Experiential Marketing:** Kembangkan pengalaman pelanggan melalui *seasonal drinks*, kolaborasi merek, dan dekorasi tematik.
4. **Optimasi Customer Value:** Pertahankan kualitas tinggi dengan strategi harga dan

promosi kompetitif agar persepsi *value for money* tetap positif.

Penerapan saran-saran ini diharapkan mampu meningkatkan kepuasan dan membentuk loyalitas pelanggan Starbucks yang lebih kuat dan berkelanjutan.

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SUSTAINABILITY DISCLOSURE AND FIRM VALUE: THE MEDIATING EFFECT OF FINANCIAL PERFORMANCE

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Abstract

This study aims to analyze the effect of sustainability disclosure on firm value with financial performance as a mediating variable. The phenomenon of increasing awareness of sustainability reporting in the Indonesian capital market encourages the importance of studying the extent to which sustainability disclosure impacts firm performance and value. This study uses a quantitative approach with a causality design. The research sample consists of 105 firm-year observations of non-financial companies listed on the Indonesia Stock Exchange for the period 2020–2024, selected through a purposive sampling method. Data were obtained from annual reports and company sustainability reports and analyzed using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method with SmartPLS 4.0 software. The results show that sustainability disclosure has a positive and significant effect on financial performance and firm value. In addition, financial performance is also proven to have a positive effect on firm value and partially mediates the relationship between sustainability disclosure and firm value (partial mediation). These findings reinforce stakeholder theory, signaling theory, and legitimacy theory, which explain that corporate transparency and social responsibility can enhance public legitimacy, investor trust, and profitability, ultimately contributing to increased market value. Theoretically, this research broadens understanding of the economic mechanisms of sustainability in emerging markets. Practically, these results encourage management and regulators to strengthen the implementation of sustainability reporting as a long-term value creation strategy for companies and stakeholders.

Keywords: Sustainability Disclosure, Financial Performance, Firm Value, Mediation, PLS-SEM

1. Introduction

In the past two decades, sustainability issues have become a central focus in global business practices. Companies are no longer solely judged on their ability to generate profits, but also on the extent to which their activities contribute to environmental, social, and governance (ESG). This phenomenon has led to the emergence of sustainability disclosure, the disclosure of non-financial information that reflects a company's responsibility for economic, social, and environmental sustainability (Eccles et al., 2020).

Theoretically, the concept of sustainability disclosure is rooted in legitimacy theory and stakeholder theory, which emphasize the importance of harmonious relationships between companies and their stakeholders. Through sustainability disclosure, companies seek to gain social legitimacy and enhance their positive image among investors, consumers, and the public (Deegan, 2019). Therefore, sustainability disclosure is not only an ethical practice but also an economic strategy that can increase firm value.

In practice, various global reports show a significant increase in the implementation of sustainability reporting. Data from the Global Reporting Initiative (GRI, 2023) indicates that

more than 90% of large companies worldwide have published sustainability reports. In Southeast Asia, including Indonesia, the implementation of sustainability disclosure has also increased in line with the Financial Services Authority (OJK) policy requiring public companies to publish Sustainability Reports since 2020. However, the relationship between sustainability disclosure and firm value still shows inconsistent results.

Several empirical studies have found that sustainability disclosure has a positive effect on firm value by enhancing reputation and investor trust (Rahman & Islam, 2021; Khatib et al., 2022). However, other studies have shown that the effect is not always significant, particularly in developing countries where investor awareness of ESG issues is still limited (Nguyen et al., 2021; Salehi & Zimon, 2023). This inconsistency in results suggests the need for a mediating variable that explains the mechanism of the relationship between sustainability disclosure and firm value. One relevant candidate is financial performance.

Financial performance serves as a reflection of the effectiveness of sustainability strategies in creating operational efficiency and long-term profitability (Wang & Sarkis, 2021). Thus, sustainability disclosure can influence firm value by improving financial performance. Therefore, this study attempts to examine the effect of sustainability disclosure on firm value through the mediation of financial performance, in order to clarify the causal relationship that remains inconsistent in previous literature.

Research on the relationship between sustainability disclosure and firm value, with the mediating role of financial performance, has grown rapidly in the past five years, in line with increasing global attention to Environmental, Social, and Governance (ESG) practices. A recent study by Hadi, Saputra, and Tunggal (2025) in the E3S Web of Conferences showed that sustainability disclosure and environmental scores have a positive effect on firm value in the ASEAN region, with financial performance acting as a significant mediator. These results align with the findings of Mahmoud (2025) in the Alexandria Journal of Accounting, which proves that sustainable performance disclosure can reduce the risk of stock price declines by improving information asymmetry in the capital market.

Another study by Fauziah, Atiqah, and Kurniati (2025) in the Shirkah Journal of Economics and Business highlighted the importance of risk governance as a mediator between corporate governance and financial performance in Islamic banks in Indonesia, confirming the relevance of mediation mechanisms in the relationship between corporate variables. Meanwhile, Sitanggang (2025) through an empirical study of companies listed on the Indonesia Stock Exchange showed that ESG performance acts as a link between corporate policy and corporate value. Furthermore, Kusumastuti and Sari (2025) in the International Journal of Economics Research and Financial Analysis found that sustainability reporting is an important intervening variable between profitability and corporate value in the infrastructure sector, confirming the strategic role of sustainability disclosure in creating long-term value.

Furthermore, Zhu, Villar, and Balderrama (2025) in Sustainable Futures identified the role of ESG in bridging the relationship between socioemotional wealth and financial sustainability in family firms, broadening the research context from the social and emotional perspective of corporate ownership. On the other hand, Li (2025) examined large Australian firms and found that governance committee diversity affected financial performance and stock prices through ESG mediation. In general, these studies indicate that the link between

sustainability disclosure, financial performance, and firm value has received extensive academic attention, but with varying contexts, analytical approaches, and theoretical focuses.

Although several previous studies have demonstrated a positive relationship between sustainability disclosure and firm value, several gaps remain to be identified to strengthen the scientific foundation of this research. From a theoretical perspective, most studies rely solely on stakeholder theory as their primary framework without integrating signaling theory, which explains how sustainability disclosure can provide a positive signal to investors regarding a company's prospects and stability. In other words, there is limited research examining the relationship between the two theories simultaneously in explaining the influence of sustainability disclosure on firm value through financial performance.

Empirically, most research has been conducted in developed countries such as the United States and Australia, or in multinational banking sectors with high levels of ESG compliance (e.g., Li, 2025; Zhu et al., 2025). The context of emerging markets like Indonesia, with its distinct institutional, regulatory, and sustainability awareness characteristics, has rarely been comprehensively studied. Furthermore, most research in Indonesia remains descriptive in nature and has not yet thoroughly examined the mediating mechanisms of financial performance in the relationship between sustainability disclosure and firm value.

Meanwhile, from a methodological perspective, previous studies have often used a simple linear regression approach without considering indirect effects or mediating pathways simultaneously. This results in results that are less able to capture the complex causal relationships between variables. Therefore, there is still a need for a more robust analytical approach, such as Partial Least Squares Structural Equation Modeling (PLS-SEM), to understand how financial performance mediates the effect of sustainability disclosure on firm value. This gap serves as the primary basis for this study to provide more in-depth theoretical and empirical contributions.

The main novelty of this research lies in the integration of stakeholder theory and signaling theory in explaining the mechanism of sustainability disclosure's influence on firm value through financial performance as a mediating variable. This integrative approach is rarely used in previous literature, which generally emphasizes only the social legitimacy aspect without examining the economic signaling aspects contained in sustainability reports. Thus, this study introduces a new, more comprehensive conceptual framework for understanding how non-financial information disclosure contributes to firm value creation.

Empirically, this study offers a new context by using a sample of public companies in Indonesia in 2025, a period in which the implementation of sustainability reporting began to show significant improvement following the full implementation of POJK No. 51/POJK.03/2017. This contributes to the international literature by presenting empirical evidence from a developing country that remains underexplored.

2. Hypothesis Development

2.1. Sustainability Disclosure and Firm Value

According to stakeholder theory (Freeman, 1984), companies are obligated to meet the expectations of various stakeholders, including investors, customers, governments, and communities, through economically, socially, and environmentally responsible activities. One

form of this responsibility is realized through sustainability disclosure, which serves as a means of transparent communication regarding the company's non-financial performance.

From a signaling theory perspective (Spence, 1973), sustainability disclosure serves as a positive signal to the market about a company's long-term commitment to ethical and sustainable business practices. The higher the level of sustainability disclosure, the stronger investors' positive perceptions of the company's reputation and prospects, ultimately increasing its market value (firm value).

Empirical research supports this view. Hadi et al. (2025) found that high levels of ESG disclosure significantly increase company value in ASEAN countries. Sitanggang (2025) also showed that ESG performance has a positive influence on company value in Indonesia. Similarly, Mahmoud (2025) demonstrated that sustainability performance disclosure can reduce the risk of stock price crashes by increasing transparency. Therefore, the first hypothesis can be formulated as follows:

H1: Sustainability disclosure has a positive effect on firm value.

2.2.Sustainability Disclosure and Financial Performance

Sustainability disclosure not only impacts market perception but also has internal implications for a company's financial performance. Through consistent sustainability practices, companies can improve operational efficiency, strengthen customer loyalty, and attract sustainability-oriented investors (Fauziah et al., 2025).

According to stakeholder theory, a company's success in meeting stakeholder interests can reduce conflict and increase trust, which directly contributes to increased profitability and financial efficiency. Furthermore, from a signaling theory perspective, comprehensive sustainability disclosure sends a positive signal to the market that the company has good governance and solid prospects, thus positively impacting financial performance (Li, 2025).

Empirical results support this argument. Kusumastuti and Sari (2025) showed that sustainability reporting significantly impacts profitability and is a crucial factor in creating long-term value. Research by Zhu, Villar, & Balderrama (2025) also found that ESG engagement strengthens financial sustainability in family businesses. Based on this description, the second hypothesis is formulated as follows:

H2: Sustainability disclosure has a positive effect on financial performance.

2.3.Financial Performance and Firm Value

Financial performance is a fundamental indicator that reflects a company's ability to generate profits from its operational activities. According to signaling theory, stable profits and high revenue growth send positive signals to investors about the company's economic strength. Investors will perceive a company with good financial performance as having strong profit prospects, thus driving an increase in its stock market value (Spence, 1973).

Several empirical studies have shown a positive relationship between financial performance and firm value. Li (2025) found that return on assets (ROA) and return on equity (ROE) significantly influence firm value in Australia. Similar results were also found by Hadi

et al. (2025) who found that financial performance mediated the effect of ESG disclosure on firm value in ASEAN countries. Therefore, the third hypothesis is formulated as follows:

H3: Financial performance has a positive effect on firm value.

2.4. The Mediating Role of Financial Performance

Although sustainability disclosure has the potential to directly increase company value, numerous studies indicate that this effect occurs primarily through improved financial performance. Companies that implement sustainable practices tend to achieve long-term benefits through cost efficiencies, improved reputations, and increased investor confidence. These effects are ultimately reflected in improved financial performance before impacting company value (Fauziah et al., 2025; Kusumastuti & Sari, 2025).

Research by Hadi et al. (2025) and Sitanggang (2025) confirms that financial performance plays a significant mediating role in the relationship between sustainability disclosure and firm value. This mechanism suggests that companies need to manage both financial and non-financial aspects simultaneously to obtain optimal value from sustainability disclosure. Based on these arguments, the fourth hypothesis is formulated as follows:

H4: Financial performance mediates the effect of sustainability disclosure on firm value.

2.5. Conceptual Framework of the Research

As a synthesis of the above hypothesis development, the conceptual model of the research can be described as follows:

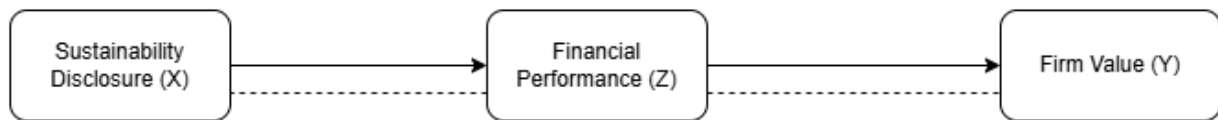


Figure 1. Conceptual Framework

3. Methodology

This study uses a quantitative approach with an explanatory design because it aims to explain the causal relationship between sustainability disclosure, financial performance, and firm value, as well as to test the mediating role of financial performance. The data used are secondary data obtained from the annual reports and sustainability reports of companies listed on the Indonesia Stock Exchange (IDX) during the period 2020–2024. The study population includes all non-financial public companies on the IDX, while sample selection was carried out using a purposive sampling technique with the criteria of companies that consistently publish sustainability reports and have complete financial data. Based on these criteria, approximately 105 firm-year observations were obtained from various industrial sectors.

The research variables consist of three main constructs: (1) Sustainability Disclosure (SD) measured using the Sustainability Disclosure Index (SDI) based on the Global Reporting Initiative (GRI Standards 2021) guidelines; (2) Financial Performance (FP) measured by the Return on Assets (ROA) ratio; and (3) Firm Value (FV) proxied by the Tobin's Q ratio. Data analysis was carried out using the Partial Least Squares–Structural Equation Modeling (PLS-

SEM) method with the help of SmartPLS 4.0 software, because this method is able to test direct and indirect relationships between variables and is suitable for data with non-normal distribution.

The analysis stages include descriptive statistical tests, evaluation of the measurement model (outer model) through validity and reliability tests (loading factor, AVE, and composite reliability), and evaluation of the structural model (inner model) through path coefficient tests , R^2 , and bootstrapping to assess the significance of the relationship between variables. Mediation testing was carried out using the indirect effect bootstrapping method (Preacher & Hayes, 2008) to determine whether financial performance acts as a full or partial mediator. The data collection and analysis period was carried out between January and July 2025, while still upholding research ethics and academic honesty because all data is sourced from official publications that can be verified.

4. Results and discussion

The objects of this study were non-financial public companies listed on the Indonesia Stock Exchange (IDX) that had published sustainability reports or annual reports containing sustainability disclosures for the period 2020 – 2024. The final sample consisted of 105 firm-year observations from 21 companies that met the purposive sampling criteria.

The most represented sectors in the sample are the basic industry and chemicals (30%), energy (25%), and primary consumption (20%), while the remainder comes from the transportation, property, and infrastructure sectors.

Descriptive Statistics of Research Variables

Table 1. Results of Descriptive Statistical Tests

Variables	N	Minimum	Maximum	Average	Standard Deviation
Sustainability Disclosure Index (SDI)	105	0.32	0.85	0.58	0.11
Return on Assets (ROA)	105	0.01	0.27	0.098	0.052
Tobin's Q (Firm Value)	105	0.87	4.51	1.93	0.88

The average sustainability disclosure level (SDI) of 58% indicates that sustainability reporting practices in Indonesia are still at an intermediate level. The average ROA of 9.8% indicates moderate profit efficiency, while Tobin's Q indicates that most companies have market values exceeding their book values, indicating a positive perception from investors.

Coefficient of Determination (R^2)

Table 2. Results of the Determination Coefficient (R^2) Test

Endogenous Variables	R^2	Category
Financial Performance (FP)	0.374	Moderate
Firm Value (FV)	0.516	Moderate – Strong

This means that 37.4% of the variation in financial performance is explained by sustainability disclosure , and 51.6% of the variation in firm value is explained by the combination of sustainability disclosure and financial performance .

Hypothesis Testing

Table 3. Hypothesis Test Results (Bootstrapping)

Hypothesis	Track	Coefficient	t-stat	P-value	Results
H1	SD → FP	0.612	8,437	0.000	Accepted
H2	FP → FV	0.398	4.129	0.000	Accepted
H3	SD → FV (direct)	0.219	2,318	0.022	Accepted
H4	SD → FP → FV (indirect)	0.244	3,957	0.000	Accepted

Sustainability Disclosure has a positive effect on Financial Performance

The test results show that sustainability disclosure has a positive and significant impact on financial performance ($\beta = 0.612$; $p < 0.001$). This finding indicates that the higher the level of sustainability disclosure, the better the company's financial performance. This supports Stakeholder Theory (Freeman, 1984), which states that companies that pay attention to social and environmental interests will gain legitimacy, trust, and support from stakeholders, which ultimately impacts operational efficiency and increased profitability.

Empirically, these results are consistent with research by Kusumastuti and Sari (2025), who found that sustainability disclosure contributes to increased profits through corporate reputation and investor loyalty. Similar findings were also reported by Hadi, Saputra, and Tunggal (2025) in the ASEAN region, stating that companies with high ESG scores exhibited better financial performance than companies with low disclosure. Furthermore, Li (2025) in Australia confirmed that ESG transparency increases investor confidence, which strengthens market value and profitability. Thus, these research findings strengthen empirical evidence that sustainability reporting practices serve not only as a legitimacy tool but also as an economic strategy that improves financial performance.

Financial Performance has a positive effect on Firm Value

The analysis results show that financial performance has a positive and significant effect on firm value ($\beta = 0.398$; $p < 0.001$). This result indicates that companies with good financial performance will have a higher market value because they are perceived to have promising growth prospects. This aligns with Signaling Theory (Spence, 1973), which explains that profitability serves as a positive signal for investors in assessing a company's quality and managerial performance.

This research reinforces the findings of Fauziah, Atiqah, and Kurniati (2025), who found that financial performance is a crucial determinant of increasing company value in the Indonesian Islamic banking industry. Mahmoud (2025) also emphasized that high profitability reduces the risk of stock price declines and improves market perceptions of a company's financial stability. Furthermore, Zhu, Villar, and Balderrama (2025) demonstrated that in family firms, strong financial performance strengthens the relationship between ESG engagement and long-term sustainability. Therefore, this research confirms that financial performance not only reflects internal efficiency but also plays a strategic role in maximizing shareholder value.

Sustainability Disclosure has a direct impact on Firm Value

The results show that sustainability disclosure has a significant positive effect on firm value ($\beta = 0.219$; $p = 0.022$). This means that sustainability disclosure can directly increase a company's market value without intermediary financial performance. This reflects that

investors in Indonesia are beginning to respond positively to sustainability reporting practices as an indicator of a company's long-term responsibility.

These results align with Sitanggang (2025), who found that environmental, social, and governance (ESG) performance significantly impacts company value in Indonesia, as it increases investor confidence and strengthens market reputation. Hadi et al. (2025) also showed similar results at the ASEAN level, indicating that companies with good sustainability practices achieve higher market valuations. Furthermore, Li's (2025) research in Australia strengthens evidence that ESG disclosure is an effective market mechanism for building long-term value. Therefore, these findings indicate that sustainability disclosure has become an important signal for investors in assessing a company's credibility, transparency, and sustainability prospects.

Financial Performance mediates the influence of Sustainability Disclosure on Firm Value

the indirect effect bootstrapping test indicate that the indirect effect of sustainability disclosure on firm value through financial performance is significant ($\beta = 0.244$; $p < 0.001$). Since the direct effect (SD $\rightarrow$ FV) remains significant, the mediation that occurs is partial mediation, meaning that financial performance only strengthens, not replaces, the direct effect of sustainability disclosure on firm value.

These findings support the triple bottom line concept, which states that social and environmental performance can improve a company's economic performance and long-term value (Elkington, 1997). These results also align with research by Zhu et al. (2025) and Fauziah et al. (2025), which emphasizes that financial performance is the primary channel through which sustainability responsibilities translate into increased market value. Furthermore, this study extends the findings of Kusumastuti & Sari (2025) by demonstrating that the influence of sustainability on firm value is not only direct but also through a profitability-enhancing mechanism. Thus, these results reinforce the view that sustainability practices have dual strategic value—as a tool for social legitimacy and as a driver of financial performance that ultimately increases firm value.

5. Conclusion

This study concludes that sustainability disclosure plays a significant role in increasing firm value, both directly and through financial performance as a mediating variable. The analysis shows that sustainability disclosure has a significant positive effect on financial performance and firm value. Furthermore, financial performance has also been shown to have a positive effect on firm value and partially mediates the relationship between sustainability disclosure and firm value (partial mediation).

These findings reinforce stakeholder theory and signaling theory, which explain that transparent and socially and environmentally responsible companies gain legitimacy and investor trust, which in turn increases profitability and market value. Thus, sustainability disclosure is not only a compliance tool but also a business strategy that creates long-term economic value for companies in emerging markets like Indonesia.

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DRIVING THE SUSTAINABILITY OF RURAL MSMEs THROUGH DIGITALIZATION STRATEGY AND CIRCULAR ECONOMY

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Abstract

The sustainability of rural MSMEs is an important issue in sustainable economic development. This study aims to analyze the effect of digitalization and the application of the circular economy on the sustainability of rural SMEs with competitiveness as a mediating variable. This study uses a quantitative approach. Data was obtained from 286 rural MSME actors in Central Java through a survey, and analyzed by SEM-AMOS. The results show that digitalization and circular economy have a positive effect on competitiveness, and directly or indirectly improve the sustainability of MSMEs. Competitiveness is proving to be a significant mediator that strengthens the relationship of digitization and the circular economy with sustainability. This finding confirms that the integration of digital transformation and circular practices will be more effective when accompanied by increased competitiveness. The implications of this study ini emphasize the need for policy support, technological literacy, and the application of sustainable business practices to encourage adaptive, innovative, and competitive rural MSMEs.

Keywords: circular economy, digitalization, MSME competitiveness, rural MSME, sustainability

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) have a vital role in the Indonesian economy. In addition to absorbing large amounts of Labor, MSMEs also contribute significantly to Gross Domestic Product (GDP) and the distribution of community income. However, rural MSMEs face more complex challenges than urban MSMEs. Limited access to Capital, Limited infrastructure, lack of technological literacy, and low market penetration are factors that hinder the growth and sustainability of (Morgan & Anokhin, 2023; Saputra & Pratomo, 2023). These conditions demand a new strategy that is more adaptive, innovative, and sustainable.

Digitalization is one of the strategic answers to this problem. The use of digital technology allows rural MSMEs to expand the market, increase efficiency, and innovate in (Saputra, Utomo, Ariansyah, Wismayanti, & Ansyah, 2024). E-commerce platforms, social media, and digital payment systems, for example, are able to penetrate geographical limitations that have been the main barriers (Vandita, Jaiswal, & Srivastava, 2023). Digital transformation also helps rural MSMEs build brand images and communicate more effectively with consumers (Pandey & Jaiswal, 2023). However, digitization cannot stand alone without a broader sustainability orientation.

On the other hand, the circular economy paradigm offers a new perspective in business (Geissdoerfer, Savaget, Bocken, & Hultink, 2017). Different from linear patterns that conceptualize take, make, and dispose, circular economies emphasize sustainable cycles through the principles of reduce, reuse, recycle, and recover (Kirchherr, Reike, & Hekkert, 2017). The implementation of a circular economy in rural MSMEs can reduce production costs

through the use of waste, create added value for environmentally friendly products, and strengthen competitiveness amid increasing global consumer preferences (Uvarova, Atstaja, & Korpa, 2020). Thus, the circular economy not only supports ecological aspects, but also provides economic and social benefits for rural communities.

The integration of digitization and the circular economy offers important synergistic opportunities. Digital technology can expand the market reach of circular products, strengthen the sustainability narrative, and facilitate collaboration between businesses. In contrast, a circular orientation enriches the selling value of digitally marketed products. For example, handicrafts made from waste that are promoted through social media have aesthetic values as well as socio-environmental values that are increasingly appreciated by modern consumers. The combination of the two provides a strategic foundation to improve the competitiveness and sustainability of rural MSMEs (Awad, Nuseibeh, & Amro, 2025).

Literature on the digitalization of MSMEs and the circular economy has grown rapidly, but studies that combine the two in the context of rural MSMEs (Farhikhteh, Kazemi, Shahin, & Mohammad Shafiee, 2020). Previous research has tended to focus on the general use of digital technology or circular practices in large-scale industries. In fact, rural MSMEs have distinctive characteristics in the form of limited resources, strong social ties, and dependence on local communities. It is this gap that opens up an important space for the development of new models that are more relevant to the needs and potential of the countryside.

This article offers a new conceptual framework that positions digitalization and the circular economy as two complementary strategies for the development of rural MSMEs. The concept emphasizes not only technological efficiency and innovation, but also social, cultural and environmental integration. Thus, the contribution of this research lies in expanding the theory of economic sustainability in the context of rural MSMEs while providing practical recommendations for business actors, policy makers, and other stakeholders.

Theoretically, this study emphasizes that the sustainable competitiveness of rural MSMEs can only be achieved through a combination of digital capabilities and circular orientation. While in practical terms, this approach is expected to increase the adaptation capacity of rural MSMEs to market dynamics while strengthening their contribution to the Sustainable Development Goals.

2. Literature review and Hypothesis development

The main approach used to build the conceptual framework in this paper is to refer to The Theory of **Triple Bottom Line (TBL)**.

2.1. Theory Triple Bottom Line (TBL)

The Triple Bottom Line (TBL) concept introduced by Elkington (1997) became an important framework in measuring the sustainability of modern business. TBL emphasized that organizational performance is not only determined by economic achievement (profit), but also its contribution to social welfare (people) and environmental sustainability (planet) (Elkington & Rowlands, 1999). Thus, the success of a business is determined by the balance between these three dimensions.

The profit dimension includes the achievement of financial benefits and economic sustainability of the business. While profit remains important, TBL emphasizes that profit orientation must be achieved through ethical, inclusive, and environmentally friendly business practices. The people dimension emphasizes social responsibility towards employees, local communities, and other stakeholders, including community empowerment and the creation of social justice. Meanwhile, the planetary dimension underlines the importance of sustainable management of natural resources, reduction of waste and control of negative impacts (Adams, Frost, & Webber, 2013; Alhaddi, 2015).

The implementation of TBL has strategic implications, especially in the era of increasing consumer awareness (Gimenez, Sierra, & Rodon, 2012). Businesses that are able to integrate the dimensions of profit, people, and planet not only gain social legitimacy, but also increase long-term competitiveness. Therefore, TBL is often used as a theoretical foundation for analyzing sustainable business strategies, including in the context of MSMEs (Muñoz-Pascual, Curado, & Galende, 2019).

In the context of rural MSMEs in Indonesia, the relevance of TBL is increasingly evident. First, the profit dimension is closely related to the challenges of competitiveness and market access faced by rural MSMEs (Matthews, Tse, O'Meara Wallis, & Marzec, 2019). Digitalization plays an important role in strengthening this dimension, for example through e-commerce, social media, and digital payment systems that are able to expand market reach, improve distribution efficiency, and reduce operational costs. Thus, digitization can be understood as a strategic instrument that supports the financial sustainability of MSMEs.

Second, the people dimension highlights MSMEs as community-driven development agents. Rural MSMEs not only generate employment but also reinforce social cohesion, preserve local culture, and enhance village economic independence. Integrating circular economy principles strengthens these roles by promoting community participation in eco-friendly production, local resource utilization, and skill development, thereby expanding job opportunities and improving social welfare (Muñoz-Pascual et al., 2019).

Third, the planetary dimension is realized through adopting circular economy principles that replace the linear “take–make–dispose” model. By implementing reduce, reuse, recycle, and recover strategies, rural MSMEs can minimize waste, optimize resource use, and produce eco-friendly goods. Beyond promoting environmental sustainability, circular-based products also gain higher market value, aligning with the growing global consumer preference for green and responsible businesses (Gimenez et al., 2012). Digitalization acts as a reinforcement of this dimension, as it allows MSMEs to promote and communicate the value of product sustainability more broadly.

The integration of digitalization and circular economy within the TBL framework creates a holistic approach to the sustainability of rural MSMEs. Digitalization strengthens the profit dimension, the circular economy strengthens the planet while supporting people, and all three together form the foundation of sustainability. With this approach, rural MSMEs not only increase competitiveness, but also have a positive social impact and preserve the environment.

2.2. Circular MSMEs

The concept of circular MSMEs was born from the application of the principle of *circular economy* in the activities of small and medium enterprises, which emphasizes the efficiency of resource utilization and waste management into a new source (Geissdoerfer et al., 2017). In contrast to the linear economic approach that is oriented to the “take, make, dispose” pattern, the circular economy emphasizes the reduce, reuse, recycle, and recover cycle as the main strategy to create economic sustainability while maintaining environmental balance (Kirchherr et al., 2017).

In the context of MSMEs, the application of this concept is not only related to environmental aspects, but also an instrument to increase the competitiveness (Awad et al., 2025). The utilization of waste as *bakuan* alternative raw material, the design of easily recyclable products, and the implementation of energy-efficient production processes, allow MSMEs to reduce operational costs while producing different and more valuable products in the eyes of consumers. The trend of the global market towards a green economy strengthens the position of circular-based products, as consumers increasingly give preference to environmentally friendly products (Gennari, 2023).

However, the practice of circular economy in rural MSMEs still faces challenges. The main obstacles lie in limited capital, low understanding of technology, and lack of policy support and infrastructure (Ahmadov, Durst, Gerstlberger, & Kraut, 2025). In this context, digitization can be a significant driver. Digital technologies support the promotion of circular products, expand partnership networks, and provide access to information on (Lu & Shaharudin, 2024). Thus, the integration of the circular economy and digitalization has the potential to accelerate the transformation of rural MSMEs towards sustainability. Furthermore, circular MSMEs not only create economic and environmental impacts, but also make social contributions (Chaudhuri, Subramanian, & Dora, 2022). Through environmentally friendly production practices, there are opportunities for the birth of new jobs, strengthening social solidarity, and community involvement in local resource management.

2.3. The impact of digitalization on the competitiveness of MSMEs

Digitalization in MSMEs, which includes the use of information technology, social media, electronic commerce platforms, to data-based analysis, is now seen as an important foundation in improving (Saputra et al., 2024). Digital technology no longer only supports daily operations, but also acts as a driver of efficiency, product differentiation, and strengthening market (Lu & Shaharudin, 2024). Through digitalization, MSMEs can reduce transaction costs, accelerate production processes, and reach a wider range of consumers, including in the global market. In addition, the use of digital data helps businesses respond to trends and consumer needs in a more timely manner, thus adding flexibility in dealing (Probohudono, Suhardjanto, Aligarh, Chayati, & Putra, 2025).

Prior studies indicate that digitally adopting MSMEs achieve greater market penetration and stronger business collaboration than non-adopters (Lee & Falahat, 2019; Lu & Shaharudin, 2024; Saputra et al., 2024). Digitalization functions as a dynamic capability enabling MSMEs to innovate, build networks, and adapt to market changes. For resource-limited rural MSMEs, digital tools help overcome constraints through efficient marketing, data-driven innovation, and cross-sector collaboration. Thus, digitalization positively enhances MSME competitiveness. Based on these descriptions, the first hypothesis proposed in this study is:

H1: digitalization of MSMEs has a positive effect on the competitiveness of MSMEs

2.4. The impact of circular economy on the competitiveness of MSMEs

The circular economy is seen as an alternative approach capable of replacing the conventional linear economic model. In the context of MSMEs, circular orientation not only serves as an environmental responsibility, but also as a business strategy to create (Awad et al., 2025). By utilizing waste as a production input, designing reusable products, and implementing energy-efficient processes, MSMEs can reduce costs while delivering value-added products that meet the demands (Chaudhuri et al., 2022).

A number of studies have shown that circular economy practices have a positive impact on the competitiveness of MSMEs (Awad et al., 2025; Prakash, Dev, Soni, & Badhotiya, 2023; Uvarova, Atstaja, & Vitola, 2019). Circular efforts are proven to help reduce operational costs, strengthen an environmentally friendly image, and increase the attractiveness of products for consumers who are increasingly concerned about sustainability issues. This provides differentiation advantages as well as access opportunities to wider markets, including sustainable supply chains. Thus, the application of the principle of circular economy can be viewed as a strategic factor that strengthens the position of MSMEs in competition. Based on these descriptions, the hypotheses proposed in this study are:

H2: the application of circular economy by MSMEs has a positive effect on the competitiveness of MSMEs.

2.5. The effect of MSME competitiveness on the sustainability of Rural MSMEs

The sustainability of rural MSMEs is determined not only by their short-term profitability, but also by their capacity to remain relevant, adapt, and grow in a dynamic business (Kwarteng, Dadzie, & Famiyeh, 2016). Competitiveness is a crucial prerequisite for this process. MSMEs with a high level of competitiveness generally possess the ability to produce superior products, maintain service quality, and undertake continuous innovation (Knudsen, Lien, Timmermans, Belik, & Pandey, 2021). This condition provides greater opportunities for MSMEs to survive changes in consumer preferences and pressure from stronger competitors.

Previous studies have shown that sustainable competitive advantage encourages businesses ability to enter new markets, maintain customer loyalty, and increase investment in environmentally friendly and socially responsible (Prakash et al., 2023; Purba, Gumulya, Hariandja, & Pramono, 2023). Thus, competitiveness is not only an intermediate goal, but also a strategic means that allows rural MSMEs to achieve sustainability in the economic, social and environmental dimensions. Therefore, the hypotheses proposed are:

H3: competitiveness of MSMEs has a positive effect on the sustainability of rural MSMEs.

2.6. The influence of digitization on the sustainability of Rural MSMEs

Digitalization in MSMEs not only serves as a means to strengthen competitiveness, but also has a direct contribution to business sustainability, especially in rural (Morris, Morris, & Bowen, 2022). Through the use of digital technology, MSMEs can optimize production processes, reduce distribution costs, and expand market reach without having to be limited to geographical boundaries. This convenience enables rural MSMEs to increase operational efficiency while maintaining long-term income stability (Vide, Hunjet, & Kozina, 2022). In other words, digitalization helps create business resilience which is one of the important dimensions of sustainability.

In addition, digitalization opens up opportunities for rural MSMEs to connect with the wider business ecosystem, including access to partnership networks, digital financing, and information on environmentally friendly practices (Angadi, Jayadatta, & Kodaganur, 2023). This enables MSMEs to pursue sustainable innovation and align with market demands that emphasize social and environmental responsibility. Studies also reveal that digital technology enhances MSMEs' adaptability, customer loyalty, and business reputation. Hence, digitalization serves as a key driver of rural MSME sustainability. Based on these descriptions, the hypothesis proposed is:

H4: digitalization of MSMEs has a positive effect on the sustainability of rural MSMEs.

2.7. The effect of circular economy implementation on the sustainability of Rural MSMEs

The application of the circular economy principle to rural MSMEs not only has an impact on cost efficiency, but also becomes an important foundation in creating business (Geissdoerfer et al., 2017). By promoting reduce, reuse, recycle, and recover practices, MSMEs can minimize the use of new resources while reducing waste generated. This efficiency contributes to business stability in the long term, because MSMEs are able to maintain the availability of raw materials, reduce production costs, and meet market demands for environmentally friendly products (Dey et al., 2022). Thus, the circular economy supports both economic and environmental dimensions within the framework of sustainability.

Furthermore, the implementation of a circular economy also has a significant social impact. Recycling, waste reuse, and environmentally friendly product development activities can create new jobs, strengthen local community participation, and build a positive image for rural MSMEs (Chaudhuri et al., 2022). Therefore, the circular economy can be viewed as a strategy

that contributes directly to the achievement of the sustainability of rural MSMEs. Based on the description, the hypothesis proposed is:

H5: the application of circular economy has a positive effect on the sustainability of rural MSMEs.

2.8. The role of competitiveness in mediating the relationship between MSME digitalization and the implementation of a circular economy on the sustainability of rural MSMEs

In the framework of rural MSME development, competitiveness is not only the ultimate goal, but also acts as a connecting variable between the strategy adopted and the sustainability (Rochayatun, Praktikto, Wardoyo, & Handayati, 2023). Digitalization and the implementation of a circular economy are believed to improve sustainability, but their effects are often indirect. Digitalization enhances efficiency and market reach, yet its true impact on sustainability emerges only when it builds MSMEs' competitive advantage. In essence, it drives sustainability most effectively through innovation, quality improvement, and deeper market penetration (Lee & Falahat, 2019).

Likewise, circular economy practices enhance resource efficiency and environmental reputation. Yet, their impact on sustainability becomes stronger when transformed into tangible competitiveness through product differentiation, customer loyalty, and access to sustainable supply chains (Vide et al., 2022). Therefore, competitiveness can be viewed as a mediation mechanism that bridges the influence of digitalization and the circular economy on the sustainability of rural MSMEs. Based on these descriptions, the hypothesis proposed is as follows:

H6: competitiveness of MSMEs mediates the influence of digitization of MSMEs on the sustainability of rural MSMEs.

H7: competitiveness of MSMEs mediates the effect of the application of circular economy on the sustainability of rural MSMEs.

Research Model

Here is a picture of the empirical model designed in this study:

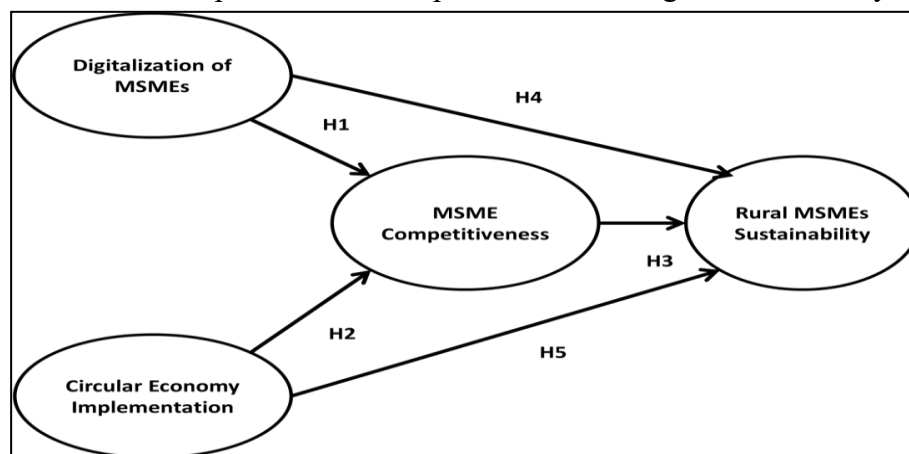


Figure 1. Empirical Research Model

3. Methodology

3.1. Sample and Data Collection

This study uses a quantitative approach with survey methods. Data analysis was conducted through Structural Equation Modeling (SEM) based on AMOS to test the causal relationship between variables. Respondents in this study were the *perpetrators of UMKM* circular in 3 districts in Central Java Indonesia, namely; Cilacap, Magelang, and Wonosobo. The sample size in this study was 286 samples. According to Hair, Black, Babin, and Anderson (2010), the minimum recommended sample size for SEM is 5 to 10 times the estimated number of parameters, or at least 200 respondents for models of medium complexity. Considering that this study includes four latent constructs and 18 indicators, a sample of 286 already meets statistical requirements, to ensure stable, reliable, and generalizable parameter estimates.

Sampling technique is done by purposive sampling. The criteria of respondents in this study is that MSME have been operating for at least 1 year, carry out digital-based marketing or distribution activities, although at a modest level and MSMEs that utilize waste or environmentally friendly business activities.

3.2. Measurement

There are four variables used in this study, namely digitalization of MSMEs, circular economy implementation, MSME competitiveness, and rural MSMEs sustainability. Instruments in this study were adopted and adapted from instruments that have been used in previous research. Each indicator and statement item in this study was measured using a scale from 1 (strongly disagree) to 10 (strongly agree). Structural Equation Modeling-AMOS (SEM-AMOS) approach was used to test the instruments and hypotheses built in this study. In general, SEM analysis is carried out through two stages, namely the measurement model and structural model. Before being used as a measurement tool for research, research instruments are first tested for validity and reliability. Validity test was conducted to determine the ability of the instrument in measuring the variables studied. Qualitative measurement looks at face validity and content validity, while quantitative measurement is done by confirmatory factor analysis (CFA). The test results of the instrument can be seen in the following table.

Tabel 2
Loading Factor, Average Variance Extracted, and Composite Reliability

Variables and Indicators	Loading Factor
Digitalization of MSMEs (AVE = 0.772; CR = 0.944)	
SMES utilize the tools of digital technology	0,867
Market products through social media or online platforms	0,887
Understand how to use technology to support the business	0,887
Digital Technology to help SMES work more quickly and efficiently	0,870
Make business decisions based on data or digital information	0,881
Circular Economy Implementation (AVE = 0.766; CR = 0.942)	
Utilize the waste or residual material to be used as product new	0,865
Product is designed to be used again or recycled	0,885
Using the raw materials that are safe for the environment	0,891
Has a waste management system good effort	0,879
Minimize waste so as not to pollute the environment	0,856

Variables and Indicators	Loading Factor
MSME Competitiveness (AVE = 0.701; CR = 0.904)	
SMES have advantages compared to similar products	0,845
Always develop or update products	0,835
MSMEs satisfying service	0,837
Can compete with the perpetrators of other business	0,832
Rural MSMEs Sustainability (AVE = 0.598; CR = 0.856)	
SMES are able to continue to exist in the long term	0,769
SMES can adjust to changes in market conditions	0,783
SMES give economic benefits for the surrounding community	0,785
SMES are able to participate in social activities and the environment	0,755

Source: primary data processed (2025)

Measurement model is done to measure convergent validity (factor loading and average variance extracted), determinant validity and composite reliability. Williams, Vandenberg, and Edwards (2009) explained that the value of a good loading factor should be above 0,5 with a critical ratio of more than 1,96. In addition, a good instrument must meet the minimum requirements of average variance extracted (AVE) value above 0,5 and composite reliability (CR) value above 0,7. In Table 2 above, all indicators have a loading factor value of more than 0,5; this indicates that the measurement model has good convergent validity. All tested constructs also show AVE relatively high AVE values because they have a minimum value above 0,5.

Construct reliability (CR) value of DOM variables showed 0.944, CEI 0.942, MC 0.904, and CR value of AC constructs of 0.856, so it can be concluded that all exogenous and endogenous constructs in this study have had a good internal consistency or reliable. Based on the results in Table I, all values of loading factor, AVE, and composite reliability are above the required, so it can be concluded that the research instruments are valid and reliable.

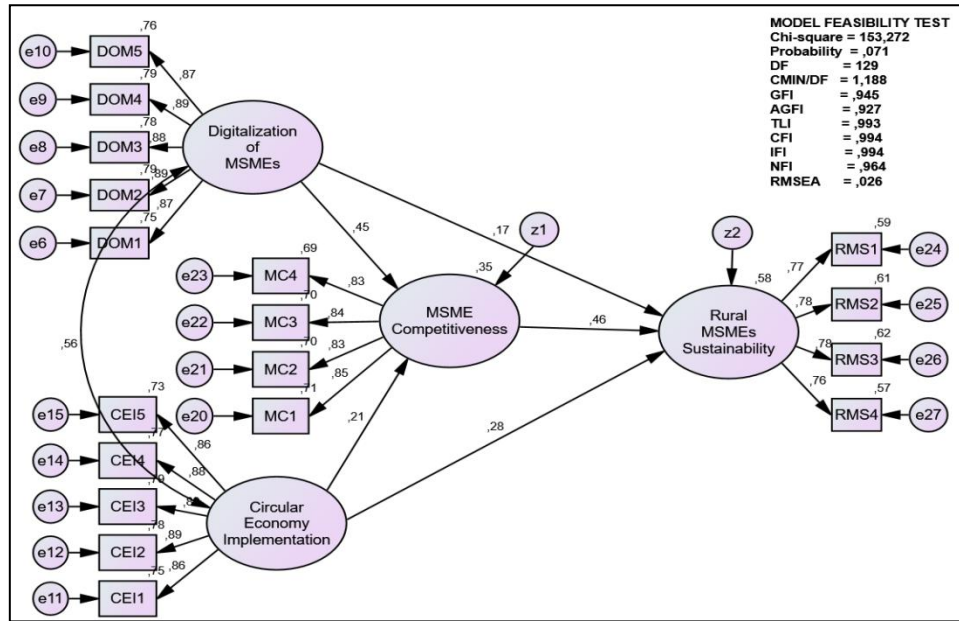
The test results also explain that the instrument has met a good discriminant validity. All constructs discussed in this study have a high discriminant validity value, because the value of the square root of AVE is above the correlation value between these constructs. Therefore, it can be concluded that as a whole the latent construct of the study is unique, has peculiarities and is able to capture the measured phenomenon.

4. Results and Discussion

4.1. Results of Data Analysis

The process of data analysis to test the hypothesis in this study using Structural Equation Modeling with AMOS program. The following is a full picture of the structural model and the goodness of fit table tested in this study.

Figure2. Full Structural Model Analysis



Source: processed data (2025)

Based on the full output image of the AMOS model presented in Figure 2, the results of data processing showed a good goodness of fit model (GoF) value, with most GoF parameter scores have met the rule of thumb required by statistical procedures. Feasibility testing of the model in this study is well supported, with probability 0.071, good CFI value (0.994), good NFI (0.964), good TLI (0.993), good GFI (0.945), and good RMSEA (0.026). Thus the model has fulfilled the goodness of fit.

Furthermore, the results of hypothesis testing by analyzing the significance of the estimated value, critical ratio, and probability values at the output of regression weight and standardized regression weight are presented in the following table.

Table 4
Hypothesis Testing Results

Hypothesis	Construct	Estimate	S.E.	C.R.	P	Result
H1	DOM → MC	0,346	0,053	6,483	***	Supported
H2	CEI → MC	0,168	0,054	3,091	0,002	Supported
H3	MC → RMS	0,389	0,058	6,696	***	Supported
H4	DOM → RMS	0,110	0,043	2,553	0,011	Supported
H5	CEI → RMS	0,189	0,044	4,338	***	Supported
H6	DOM → MC → RMS	Z-value= 2.38180465			***	Supported
H7	CEI → MC → RMS	Z-value= 2.51965007			***	Supported

DOM: Digitalization of MSMEs; CEI: Circular Economy Implementation; MC: MSMEs Competitiveness; RMS: Rural MSMEs Sustainability. (***) Significant $\leq 1\%$; (**) Significant $\leq 5\%$

Based on the results shown in Table 4, the critical ratio values for H1, H2, H3, H4 and H5 show greater than the cut-off value of 1.96, with a significance probability lower than 5%,

which means that the hypothesis is accepted or proven. Based on the calculation of the significance value of the role of the mediating variable using sobel test, the z value of 2.38180465 and 2.51965007 (z value > 1.96) with a significance level of 0.000, it can be concluded that the variable MSMEs Competitiveness plays a significant role in linking the digitalization of MSMEs and circular economy implementation to rural MSMEs sustainability.

4.2. Discussion

The results of this study show that all hypotheses are supported. The results of the first hypothesis test show that the use of digital technology in supporting circular MSME businesses has a significant effect on improving the competitiveness of MSMEs in the target market. Digitization of MSMEs has a positive effect on competitiveness, empirically proven. These results confirm that the use of digital technology is not just an operational tool, but a core strategy to strengthen competitive advantage. MSMEs that utilize digital platforms are able to streamline business processes, expand market access, and increase adaptation capacity to changes in consumer behavior. This supports the view that digitalization is a strategic asset that provides differentiation advantages, service quality, and agility in responding to market dynamics. Thus, digitalization is one of the main foundations to improve the competitiveness of rural MSMEs (Lu & Shaharudin, 2024; Saputra et al., 2024).

Furthermore, the findings confirm that implementing circular economy practices positively influences MSME competitiveness. This indicates that circular strategies not only improve resource efficiency but also strengthen MSMEs' market position amid growing demand for sustainability. Through waste recycling, energy conservation, and eco-friendly production, MSMEs can reduce costs while enhancing product appeal. These results support prior studies asserting that the circular economy functions not merely as an environmental initiative but as a strategic tool for competitiveness through product differentiation and enhanced reputation (Awad et al., 2025; Uvarova et al., 2019).

The study also verifies that competitiveness positively affects rural MSME sustainability, emphasizing that long-term sustainability requires strong competitive advantage. Highly competitive MSMEs are more resilient to market fluctuations, better at maintaining customer loyalty, and more capable of investing in green and socially responsible initiatives. Thus, competitiveness serves as a strategic link between short-term profitability and long-term economic, social, and environmental goals (Kwarteng et al., 2016). It also confirms that the strategy of increasing competitiveness is a key point for the sustainability of rural MSMEs in the midst of global competition.

The results of the study also strengthen digitalization has a positive effect on the sustainability of rural MSMEs. This indicates that the use of digital technology not only increases efficiency, but also creates long-term business resilience. Digitalization allows MSMEs to expand consumer reach, reduce distribution costs, and develop sustainable marketing strategies. Moreover, digitalization also supports access to partnership networks, funding sources, and information on environmentally friendly practices, all of which contribute to sustainability (Morris et al., 2022; Vide et al., 2022). These findings confirm that digital transformation is an important factor to ensure rural MSMEs remain relevant in an increasingly connected and technology-driven modern business landscape.

In line with that, this study also supports the implementation of a circular economy that has a positive effect on the sustainability of rural MSMEs. These results show that circular practices not only create efficiency, but also contribute directly to the dimension of sustainability. By reusing waste, reducing dependence on bakunew raw materials, and producing environmentally friendly goods, rural MSMEs not only preserve the environment, but also expand market opportunities. Circular practices also create a positive social impact through the creation of new jobs and the participation of local communities. Thus, the

implementation of a circular economy can be seen as a key strategy for rural MSMEs to achieve inclusive sustainability (Chaudhuri et al., 2022; Dey et al., 2022).

Furthermore, this study confirms that competitiveness mediates the influence of digitization on the sustainability of rural MSMEs. These findings make it clear that although digitization makes a direct contribution to sustainability, a greater impact emerges when it actually increases competitiveness. That is, the success of digitization is not only measured by the use of technology, but by the extent to which it is capable of generating sustainable competitive advantages. This finding also confirms that competitiveness is an important mechanism that strengthens the relationship between digital transformation and sustainability, so that the role of digitalization in rural MSMEs must always be directed at creating competitive added value (Lee & Falahat, 2019).

The results also prove that competitiveness mediates the effect of the application of circular economy on the sustainability of rural MSMEs. This means that circular practices provide the most optimal impact on sustainability when able to increase competitiveness. Utilizing the principles of reduce, reuse, recycle, and recover not only protects the environment, but also strengthens product differentiation and improves the reputation of MSMEs as responsible business actors. This reputation then strengthens the competitive position, thus enabling rural MSMEs to achieve sustainability in the economic, social, and environmental (Rochayatun et al., 2023). Thus, competitiveness can be viewed as an important bridge linking the circular economy to long-term sustainability.

Overall, the results of this study show a close relationship between digitalization, circular economy, competitiveness, and sustainability of rural MSMEs. All supported hypotheses affirm that sustainability strategies cannot be separated from simultaneous efforts to integrate digital transformation, circular practices, and strengthening competitiveness. This integration creates a holistic model that ensures rural MSMEs not only survive in competition, but also develop as inclusive, adaptive, and environmentally friendly business actors.

5. Conclusion

This study confirms that the sustainability of rural MSMEs is largely determined by the integration of digitalization strategies, the implementation of a circular economy, and strengthening competitiveness. All supported hypotheses prove that digitization and the circular economy not only have a direct effect on sustainability, but also strengthen it through competitive mediation mechanisms. This shows that competitiveness is a key variable that bridges the transformation of business strategies into a more inclusive, adaptive, and environmentally friendly business continuity.

Thus, the sustainability of rural MSMEs cannot be achieved only through economic efficiency alone, but must be accompanied by technology-based innovation, the application of circular principles, and an orientation to social and environmental value creation. These findings reinforce the Triple Bottom Line perspective, that the dimensions of profit, people, and planet can go hand in hand through an integrated business strategy. This research also provides a theoretical contribution in expanding the understanding of the role of competitiveness in the sustainability model, as well as offering practical guidelines for rural MSMEs to survive and grow in an increasingly competitive and sustainability-oriented business ecosystem.

5.1. Research implications

5.1.1. Theoretical Implications

The study contributes significantly to marketing management and MSME sustainability literature, especially in rural contexts. The confirmed hypotheses reinforce the Triple Bottom Line framework (Elkington, 1997a), showing that MSME sustainability depends not only on profit but also on social and environmental dimensions. Moreover, it provides empirical

evidence that digitalization and circular economy practices enhance sustainability, directly or through competitiveness. These findings advance the understanding of how digital and circular strategies integrate within competitiveness and sustainability theory, offering a foundation for new conceptual models in MSME management.

5.1.2. Managerial Implications

In practical terms, the results of this study provide real guidelines for rural MSMEs, government, and business support institutions. First, MSMEs need to view digitization as not just a means of technology, but as a key strategy to strengthen competitiveness as well as sustainability. Second, the application of circular economy principles should be encouraged as part of product innovation and resource efficiency, not just as an environmentally friendly practice. Third, the role of competitiveness should be the main focus, as it proves to be an important bridge linking digitalization and the circular economy with business sustainability. For the government and policymakers, these results underscore the need for support in the form of digital infrastructure, technology literacy, and incentives for sustainable business practices in rural areas. With these measures, rural MSMEs can be transformed into adaptive, innovative and sustainable business entities in the long term.

5.2. Acknowledgement

We would like to express our sincere gratitude to the *Kementerian Pendidikan Tinggi, Sains dan Teknologi (Kemdiktisaintek)* of the Republic of Indonesia, through the *Direktorat Penelitian dan Pengabdian kepada Masyarakat (DPPM)*, for their invaluable support and funding of this research. We hope that the outcomes of this study will contribute meaningfully to the advancement of the nation, the state, and global communities.

SEP

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THE INFLUENCE OF PERCEIVED QUALITY OF DIGITAL CONTENT AND DIGITAL ENGAGEMENT ON THE PERCEIVED ROLE OF DIGITAL MARKETING IN ENROLLMENT DECISIONS AT SMKPP JAKARTA.

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Abstract

This study aims to analyze the influence of Perceived Quality of Digital Content and Digital Engagement on the Perceived Role of Digital Marketing in students' Enrollment Decisions at SMK Pelayaran Pembangunan. The research employed a quantitative approach with a survey design. The population consisted of all 80 applicants to SMK Pelayaran Pembangunan, who were selected as the sample using a census method. Data were analyzed using multiple linear regression with classical assumption tests, including normality, linearity, and multicollinearity. The results showed that both independent variables had a positive and significant effect on the dependent variable, with $R = 0.862$, $R^2 = 0.744$, $F = 111.682$ ($\text{Sig} = 0.000$), and significant t -values for X_1 ($t = 2.898$; $\text{Sig} = 0.005$) and X_2 ($t = 7.074$; $\text{Sig} = 0.000$). This indicates that the better the quality of digital content and the higher the students' digital engagement, the stronger their perception of the role of digital marketing in enrollment decisions. The study emphasizes the importance of implementing engaging and interactive digital marketing strategies for educational institutions. The limitation of this research lies in its single-location scope; therefore, future studies are recommended to involve multiple institutions to enhance generalizability.

Keywords: *perceived quality of digital content, digital engagement, digital marketing, enrollment decisions*

1. Introduction

The development of digital technology has fundamentally transformed the way educational institutions interact with prospective students. In the context of vocational education, including maritime vocational schools (SMK Pelayaran), competition to attract new students no longer depends solely on the quality of facilities or academic reputation, but also on how well schools can build a strong presence and positive image through digital media. Today, prospective students and parents tend to search for, compare, and evaluate schools based on information available online, particularly through social media, official websites, and published digital content. Maritime vocational schools such as SMK Pelayaran Pembangunan Jakarta now face competition not only from other maritime schools but also from general vocational and senior high schools that implement more engaging and interactive digital marketing strategies. In this situation, a school's success is determined not only by the quality of education it offers but also by how effectively it can shape positive perceptions through strategic and effective digital marketing efforts.

The advancement of technology and the increasing use of social media have shifted marketing strategies from conventional methods to more digitally oriented approaches. (Kustian et al., 2025). This shift has become inevitable with the increasing penetration of the internet and social

media among teenagers. In the past, promotions were carried out through banners, brochures, and face-to-face exhibitions, whereas today, educational institutions utilize digital platforms such as Instagram, TikTok, YouTube, and official websites to introduce their educational programs. A study published in *Enrichment: Journal of Management* revealed that the implementation of digital marketing has a significant effect on increasing prospective students' interest in the admission process, as it provides information that is fast, interactive, and easily accessible. (Firmansyah & Siregar, 2025). In addition, the effectiveness of digital promotion through social media can significantly increase prospective students' engagement compared to conventional strategies, as social media enables two-way communication between schools and prospective students (Putra et al., 2025)

In this context, two main variables determine the effectiveness of digital marketing: perceived quality of digital content and digital engagement. Grönroos (1984) stated that customer perception—in this case, prospective students—of service quality consists of two main aspects: technical quality and functional quality. Technical quality refers to the evaluation of the core outcomes of the service provided, while functional quality relates to the manner in which the service is delivered. (Kustian & Sugiono, 2025). In the current era, delivering services through digital platforms has become a necessity. The perceived quality of digital content refers to the extent to which prospective students evaluate a school's promotional content as informative, relevant, engaging, and trustworthy. Well-crafted content—featuring student practical activities, maritime facilities, and alumni testimonials—has the potential to build a positive image and enhance the institution's credibility. High-quality digital content significantly strengthens positive perceptions of the educational institution and influences prospective students' interest in enrolling (Wijaya et al., 2023). Meanwhile, digital engagement describes the level of involvement of prospective students in interacting with content published by the school. This engagement may take the form of reading, liking, commenting, sharing, or following the school's account. A study published in the *Journal of Educational Management and Communication Science* found that active engagement on social media has a strong correlation with prospective students' enrollment decisions ($r = 0.72$; $p < 0.01$), indicating that digital interaction serves as an important indicator of the effectiveness of school marketing (Saksono & Sugiono, 2025).

However, most previous studies have primarily focused on the direct relationship between digital content quality or digital engagement and enrollment decisions, without considering the perceived role of digital marketing in the process. In fact, the perceived role of digital marketing is an important aspect that explains how prospective students view the effectiveness of digital marketing activities in assisting them with their enrollment decisions. This variable reflects the level of prospective students' awareness of the school's digital promotion efforts, their perception of its usefulness in providing relevant information, and their trust in the school's credibility through digital media. In other words, the perceived role of digital marketing in enrollment decisions serves as a bridge linking perceptions of digital content quality and engagement with prospective students' final decision to enroll..

The research gap arises from the limited number of studies that examine the simultaneous relationship between perceived quality of digital content, digital engagement, and the variable of perceived role of digital marketing in enrollment decisions. Most previous research has focused on universities or general higher education institutions rather than vocational education such as maritime vocational schools. As a result, the characteristics of prospective students in the maritime context—such as their orientation toward industrial practice, job security, and training facilities—have not been adequately represented. For instance, the study “*The Effect of Digital Marketing Strategy on Increasing Interest of New Students: A Case at Vocational High School in Sidoarjo*” demonstrated that digital marketing strategies significantly influence

prospective students' interest through visual content and alumni testimonials, although it did not explicitly examine the mediating role of perceived digital marketing (Zhafran, 2024).

Based on these considerations, this study seeks to provide empirical contributions to understanding how the perceived quality of digital content and digital engagement influence the perceived role of digital marketing in students' enrollment decisions at SMK Pelayaran Pembangunan Jakarta. This research also aims to fill the existing literature gap by presenting an empirical model that connects these three variables simultaneously and measurably, thereby enriching the study of educational marketing in the digital context. Practically, the findings of this study are expected to offer recommendations for schools to improve the quality and effectiveness of digital marketing through the delivery of more relevant, engaging, and interactive content, as well as to encourage active participation of prospective students in various school digital activities.

The novelty of this research lies in the integration of perceived quality of digital content and digital engagement as predictors of the perceived role of digital marketing in enrollment decisions—an area that has received limited attention in the context of maritime vocational education. This approach provides a new perspective on how schools' digital communication strategies contribute to shaping prospective students' perceptions of digital marketing effectiveness, which ultimately influences their enrollment decisions. Therefore, this study not only contributes theoretically to the development of digital educational marketing literature in Indonesia but also offers practical insights to enhance the competitiveness of SMK Pelayaran Pembangunan Jakarta in the era of digital transformation in education.

2. Hypothesis development

2.1. Perceived Quality of Digital Content (X_1)

Theoretically, the perception of digital content quality is rooted in Zeithaml's (1988) *Perceived Quality Theory*, which posits that consumers' evaluations of the quality of a product or digital information influence their decisions and trust toward a brand or institution. In the educational context, the quality of digital content reflects the extent to which prospective students perceive a school's promotional materials as informative, relevant, engaging, and credible.

Accurate and creatively presented digital content—such as showcasing students' practical training activities, maritime facilities, and alumni testimonials—can enhance the school's positive image and build prospective students' trust in the effectiveness of its digital marketing. Conversely, poor-quality content may reduce public trust and diminish interest in enrollment.

Quantitative research supports the significant role of content quality in influencing users' perceptions and decisions. For instance, Zhafran (2024), in *Edukasia: Jurnal Pendidikan dan Pembelajaran*, found that digital marketing strategies emphasizing visual content, profile videos, and alumni testimonials significantly increased students' interest in enrolling in vocational high schools (SMK) (Zhafran, 2024). Haryati and Safitri (2023), in the *Jurnal Pendidikan Ekonomi dan Kewirausahaan (JPEK)*, also demonstrated that the quality of content on social media has a positive effect on increasing the number of new students in vocational schools (Haryati & Safitri, 2025). At the higher education level, Hermawan and Bimo (2023), in the *Jurnal Ilmiah Manajemen, Ekonomi dan Akuntansi (MEA)*, showed that the quality of digital content influences students' decisions to choose a university through an increased perception of brand awareness. (Hermawan & Bimo, 2024).

These findings confirm that the perceived quality of digital content serves as an initial factor influencing how prospective students assess the role of a school's digital marketing. Therefore, the first hypothesis is proposed as follows:

H1: Perceived Quality of Digital Content has a positive effect on the Perceived Role of Digital Marketing in the Enrollment Decisions of prospective students at SMK Pelayaran Pembangunan Jakarta.

2.2. Engagement Digital (X_2)

Theoretically, digital engagement is rooted in *Engagement Marketing Theory* (Brodie et al., 2011), which emphasizes users' cognitive, emotional, and behavioral involvement in digital interactions with an organization. Engagement can be measured through activities such as reading content, commenting, liking, sharing, and participating in online events. The level of engagement reflects the extent to which the audience feels an emotional connection with the institution.

In the educational context, digital engagement represents the active participation of prospective students with a school's content on social media. The higher the engagement, the stronger the prospective students' perception of the school's credibility and attractiveness. Such interactions not only increase the school's visibility but also shape positive perceptions that the school's digital marketing plays an important role in assisting their enrollment decision-making process.

Saksono, Lalang, Edi Sugiono, Rahayu Lestari, Hasanudin, and Andini Nurwulandari conducted a study examining the relationship between digital engagement on social media and enrollment intention at Universitas Djuanda using quantitative and mixed-method approaches. The study found a strong correlation between digital engagement and prospective students' tendency to enroll (Saksono & Sugiono, 2025). Ahmad Juhaidi et al. conducted a quantitative study in Indonesia examining how activities on Instagram and user engagement influence enrollment intention (Juhaidi et al., 2024). These findings support the notion that digital engagement plays a crucial role in strengthening perceptions of the effectiveness of a school's digital marketing. Therefore, the second hypothesis is proposed as follows:

H2: Digital Engagement has a positive effect on the Perceived Role of Digital Marketing in the Enrollment Decisions of prospective students at SMK Pelayaran Pembangunan Jakarta.

2.3. Persepsi Peran Pemasaran Digital dalam Keputusan Pendaftaran (Y)

The perceived role of digital marketing in enrollment decisions describes the extent to which prospective students assess a school's digital marketing activities as factors influencing their decision to enroll. This concept is based on the *Technology Acceptance Model (TAM)* proposed by Davis (1989), which explains that users' perceptions of the usefulness and ease of use of digital technology affect their attitudes and decisions. In this context, prospective students who perceive that a school's digital marketing provides useful and convincing information are more likely to consider digital marketing as playing an important role in their enrollment decision.

Hermawan and Bimo (2023) stated that digital marketing positively influences students' decisions to choose a university through enhanced perceptions of usefulness and increased brand awareness (Hermawan & Bimo, 2024). Huda, Yusrita, and Elny (2023), in the *Jurnal Bisnis Mahasiswa*, found that the effectiveness of digital marketing directly increases the enrollment conversion rate of new students at Yayasan Pendidikan Islam Haji Masri Darul Ilmi Murni (Huda & Elny, 2024). Sari, Febriansyah, and Kamila (2024), in the *Journal of Education and Instruction (JOEAI)*, also showed that digital promotion and service quality simultaneously have a significant effect on the interest of prospective new students at SMK Laboratorium Global (Himayati et al., 2024).

These findings reinforce the idea that a positive perception of digital marketing plays an important role in students' enrollment decisions. Based on the relationships among the variables described above, the third hypothesis is formulated as follows:

H3: Perceived Quality of Digital Content and Digital Engagement simultaneously have a positive effect on the Perceived Role of Digital Marketing in the Enrollment Decisions of prospective students at SMK Pelayaran Pembangunan Jakarta.

2.4. Research Model

Based on the theoretical explanations and previous research findings discussed above, a research model can be formulated to illustrate the relationships among the studied variables: Perceived Quality of Digital Content (X_1), Digital Engagement (X_2), and the Perceived Role of Digital Marketing in Enrollment Decisions (Y). This research model demonstrates the direct influence of each independent variable on the dependent variable, both partially and simultaneously.

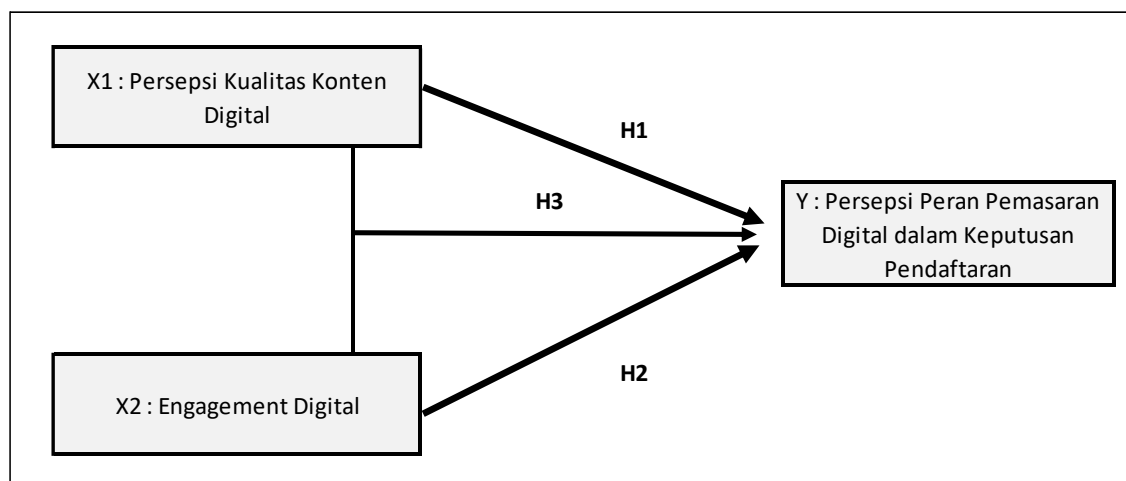


Figure 1. Research Model

3. Methodology

3.1. Sample and Data Collection

This study employs a quantitative approach with a causal associative design, which aims to determine the influence between two or more variables (Sugiyono, 2019). This approach was chosen because the research focuses on examining the causal relationships between the independent variables—Perceived Quality of Digital Content (X_1) and Digital Engagement (X_2)—and the dependent variable, namely the Perceived Role of Digital Marketing in Enrollment Decisions (Y), among prospective students at SMK Pelayaran Pembangunan Jakarta.

The population of this study consists of all students who registered at SMK Pelayaran Pembangunan Jakarta for the 2025/2026 academic year. Since the population size is manageable and the data to be collected represent the overall characteristics of the prospective students, data collection was conducted using the **census method**. According to Arikunto (2013), if the number of research subjects is fewer than 100, it is advisable to include the entire population as research respondents, which means applying a census method. Through this method, all prospective students who registered were involved as respondents by completing an online questionnaire prepared by the researcher.

3.2. Measurement

3.2.1. Perceived Quality of Digital Content (X_1)

The variable Perceived Quality of Digital Content (X_1) in this study is measured based on the theories of Content Marketing and Information Quality developed by Kotler & Keller (2016), Schindler & Burkholder (2020), and Chaffey & Ellis-Chadwick (2019). Conceptually, the quality of digital content refers to the extent to which users or prospective students perceive that the information presented through the school's digital channels (such as websites, social media, and promotional videos) is relevant, accurate, engaging, and trustworthy.

According to Kotler and Keller (2016), high-quality content is content that provides value to its audience through relevant information and visually appealing presentation. Meanwhile, Chaffey and Ellis-Chadwick (2019) emphasize that digital content quality includes clarity, credibility, and the ability of the content to meet users' informational needs. Therefore, this variable plays an essential role in shaping prospective students' positive perceptions of the school's digital marketing efforts.

The measurement instrument for the Perceived Quality of Digital Content variable was adapted and modified from indicators used in prior theories and studies related to digital information quality and content marketing. Adjustments were made to ensure the measurement context aligns with vocational education settings—particularly maritime vocational schools—which possess distinctive informational characteristics compared to general educational institutions.

The measurement indicators used for this variable include: (1) Relevance – the extent to which the school's digital content aligns with the prospective students' informational needs and interests, such as details about study programs, practical training activities, and career opportunities in the maritime field. (2) Clarity and Comprehensibility – the extent to which the content is delivered in easily understood language, avoids ambiguity, and communicates messages clearly; (3) Completeness of Information – the extent to which the content covers key aspects such as the school's profile, training facilities, tuition fees, curriculum, and graduates' career prospects; (4) Credibility and Accuracy – the extent to which the content is trustworthy, based on factual and valid data, and accurately represents the real conditions of the school; (5) Creativity and Visual Appeal – the extent to which the content employs engaging design elements, images, videos, and narratives (storytelling) that can attract the attention and interest of prospective students. (6) Consistency – the extent to which the messages and information presented across various digital channels (website, Instagram, TikTok, digital brochures, etc.) maintain thematic uniformity and regular publication frequency.

Each indicator is measured using a five-point Likert scale, with response options: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

3.2.2. Engagement Digital (X_2)

The variable Digital Engagement (X_2) in this study is measured based on the concept of *Customer Engagement* in the digital media context, as developed by Brodie et al. (2011), Hollebeek et al. (2014), and Kaplan & Haenlein (2010). Theoretically, digital engagement describes the extent to which individuals are cognitively, emotionally, and behaviorally involved in interactions through an organization's digital platforms. In the educational context, digital engagement reflects the involvement of prospective students with the school's promotional activities and content across various digital channels such as websites, Instagram, TikTok, YouTube, and other online communication platforms.

According to Brodie et al. (2011), engagement is not only measured through participatory activities such as commenting or sharing content but also includes an emotional dimension such as attachment and loyalty toward the digital entity. Hollebeek et al. (2014) expanded this concept by adding the aspect of *satisfaction* with the digital experience as a form of sustained

engagement. Meanwhile, Kaplan & Haenlein (2010) explain that the success of engagement in social media depends on the intensity of interaction and the active participation of users within a brand or institutional digital community.

In this study, the measurement of the Digital Engagement variable is adapted and modified from the *customer engagement* model commonly used in digital marketing contexts and adjusted to fit the vocational education environment, particularly prospective maritime vocational school students. The adaptation involves refining terms and behavioral indicators to be more relevant to the characteristics of prospective students.

The indicators used to measure Digital Engagement include: (1) Interaction, referring to the level of involvement of prospective students in responding to the school's digital content, such as asking questions, commenting, or reacting to posts on the school's social media platforms; (2) Active participation, referring to the willingness of prospective students to take part in the school's digital activities, such as webinars, virtual tours, online competitions, or sharing school content on their personal accounts; (3) Emotional connection, referring to the sense of emotional attachment, pride, and loyalty of prospective students toward *SMK Pelayaran Pembangunan Jakarta* that develops through their digital interaction experiences; (4) Engagement frequency, referring to how often prospective students access, like, share, or comment on the school's uploaded digital content; and (5) Digital experience satisfaction, referring to the extent to which prospective students feel satisfied with their digital interaction experiences, including aspects such as content appearance, accessibility, and the school's responsiveness through digital channels.

Each indicator is measured using a five-point Likert scale, with response categories as follows: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

3.2.3. *Perceived Role of Digital Marketing in Enrollment Decision (Y)*

The variable Perceived Role of Digital Marketing in Enrollment Decision (Y) in this study is measured based on the theory of the Perceived Role of Digital Marketing in the Consumer Decision-Making Process proposed by Kotler & Keller (2016) and Schiffman & Kanuk (2010). Theoretically, digital marketing plays a strategic role in shaping the perceptions of potential consumers — in this case, prospective students — regarding information, beliefs, and their final decision to choose an educational institution.

According to Kotler and Keller (2016), digital marketing significantly influences each stage of the consumer decision-making process, starting from need recognition, information search, evaluation of alternatives, to the final purchase or enrollment decision. Digital media enable prospective students to access information more quickly, broadly, and transparently. Meanwhile, Schiffman & Kanuk (2010) emphasize that the perception of the role of digital marketing is formed when potential consumers perceive that digital channels provide added value, convenience, and trust in their decision-making process.

In this study, the Perceived Role of Digital Marketing in Enrollment Decision refers to the extent to which prospective students of SMK Pelayaran Pembangunan Jakarta perceive that the school's digital marketing activities (through websites, social media, promotional videos, and digital campaigns) influence and support their decision to enroll.

The measurement instrument for this variable was adapted and modified from the concepts of the consumer decision-making process and digital marketing effectiveness based on the theories of Kotler and Schiffman, with adjustments made to fit the vocational maritime education context. These modifications ensure that the indicators align with the characteristics of prospective students who utilize digital media to seek school information.

The measurement indicators for this variable include: (1) Information accessibility, which refers to the extent to which the school's digital marketing facilitates prospective students in accessing information about study programs, facilities, tuition fees, and school activities; (2) Influence on decision-making, which measures how much prospective students perceive that the school's digital marketing activities affect their decision to enroll at *SMK Pelayaran Pembangunan Jakarta*; (3) Ease of comparison, referring to how easily prospective students can compare *SMK Pelayaran Pembangunan Jakarta* with other schools through the available digital content; (4) Support for confidence or trust, indicating the degree to which digital marketing content strengthens prospective students' belief in the school's credibility and quality, thereby fostering trust to enroll; (5) Effectiveness of digital channels, referring to how effective and efficient digital platforms such as the school website, Instagram, or YouTube are in delivering promotional information; and (6) Convenience and speed, which measures the extent to which digital marketing provides ease and speed in obtaining information and making enrollment decisions.

Each indicator is measured using a five-point Likert scale with response categories: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

3.3. Data analysis

3.3.1. Data Analysis Technique

Data analysis in this study was conducted using the Statistical Package for the Social Sciences (SPSS) version 22. The analysis stages included instrument validity and reliability testing, descriptive analysis, regression prerequisite testing, and hypothesis testing.

a. Validity and Reliability Tests

The validity test was conducted to determine the extent to which each item in the questionnaire could accurately measure the intended variable. The validity of each item was tested using the Pearson Product Moment correlation, with the criterion that an item is considered valid if the calculated *r-value* > the *r-table* at a significance level of 0.05 (Ghozali, 2018).

The reliability test aimed to ensure the consistency of respondents' answers to the instrument used. Reliability was assessed using the Cronbach's Alpha coefficient, where the instrument is considered reliable if the value of $\alpha \geq 0.70$ (Nunnally & Bernstein, 1994).

b. Descriptive Analysis

Descriptive analysis was employed to provide an overview of the respondents' characteristics and their responses to each research variable. The results of this analysis are presented in the form of frequency tables, mean values, and percentages to illustrate the overall data trends and distribution patterns.

c. Prerequisite Tests (Assumption Tests)

Before conducting hypothesis testing, several classical assumption tests were performed to ensure that the regression model met the required statistical criteria:

1. Normality Test, using the Kolmogorov–Smirnov method, with the decision criterion that the data are normally distributed if the significance value (Sig.) > 0.05 (Ghozali, 2018).
2. Linearity Test, conducted to determine whether the relationship between independent and dependent variables is linear. The relationship is considered linear if the significance value (Sig.) for Linearity < 0.05 and > 0.05 for Deviation from Linearity.
3. Multicollinearity Test, used to verify that there is no high correlation among independent variables. The model is considered free from multicollinearity if the Variance Inflation Factor (VIF) value < 10 and the Tolerance value > 0.10.

d. Hypothesis Testing

Hypothesis testing was conducted using multiple linear regression analysis, as the study involved two independent variables (X_1 and X_2) and one dependent variable (Y). The hypothesis tests consisted of the following stages:

1. Model Summary Test, which examines the coefficient of determination (R^2) to determine the extent to which the independent variables contribute to the dependent variable.
2. ANOVA (F-test), used to assess the simultaneous influence of X_1 and X_2 on Y . The effect is considered significant if the significance value ($Sig.$) < 0.05 .
3. Coefficient Test (t-test), conducted to examine the partial effect of each independent variable on the dependent variable. The effect is deemed significant if the significance value ($Sig.$) < 0.05 .

4. Results and discussion

The following are the results of the statistical tests carried out:

Table 1. Data Description

No	Descriptive Size	Perceived Quality of Digital Content (X1)	Engagement Digital (X2)	Perceived Role of Digital Marketing in Enrollment Decisions (Y)
1	Mode	80	64	80
2	Median	82,00	64,00	80,5
3	Mean	82,93	63,86	81,88
4	Baku Junction	11,500	9.863	13,243
5	Maximum	59	48	60
6	Varians	100	80	100

It can be explained that the Variable of Perceived Role of Digital Marketing in Enrollment Decision-Making among 80 respondents has a mean score of 81.88, median of 80.5, mode of 80, standard deviation of 13.243, minimum value of 60, and maximum value of 100.

The Digital Engagement Variable among 80 respondents has a mean score of 63.86, median of 64, mode of 64, standard deviation of 9.863, minimum value of 48, and maximum value of 80.

The Perceived Quality of Digital Content Variable among 80 respondents shows a mean score of 82.93, median of 82, mode of 80, standard deviation of 11.500, minimum value of 59, and maximum value of 100.

Table 2. Table of Data Normality Test Results

Test of Normality	Kolmogorov-Smirnov		
	Statistic	df	Itself.
Perceived Quality of Digital Content	0.087	80	0.200
Engagement Digital	0,094	80	0.075
Perceived Role of Digital Marketing in Enrollment	0.094	80	0.078

In the normality test, the results showed that the significance value of the Perceived Quality of Digital Content (X_1) variable was 0.200, the Digital Engagement (X_2) variable was 0.075, and the Perceived Role of Digital Marketing in Enrollment Decision-Making (Y) variable was 0.078.

Table 3. Linearity Test Results

			F	Itself.
Perceived Role of Digital Marketing in Enrollment Decisions * Digital Engagement	Between Groups	(Combined) Linearity	8,571	,000
		Deviation from Linearity	186,577	,000
			,831	,680

From the results of the linearity test, a Deviation from linearity value of 0.680 was obtained

Table 4. Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VR
(Constant)		
Perceived Quality of digital content	0,403	2,479
Engagement Digital	0.403	2,479

The results of the multicollinearity test showed that the Perceived Quality of Digital Content (X_1) variable had a tolerance value of 0.403 and a VIF of 2.479, while the Digital Engagement (X_2) variable also had a tolerance value of 0.403 and a VIF of 2.479.

Table 5. Model Summary

Model	R	R Square
1	0,862	0,744

The results of the calculation in the summary model table obtained an R value of 0.862 and R Square of 0.744.

Table 6. Anova

Model	F	Sig
Regression	111,682	0,000
Residual		
Total		

The results of the calculation in the Anova table obtained an F value of 111.682 and a Sig value of 0.000.

Table 7. Coefficient

Model	t	Sig
(Constan)	0,288	0,774
Perceived Quality of Digital Content	2, 898	0,005
Engagement Digital	7,074	0,000

The results of the calculation in the coefficient table, for the Percieved Quality of Digital Content variable (X₁) a t value of 2.898 and Sig 0.005 were obtained and for the digital engagement variable (X₂) a t value of 7.074 and sig 0.000.

4.1. Results of the Normality Test

The results of the normality test show that the Perceived Quality of Digital Content (X₁) variable has a significance value of 0.200, the Digital Engagement (X₂) variable has a significance value of 0.075, and the Perceived Role of Digital Marketing in Enrollment Decision (Y) variable has a significance value of 0.078. Since all significance values are greater than 0.05, it can be concluded that the data for all research variables are normally distributed..

4.2. Results of the Linearity Test

Based on the test results, the Deviation from Linearity value is 0.680. Since this value is greater than 0.05, it can be concluded that the relationship between the independent variables and the dependent variable in this study is linear..

4.3. Results of the Multicollinearity Test

The test results show that the Perceived Quality of Digital Content (X₁) variable has a Tolerance value of 0.403 and a VIF value of 2.479, while the Digital Engagement (X₂) variable also has a Tolerance value of 0.403 and a VIF value of 2.479. Both variables have Tolerance values greater than 0.10 and VIF values less than 10, indicating that there is no multicollinearity among the independent variables in the regression model.

Thus, the data meet the assumptions of normality, linearity, and multicollinearity, allowing the use of multiple linear regression analysis to examine the effects of Perceived Quality of Digital Content (X₁) and Digital Engagement (X₂) on the Perceived Role of Digital Marketing in Enrollment Decisions (Y).

4.4. Results of the Coefficient of Determination Test (R and R²)

The coefficient of determination test was conducted to determine the extent to which the independent variables could explain variations in the dependent variable. The values used to measure this are R (correlation coefficient) and R Square (coefficient of determination), as presented in the *Model Summary* table from the regression analysis results.

Based on the calculations, the R value is 0.862, indicating a very strong relationship between the independent variables — Perceived Quality of Digital Content (X₁) and Digital Engagement (X₂) — and the dependent variable, Perceived Role of Digital Marketing in Enrollment Decisions (Y).

Furthermore, the R Square value of 0.744 shows that 74.4% of the variation in the dependent variable (Y) can be explained by the two independent variables (X₁ and X₂), while the remaining 25.6% is explained by other factors not included in this research model.

Thus, the regression model used demonstrates a strong explanatory power in describing the relationship between the independent and dependent variables.

4.5. Results of the F-Test (Simultaneous Test)

The F-test was conducted to determine whether the independent variables simultaneously or collectively have a significant effect on the dependent variable. Based on the ANOVA table, the calculated F value is 111.682, with a significance value of 0.000. Since this significance value is smaller than 0.05, it can be concluded that, simultaneously, the independent variables — Perceived Quality of Digital Content (X_1) and Digital Engagement (X_2) — have a significant effect on the dependent variable, Perceived Role of Digital Marketing in Enrollment Decisions (Y).

4.6. Results of the t-Test (Partial Test)

The t-test was conducted to determine the extent to which each independent variable partially influences the dependent variable. Based on the results shown in the coefficients table, the following findings were obtained:

1. The variable Perceived Quality of Digital Content (X_1) has a t-value of 2.898 with a significance value of 0.005. Since the significance value is smaller than 0.05, it can be concluded that Perceived Quality of Digital Content has a significant effect on the Perceived Role of Digital Marketing in Enrollment Decisions (Y).
2. The variable Digital Engagement (X_2) has a t-value of 7.074 with a significance value of 0.000. This significance value is also smaller than 0.05, indicating that Digital Engagement has a significant effect on the Perceived Role of Digital Marketing in Enrollment Decisions (Y).

Thus, the results of the partial test indicate that both independent variables — Perceived Quality of Digital Content (X_1) and Digital Engagement (X_2) — each have a significant partial influence on the Perceived Role of Digital Marketing in Enrollment Decisions (Y).

4.7. Hypothesis Testing Results

Based on the results of the multiple linear regression analysis, the hypothesis testing shows that all hypotheses in this study are accepted.

The first hypothesis (H_1), which states that “*Perceived Quality of Digital Content has an effect on the Perceived Role of Digital Marketing in Enrollment Decisions*”, is accepted.

The second hypothesis (H_2), which states that “*Digital Engagement has an effect on the Perceived Role of Digital Marketing in Enrollment Decisions*”, is accepted.

The third hypothesis (H_3), which states that “*Perceived Quality of Digital Content and Digital Engagement simultaneously affect the Perceived Role of Digital Marketing in Enrollment Decisions*”, is also accepted.

Overall, these results confirm that both Perceived Quality of Digital Content and Digital Engagement have a significant influence, both partially and simultaneously, on the Perceived Role of Digital Marketing in Enrollment Decisions, thus supporting and validating all the research hypotheses.

5. Conclusion

Based on the data analysis conducted, this study demonstrates that digital marketing plays a crucial role in influencing students’ decisions to enroll in vocational maritime schools. Specifically, perceptions of digital content quality and the level of digital engagement were found to significantly contribute to the perceived role of digital marketing in the enrollment decision-making process.

The results of classical assumption tests indicated that the data were normally distributed, the relationships between variables were linear, and there was no multicollinearity in the regression

model. These findings confirm that the data are suitable for further analysis using multiple linear regression.

From the regression results, the correlation coefficient (R) was 0.862 and the coefficient of determination (R^2) was 0.744. This indicates that 74.4% of the variation in students' perceptions of the role of digital marketing in enrollment decisions can be explained by the variables of perceived digital content quality and digital engagement, while the remaining 25.6% is influenced by other factors not included in this study.

The F-test results showed an F value of 111.682 with a significance of 0.000, indicating that simultaneously, perceived digital content quality and digital engagement have a significant effect on the perceived role of digital marketing in enrollment decisions. Meanwhile, the t-test results showed that both independent variables also have significant partial effects: perceived digital content quality had a t value of 2.898 (significance = 0.005), and digital engagement had a t value of 7.074 (significance = 0.000).

These findings suggest that the better the quality of digital content presented and the higher the level of digital engagement experienced by prospective students, the more positive their perception of the role of digital marketing in influencing their enrollment decisions. This underscores the importance of informative, engaging, and interactive digital marketing strategies in enhancing interest and confidence among prospective students, particularly in the maritime education sector.

5.1. Research implications

The findings of this study provide important implications for vocational educational institutions, particularly maritime schools, in designing more effective digital marketing strategies. The results showing that perceived digital content quality and digital engagement significantly influence prospective students' perceptions of the role of digital marketing indicate that the success of educational promotion today largely depends on how institutions deliver an attractive, informative, and interactive digital experience.

Practically, educational institutions are advised to optimize the quality of digital content by focusing on information clarity, visual appeal, relevance of the material, and consistency of messaging across multiple digital platforms. Content that highlights the school's strengths, alumni testimonials, educational facilities, and career opportunities in the maritime sector can enhance trust and interest among prospective students. In addition, strategies to increase digital engagement should aim at fostering two-way interactions between the school and prospective students, such as through online Q&A sessions, educational webinars, short video content on social media, and quick, friendly responses through digital communication channels.

For school administrators, these results also serve as a basis to evaluate the effectiveness of existing digital marketing strategies and make adjustments based on the evolving digital behavior of young audiences. The rapidly changing digital environment requires innovation in promotional approaches that not only disseminate information but also build emotional connections and engagement between prospective students and the institution's identity.

For future research, it is recommended to include additional variables that provide a more comprehensive view of factors influencing student enrollment decisions, such as institutional image, trust in the school's reputation, or peer influence through social media. Subsequent studies could also expand the population by involving more maritime vocational schools across different regions, thereby increasing the generalizability of the findings.

5.2. Limitations of Research and Suggestions

This study has several limitations that should be considered as reflections for future research.

Although the analysis results indicate a significant influence of perceived digital content quality and digital engagement on the perceived role of digital marketing in enrollment decisions, the study is limited to respondents who registered at a single maritime educational institution. This scope means that the findings may not fully reflect the diversity of perceptions among prospective students from different regions or similar institutions in Indonesia. Therefore, future research is expected to involve a broader population to enhance the generalizability of the results.

Additionally, data collection was conducted through online questionnaires based on perceptions, making responses highly dependent on the honesty and understanding of the respondents regarding the questions asked. The quantitative approach used in this study is also limited in exploring in-depth the personal motives and considerations of students in the decision-making process to enroll in a maritime school. Subsequent research could consider a mixed-methods approach, incorporating interviews or focused group discussions to gain deeper insights into the psychological and social factors influencing these decisions.

Regarding variables, this study focused only on two main aspects: perceived digital content quality and digital engagement. However, enrollment decisions may also be influenced by other factors such as institutional reputation, family influence, tuition costs, or trust in information obtained from digital media. Future researchers are encouraged to expand the research model by including these variables to provide a more comprehensive and in-depth understanding.

Despite these limitations, this study contributes valuable insights for the development of digital marketing strategies in vocational educational institutions, particularly in the maritime sector. By considering both the findings and limitations, educational institutions are encouraged to continue innovating in leveraging digital technology as a primary tool to attract young generations to pursue careers in maritime fields.

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INFLUENCE OF COMPENSATION, WORK ENVIRONMENT, AND QUALITY OF HUMAN RESOURCES THROUGH JOB SATISFACTION ON EMPLOYEE PERFORMANCE.

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Abstract

This research was carried out to analyze the influence of compensation, work environment and quality of human resources through job satisfaction on employee performance. The research sample consisted of 124 people with simple random sampling. The research approach is a quantitative method. The data collection technique was carried out using interviews and closed questionnaires with an interval scale of 1 to 5. The data analysis technique used SmartPLS 4. Research findings show that compensation and the work environment do not have a positive and significant effect on job satisfaction. Meanwhile, the quality of human resources has a positive and significant effect on job satisfaction. Compensation and the environment also do not have a positive and significant effect on employee performance, while the quality of human resources has a positive and significant effect on employee performance. Compensation and work environment do not have a positive and significant effect on employee performance through employee job satisfaction, while the quality of human resources has a positive and significant effect on employee performance through employee job satisfaction.

Keywords: Compensation, Employee Performance, Job Satisfaction, Quality of Human Resources, Work Environment.

1. Introduction

In the landscape of rapid globalization and technological development, an organization's capability to survive and achieve its goals is highly dependent on the quality of adaptation and the effectiveness of its human resources (HR). HR is a strategic asset and a primary determinant of success, making holistic HR management—encompassing planning, development, and maintenance—crucial for achieving the organization's competitive advantage (Panggabean, 2002; Handoko, 2012).

The Provincial Government of DKI Jakarta, through the Department of Industry, Trade, Cooperatives, and Small and Medium Enterprises (Dinas Perindustrian Perdagangan Koperasi Usaha Kecil dan Menengah - PPKUKM), plays a vital role in advancing the regional economy, particularly following the merger of two agencies in 2020. The increasingly broad scope of duties and the focus on contemporary issues, such as the digitalization of SMEs and the creative industry, necessitate high-performing HR. Three main factors traditionally considered important in supporting performance are Compensation, Work Environment, and HR Quality (Chelangat & Gachunga, 2016; Armstrong & Brown, 2006; Ferawati, 2017).

The average employee performance rating at SUDIN PPKUKM (Sub-department for Cooperative, Small, and Medium Enterprises, and Trade) for 2020 was 88.0% (Very Good). Despite this high rating, it represented a slight decrease from the previous year, 2019, which

stood at 88.8%. The decline continued in 2021, falling to 79.6% (Good). However, performance rebounded significantly in 2022 to 89.0% (Very Good), before experiencing another slight decrease in 2023 to 87.8% (Very Good). Based on these figures, the employee performance at SUDIN PPKUKM remains categorized as Good since it consistently falls within the 70% to 90% range. Nevertheless, a closer review reveals that employee performance has been fluctuating over the 2020–2023 period. This persistent volatility suggests that the instability may stem from issues within the Human Resources Management practices at SUDIN PPKUKM East Jakarta.

2. Hypothesis development

Concurrently, the HR management literature reveals a theoretical gap (research gap) concerning the direct influence of performance-driving factors. Some studies support the significant role of Compensation and Work Environment in improving employee performance (Suhardi, 2017; Sinollah, 2014; Wahyudi & Suryono, 2006; Nurlaila, 2018), while other research finds the opposite—a non-influence or insignificant effect of these variables (Lakoy, 2013; Agung Aditya Saputra, 2021; Arianto, 2013; Setiawan, 2018). A similar contradiction occurs with HR Quality, where some studies show a significant positive effect on performance (Nopri Apriansyah & Mukran Roni, 2023; Lukma Hasi, Masur & Abdul Khalik, 2022; Deksa Nur Oktaviani, M Aziz Firdaus & Widhi Aryi Bimo, 2020), while others find conflicting results (Sibagarin, 2013). This discrepancy suggests that the influence of independent variables on performance may not be direct but rather mediated by internal employee psychological factors.

To bridge both the empirical gap (performance fluctuation) and the theoretical gap (contradictory research findings), this study proposes Job Satisfaction as a mediating variable. Job satisfaction, defined as a positive emotional state and a pleasurable evaluation of one's job (Hasibuan, 2010; Robbins, 2015), is considered a critical predictor that determines how external incentives (Compensation and Work Environment) and internal capabilities (HR Quality) can be translated into optimal Performance.

Therefore, the novelty of this research lies in testing the mediating model of Job Satisfaction within the context of a recently restructured regional government organization (SUDIN PPKUKM DKI Jakarta). The state of the art of this study is presenting empirical evidence regarding the psychological role of Job Satisfaction as a bridge explaining the effect of Compensation, Work Environment, and HR Quality on Employee Performance.

1. Compensation is an important factor influencing the increase in employee job satisfaction. Rahayu & Pramularso (2019) show that compensation has a positive and significant effect on employee job satisfaction. When the compensation provided is good, it has a positive impact on job satisfaction.
H1: Compensation has a positive and significant effect on Employee Job Satisfaction.
2. Work Environment is one of the important factors influencing the increase in employee job satisfaction. The better the work environment, the greater the increase in Employee Job Satisfaction.
H2: Work Environment has a positive and significant effect on Employee Job Satisfaction.
3. Human Resource Quality (HR Quality) is an important factor for increasing employee job satisfaction. The better the HR quality, the better the employee job satisfaction will be and the organizational goals will be achieved effectively.
H3: HR Quality has a positive and significant effect on Employee Job Satisfaction.
4. Compensation is an important factor influencing the increase in employee performance. Eko Muryanto (2011) explains that compensation has a positive and significant effect on employee performance.
H4: Compensation has a positive and significant effect on Employee Performance.
5. Work Environment is one of the important factors influencing the increase in employee job satisfaction. According to Sihotang (2020), the work environment has a positive and

significant effect on employee performance when viewed simultaneously. The better the work environment, the greater the increase in employee performance.

H5: Work Environment has a positive and significant effect on Employee Performance.

6. HR Quality is an important factor influencing the increase in employee performance. Winedar et al. (2019) in their research state that HR quality has a positive and significant effect on employee performance. Employees who have good HR quality will perform well and help achieve company goals.

H6: HR Quality has a positive and significant effect on Employee Performance.

7. Perkasa, Mariah, & Ajis (2019) found that compensation has a positive effect on employee performance, and job satisfaction also has a positive effect on employee performance. Both together significantly influence employee performance. This is reinforced by research conducted by Fauzi (2014) which shows that job satisfaction not only directly affects performance but also strengthens the relationship between compensation and employee performance. This suggests that employees who are satisfied with the compensation received tend to show better performance.

H7: Compensation has a positive and significant effect on Employee Performance through Job Satisfaction.

8. A good work environment can influence employee performance and thus increase employee job satisfaction. Research by Rohmah (2018) shows that the work environment has a positive and significant effect on employee performance, with job satisfaction as a mediating variable. H8: Employee Work Environment has a positive and significant effect on Employee Performance through Employee Job Satisfaction.

9. Good HR quality can increase employee job satisfaction and influence employee performance. H9: HR Quality has a positive and significant effect on Employee Performance through Job Satisfaction.

10. When job satisfaction increases, employee performance will also increase. Research by Juniantara and Riana (2015) shows that job satisfaction has a positive and significant effect on employee performance, which is reinforced by research by Supiyanto (2015) which also shows that job satisfaction has a positive effect on employee performance, but with a different level of significance.

H10: Job Satisfaction has a positive and significant effect on Employee Performance.

2.1. Research Model

This study proposes that Compensation, Work Environment, and HR Quality positively influence Employee Performance, both directly and indirectly. We hypothesize that these three factors initially contribute to increased Job Satisfaction, which then serves as a critical mediator in translating organizational inputs into high Employee Performance. The overall conceptual framework is developed to test these ten relationships.

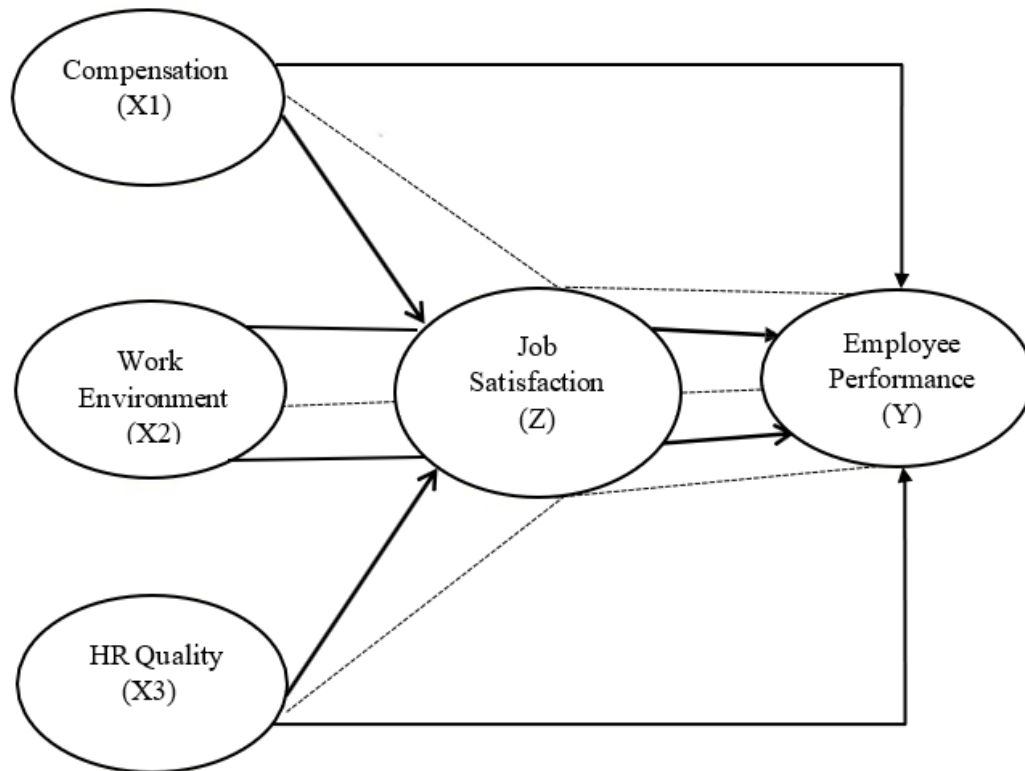


Figure 1. Research Model

3. Methodology

3.1. Sample and Data Collection

This study employs a quantitative descriptive research design using the survey method to provide a precise description and explanation of the relationships between the variables studied (Sugiyono, 2022). The research utilizes Primary Data, which were collected directly by the researcher from the field (Widagdo et al., 2021). This data comprises responses gathered through questionnaires distributed to employees of the Sub-Department of Industry, Trade, Cooperatives, Small and Medium Enterprises (Suku Dinas Perundistrian, Perdagangan, Koperasi, Usaha Kecil Dan Menengah - SUDIN PPKUKM) in East Jakarta. The population of this study is the 180 employees at SUDIN PPKUKM East Jakarta. The sampling technique used is the Slovin formula to determine the appropriate sample size, resulting in a minimum of 124 respondents. The sampling criteria focused on active employees within the institution. The questionnaires were administered to these selected respondents to ensure that the data collected were first-hand and relevant to the research variables.

3.2. Measurement

All variables Compensation (X1), Work Environment (X2), HR Quality (X3), Job Satisfaction (M), and Employee Performance (Y), were measured using a 5 point Likert scale questionnaire where each respondent is asked to provide an assessment ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). with instruments adapted from established academic sources and tested for validity and reliability prior to core analysis.

3.3. Data analysis

This study employed Structural Equation Modeling (SEM), utilizing its Partial Least Squares (PLS) method, to analyze the collected quantitative data. The analysis encompassed two core

procedures for testing causal relationships: Direct Hypothesis Testing and Mediation Hypothesis Testing (Sobel Test). Direct testing determined the significant influence of the exogenous variables (X1, X2, X3) on both the mediating variable (Z) and the endogenous variable (Y), as well as the influence of Z on Y. An alternative hypothesis (H1) was supported when the T-Statistic value exceeded the critical threshold (e.g., 1.657 or 1.96). Subsequently, the Sobel Test was used to formally assess the indirect effect of the mediating variable (Z). Mediation was deemed significant if the calculated Z-value, derived from the regression coefficients (a and b) and their standard errors, surpassed 1.96. Collectively, these procedures provided a statistical verification of both the direct paths and the mediated mechanism within the structural model.

4. Results and discussion

The Convergent Validity test was conducted as a crucial step to ensure that the research instruments (questionnaires) used are capable of measuring the intended constructs. This test was performed using the Partial Least Squares (PLS) approach and evaluated through the Average Variance Extracted (AVE) value. Based on the literature, the convergent validity of a latent variable is considered satisfactory if its AVE value exceeds 0.5 (Hair et al., 2019). The test results indicate that all latent variables in this study have met the requirements for good convergent validity. The Job Satisfaction variable yielded an AVE value of 0.609, Employee Performance 0.598, Compensation 0.600, Human Resources Quality 0.651, and Work Environment 0.620. As all AVE values are above the 0.5 threshold, it can be concluded that the indicators measuring these five latent variables are declared valid.

Table 1. Convergence Validation Test

	Average Variance Extracted (AVE)	Description
Job Satisfied	0,609	Valid
Employee Performance	0,598	Valid
Compensation	0,600	Valid
HR Quality	0,651	Valid
Work Environment	0,620	Valid

Source: Research results (2025)

In detail, the Compensation variable, measured by seven items, had an AVE of 0.600 and cumulatively accounted for 60% of the variance in its measurement items, with outer loadings ranging from 0.742 to 0.842. The Work Environment variable, with an AVE of 0.620, accounted for 62% of the variance, and its seven measurement items had outer loadings between 0.709 and 0.803. The Human Resources Quality variable showed the highest AVE value at 0.651, accounting for 65.1% of the item variance with outer loadings between 0.727 and 0.833. Meanwhile, the Employee Job Satisfaction variable had an AVE of 0.609 (60.9% contribution) with outer loadings between 0.775 and 0.816, and the Employee Performance variable had an AVE of 0.598 (59.8% contribution) with outer loadings between 0.771 and 0.860. All item outer loadings were above the required limit. Thus, these results confirm that each measurement item adequately reflects its respective construct, and overall convergent validity is achieved.

Table 2. Fornell larcker Criterion

	Job Satisfied	Employee Performance	Compensation	HR Quality	Work Environment
Job Satisfied	0,781				
Employee Performance	0,446	0,773			
Compensation	0,439	0,809	0,775		
HR Quality	0,409	0,748	0,834	0,807	
Work Environment	0,473	0,795	0,887	0,693	0,787

Source: Research results (2025)

The Fornell-Larcker Criterion mandates that the square root of the Average Variance Extracted (AVE)—representing the variable's self-correlation—must be greater than the correlations with any other latent constructs. The results consistently supported this criterion; for instance, the Job Satisfaction variable's AVE square root (0.781) significantly exceeded its highest inter-construct correlation (0.473 with Work Environment). This outcome confirms sufficient conceptual isolation among the variables. Second, the Cross-Loadings analysis further validated the findings by demonstrating that every indicator exhibited its highest loading factor on its intended construct, rather than any competing construct. For example, indicator K1 loaded highest at 0.842 on Job Satisfaction, far surpassing its largest cross-loading of 0.409 on Work Environment.

Table 3. Construct Reliability And Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Job Satisfied	0,895	0,914	0,916	0,609
Employee Performance	0,904	0,910	0,922	0,598
Compensation	0,916	0,918	0,931	0,600
HR Quality	0,910	0,913	0,929	0,651
Work Environment	0,898	0,900	0,919	0,620

Source: Research results (2025)

Based on the testing results, the construct reliability in this research model is proven to be excellent and highly adequate for further analysis, as measured by Cronbach's Alpha and Composite Reliability. The internal consistency for all latent variables surpasses the academically accepted threshold of 0.7. The Composite Reliability values for all variables range from 0.916 to 0.931, indicating a high degree of consistency with which the measurement indicators reflect their respective constructs. Similarly, the Cronbach's Alpha values also demonstrate strong reliability, with the lowest value, Job Satisfaction, still reaching 0.895 (well above 0.7), confirming the excellent internal consistency of the questionnaire items. Furthermore, the Average Variance Extracted (AVE) values for all constructs also exceed 0.5 (ranging from 0.598 to 0.651), which concurrently strengthens this reliability finding. Therefore, it is concluded that the research instrument utilized possesses high measurement consistency and accuracy (highly reliable), ensuring that the collected data are stable and

reliable for testing the research hypotheses.

Table 4. Coefficient of Determination (R^2)

	R Square	R Square Adjusted
Job Satisfied	0,712	0,704
Employee Performance	0,825	0,819

Source: Research results (2025)

The Coefficient of Determination (R^2) analysis reveals a significant difference in the predictive power across the dependent variables. The mediating variable, Job Satisfaction, is only explained by 7.12% ($R^2 = 0.0712$) collectively by Compensation, Work Environment, and Human Resources Quality, implying that 92.88% of its variance is influenced by factors external to the model. Conversely, the main dependent variable, Employee Performance, demonstrates a strong and substantial predictive power with an R^2 value of 0.825 or 82.5%. This figure indicates that 82.5% of the variance in Employee Performance is successfully explained jointly by the exogenous and mediating variables within the model, with only 17.5% attributed to other unobserved factors. Consequently, while the model is highly effective and has substantial relevance in predicting Employee Performance, its explanatory power for Job Satisfaction is low.

Table 5. Model Fit

	Saturated Model	Estimated Model
SRMR	0,132	0,132
d_ULS	22,161	22,161
d_G	n/a	n/a
Chi-Square	12925,878	12925,878
NFI	0,210	0,210

Source: Research results (2025)

The model's overall fit is mixed. The Standardized Root Mean Square Residual (SRMR) value of 0.069 is low (below the threshold of 0.08), indicating a good fit between the model and the data. However, the Normed Fit Index (NFI) value of 0.210 is considerably below the ideal criterion of 0.90, suggesting the model's structure is suboptimal and requires significant improvement to achieve an ideal fit relative to the null model.

Table 6. *T Statistic Test*

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Job Satisfaction-> Employee Performance	0,030	0,031	0,044	0,676	0,500
Compensation -> Job Satisfaction	0,088	0,096	0,069	1,264	0,207
Compensation -> Employee Performance	0,204	0,213	0,089	2,298	0,022
HR Quality-> Job Satisfaction	0,249	0,251	0,088	2,821	0,005
HR Quality-> Employee Performance	0,656	0,646	0,100	6,567	0,000
Work Environment -> Job Satisfaction	0,837	0,852	0,091	9,186	0,000
Work Environment -> Employee Performance	-0,228	-0,255	0,110	2,069	0,039

Source: Research results (2025)

Based on the T-Statistic test results, out of the total seven hypotheses examined, five relationships between variables showed T-Statistic values greater than 1.657 (the one-tailed criterion for hypothesis acceptance), leading to the acceptance of five hypotheses. Conversely, the remaining two relationships had T-Statistic values lower than 1.657, indicating that two hypotheses were rejected. Overall, this finding demonstrates that the majority, or five out of seven, of the hypothesized causal relationships within the research model received significant statistical support.

Table 7. Predictive relevance (Q^2)

	SSO	SSE	$Q^2 (=1 - SSE/SSO)$
Job Satisfaction	868,000	868,000	
Employee Performance	992,000	992,000	
Compensation	1116,000	1116,000	
HR Quality	868,000	474,841	0,453
Work Environment	868,000	444,399	0,488

Source: Research results (2025)

The Predictive Relevance (Q^2) test indicates that the research model possesses good predictive capability. All variables yielded Q^2 values greater than zero (0), confirming the model's predictive relevance. Specifically, the Human Resources Quality variable scored 0.453 and the Work Environment variable scored 0.488. These positive values affirm the model's ability to accurately replicate and predict the observed information within the data, thereby establishing the model as predictively relevant.

4.1. Discussion

The data analysis using Structural Equation Modeling (SEM) confirmed most, though not all, of the proposed hypotheses. Specifically, the study found that the Work Environment and Human Resources (HR) Quality both demonstrated a positive and significant effect on Employee Job Satisfaction H2 and H3 accepted). This indicates that contextual factors and

individual competence are the primary drivers of satisfaction within this organization. However, notably, Compensation (H1) did not have a significant effect on Job Satisfaction, suggesting that compensation has reached an acceptable threshold (hygiene factor), and non-financial factors are more dominant in determining employee contentment. Regarding Employee Performance, the findings reveal a complex relationship. Compensation (H4) and HR Quality (H6) both showed a positive and significant effect on Performance, reinforcing the view that investment in financial incentives and competency development are effective strategies for improving work output. However, a contradiction emerged: the Work Environment (H5) demonstrated a negative and significant effect on Performance, while Job Satisfaction (H10) had no significant effect on Performance. This disparity suggests that within SUDIN PPKUKM, a perceived positive work atmosphere or emotional satisfaction may not align with, or may even impede, optimal performance achievement.

The mediation test solidified the non-significant role of Job Satisfaction as a bridge. Job Satisfaction failed to mediate the relationship between Compensation (H7) and Work Environment (H8) on Performance. Crucially, however, Job Satisfaction acted as a negative partial mediator (suppressor effect) in the relationship between HR Quality -Employee Performance (H9). Academically, this finding is vital, as it indicates that while HR Quality directly drives performance, Job Satisfaction actually weakens or suppresses this positive effect. This implies that being satisfied in this organizational context might mean being comfortable or stagnant rather than being motivated, consequently failing to transform the potential of HR (HR Quality) into superior work performance. Therefore, performance drivers must prioritize structural and competency aspects over merely fostering feelings of contentment.

5. Conclusion

The main argument of this study was to examine the direct and indirect influences of Compensation, Work Environment, and HR Quality on Employee Performance, mediated by Job Satisfaction. The analysis concludes that the relationship between these factors is highly specific and nuanced within the SUDIN PPKUKM East Jakarta context. Specifically, while HR Quality is confirmed to be a potent force, exhibiting a positive and significant impact on both Job Satisfaction and Employee Performance, other factors are less effective. Both Compensation and the Work Environment were found to have no positive and significant effect on either Job Satisfaction or Performance. Crucially, although Job Satisfaction itself was found to be a significant positive predictor of Performance, it consistently failed to mediate the relationship between Compensation and the Work Environment towards Performance. The overall conclusion, therefore, underscores the dominance of individual competence (HR Quality) as the primary organizational driver of both employee well-being and productivity, independent of, or even despite, the effects of compensation systems and work setting.

5.1. Research implications

Practically, these findings mandate that management prioritize strategic investment in HR Quality enhancement (training and development), as this is the most reliable path to better performance and satisfaction. The non-significant role of Compensation and the Work Environment signals that while these systems must be maintained to prevent dissatisfaction, they should not be relied upon as motivational tools. Theoretically, the study contributes a novel finding regarding the failure of Job Satisfaction to mediate key inputs, suggesting a need for institutional intervention to ensure employee contentment actively fosters, rather than suppresses, the pursuit of superior performance.

5.2. Limitations of Research and Suggestions

The research is limited by its single-site focus (SUDIN PPKUKM East Jakarta), restricting the generalizability of the findings, and its reliance on cross-sectional data which limits causal certainty. For future research, it is highly recommended to replicate this model in a wider range of public sector organizations and to integrate qualitative inquiry to uncover the nuanced reasons behind the ineffectiveness of Compensation and Work Environment. Furthermore, incorporating contextual variables like leadership style is advised to better understand their potential moderating role.

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FROM FRAGMENTATION TO CONSOLIDATION: EVALUATING THE IMPACT OF THE MEGA MERGER ON THE PERFORMANCE OF INDONESIAN ISLAMIC BANKS THROUGH THE DUPONT LENS

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Abstract

This research examines Bank Syariah Indonesia (BSI) financial performance prior to and subsequent to its 2021 mega merger that unified three prominent state-owned Islamic banks. Using the DuPont Analysis framework, the study decomposes Return on Equity (ROE) to examine shifts in pre-merger and post-merger profitability, efficiency, and leverage. An increase in profitability post-merger is revealed by analysis, evidencing emerging operating synergies and initial efficiency benefits. Yet shifting asset utilization and leverage suggest that merger effects are still unfolding. In general, the results confirm that the merger has solidified the basis for lasting development, while synergy benefit maximization is a continuous process.

Keywords: Islamic banks, DuPont analysis, mega merger, profitability, efficiency, leverage

1. Introduction

Banking plays a vital role in a nation's economy as a financial intermediary that channels funds from surplus to deficit units, thereby supporting investment and growth. In Indonesia, the banking sector entered a new phase of development in 1991 with the establishment of Bank Muamalat Indonesia, the country's first Islamic bank. This milestone marked the beginning of Indonesia's Islamic banking industry, which has since evolved into one of the most dynamic segments of the national financial system.

Over the past decade, Indonesia's Islamic banking industry has shown consistent and accelerating growth, often surpassing that of conventional banks. According to data released by the Financial Services Authority (Otoritas Jasa Keuangan – OJK) as of November 2020, Islamic commercial banks recorded asset growth of 52.44% since 2016, with an average growth per book category of 64.49%, whereas conventional commercial banks only achieved 33.82% growth in assets with an average of 3.61% per book category over the same period. Notably, during the COVID-19 pandemic, Islamic banks demonstrated remarkable resilience, growing 10% year-on-year as of July 2020—almost double the growth rate of conventional banks at 5.5% (Merdeka, 2020). These indicators reflect the robust performance, stability, and growing appeal of Islamic banking in Indonesia, which is increasingly viewed as a sector capable of outperforming its conventional counterparts.

In line with these developments, three leading state-owned Islamic banks—Bank Syariah Mandiri, BNI Syariah, and BRI Syariah—executed a landmark mega merger on February 1, 2021, forming Bank Syariah Indonesia (BSI). This consolidation was the largest in the history of Indonesia's Islamic finance industry. As reported by Moody's Investors Service (Kompas, 2020), the merger was expected to create an Islamic financial entity with greater economic scale, enhanced efficiency, and stronger capacity to serve both domestic and global

markets. In addition, the merger was projected to strengthen demand for sharia-compliant products, facilitate broader access to the global sukuk market, and increase the international competitiveness of Indonesia's Islamic banking sector.

The formation of Bank Syariah Indonesia represents a strategic transformation from a fragmented landscape of small- and medium-scale Islamic banks toward a unified, large-scale national entity. However, while policymakers and market observers widely regard this merger as a breakthrough, empirical evidence on whether it has translated into actual financial performance improvements remains limited. Measuring such impact is crucial, as mergers can produce mixed results depending on integration effectiveness, cost efficiency, and market expansion outcomes.

To address this research gap, this study evaluates the financial performance of Indonesia's Islamic banks three years before and three years after the merger, focusing on the period 2018–2020 (pre-merger) and 2022–2024 (post-merger). Using the DuPont Analysis framework, Return on Equity (ROE) is decomposed into Profit Margin (PM), Asset Turnover (AT), and Equity Multiplier (EM) to examine the internal drivers of profitability. Subsequently, the Wilcoxon Signed-Rank Test is employed to statistically assess whether each performance component improved significantly after the merger.

By integrating decomposition and inferential testing, this study aims to provide a comprehensive assessment of how the mega merger has influenced operational efficiency, asset utilization, and financial leverage within Indonesia's Islamic banking sector. The findings contribute to both academic discourse and policy evaluation, offering insights into whether consolidation strategies can effectively enhance the competitiveness and sustainability of Islamic financial institutions in emerging markets.

Previous research has demonstrated that the DuPont framework provides valuable insights into how firms generate and sustain financial performance through the interaction of profitability, efficiency, and leverage. Açıkgöz and Gökhan (2021) emphasized that profitability, asset utilization efficiency, and capital structure collectively contribute to financial performance among technology firms, with profitability and efficient use of assets identified as the primary drivers. However, their analysis also revealed that profitability did not significantly influence market valuation, suggesting that investors may rely on non-financial indicators such as managerial quality, innovation capacity, and intellectual capital when assessing firm value.

Complementary to these findings, Jani (2022) noted that changes in Return on Equity (ROE) often result from the interplay between profit margin, asset turnover, and equity multiplier. The study showed that while profit margin improvements can enhance ROE, declining asset turnover—often linked to new asset investment—may temporarily constrain performance. In some cases, adjustments in leverage help offset these efficiency losses, stabilizing overall returns.

Together, these studies underscore that financial performance cannot be explained solely through accounting ratios; it reflects a broader interaction of operational, strategic, and structural elements. The DuPont framework remains a powerful analytical tool, yet its interpretation must account for contextual dynamics, such as post-merger integration or sector-specific innovation strategies.

Existing literature on Islamic banking performance has primarily focused on profitability determinants and efficiency measures, with limited attention to how institutional restructuring such as mergers affects internal profitability composition. Most prior studies examine mergers' impacts at a macro level, often overlooking the *micro-mechanisms* through

which financial efficiency evolves (Almumani, 2018; Srairi, 2013). Consequently, the Indonesian mega merger provides a unique natural experiment to investigate whether the transition from fragmentation to consolidation has indeed yielded measurable efficiency and profitability benefits.

Against this backdrop, this research aims to provide empirical evidence on how the DuPont components of profitability evolved before and after the 2021 merger, thereby assessing whether financial performance improvements were driven by enhanced operational efficiency or structural leverage changes. By capturing the trajectory of profitability decomposition across six years, this study contributes to both corporate finance theory and Islamic banking literature, offering practical insights for policymakers, regulators, and banking executives involved in the ongoing development of the Islamic financial system.

2. Literature Review

Intensifying global competition has heightened the importance of financial performance evaluation as a means of assessing the stability, profitability, and solvency of firms (Erdoğan et al., 2015). In the banking industry, such assessment is vital since banks function as trusted financial intermediaries that uphold public confidence and economic stability. In Indonesia, the central bank initiated a consolidation strategy aimed at strengthening the resilience and long-term sustainability of the national banking system while promoting economic growth (Ariyanto, 2004; Fitriyah et al., 2023).

Transparent and reliable financial statements are fundamental for stakeholders—including investors, creditors, and regulators—to assess institutional soundness and guide decision-making (Subramanyam, 2014). According to Fitriyah et al. (2023), systematic decomposition of financial information into measurable indicators enables a more accurate depiction of financial health. Among the various approaches used, the DuPont System remains particularly valuable because it integrates multiple aspects of performance—profitability, operational efficiency, and leverage—into a unified analytical framework (Dewi, 2018; Loppies & Sagitaputra, 2020).

The DuPont model, introduced in 1918 by F. Donaldson Brown of the DuPont Corporation, revolutionized corporate financial analysis by linking profitability and efficiency through the relationship between net profit margin, asset turnover, and return on assets (Liesz, 2002; Sheela & Karthikeyan, 2012). Over time, the model was expanded to include return on equity (ROE) by incorporating the equity multiplier, thus integrating financing decisions into performance evaluation (Liesz & Maranville, 2008).

According to Ahamed (2020), the DuPont framework helps visualize how operational, investment, and financing decisions collectively determine a firm's financial outcomes. By disaggregating ROE into profitability, efficiency, and leverage components, stakeholders can pinpoint the sources of variation in returns—whether due to operational productivity, asset utilization, or capital structure. This diagnostic ability makes the model especially useful for firms in competitive or rapidly changing industries, where shifts in asset use or funding strategies can markedly influence performance.

Similarly, Andrea et al. (2021) emphasized that the DuPont system provides managers with a transparent structure to analyze complex financial results, linking accounting ratios directly to strategic management insights. Empirical evidence further supports the model's versatility: Warrad and Nassar (2017) found significant relationships between asset turnover

and ROE, while Bunea et al. (2019) observed that financial leverage and price-to-earnings ratios also play critical roles in profitability outcomes.

The merger as per Godbole (2013) defined as the combination of all assets, liabilities, loans, and business of two or more companies such that one of them survives. Many firms across the globe have adopted the strategy of merger to achieve high growth in business. Further, the merger also serve the purpose of expansion, reducing the level of competition and creation of a large entity (Patel, 2018).

This study is grounded in two interrelated theoretical frameworks: the Efficiency Theory of Mergers and the Financial Intermediation Theory. The efficiency theory posits that mergers are motivated by the pursuit of operational and scale efficiencies, which should ultimately lead to improved performance (Berger & Humphrey, 1997). Under this theory, post-merger improvements in profitability are expected to stem from enhanced resource utilization, cost reduction, and financial synergy.

Meanwhile, the financial intermediation theory provides a broader rationale for why banks exist and how they generate value by efficiently channeling funds between surplus and deficit units. From this perspective, a merger that improves intermediation efficiency—through optimized asset deployment or reduced funding costs—should yield measurable improvements in the DuPont components of profitability. The DuPont model operationalizes these theories by linking financial structure and operational outcomes, enabling the decomposition of post-merger effects into efficiency-driven and leverage-driven changes.

Recent studies have extended the DuPont approach to sector-specific and post-merger contexts. Açıkgöz and Gökhan (2021) demonstrated that profitability, efficiency, and capital structure significantly influence financial performance among Turkish technology firms, though market valuation often depends on qualitative factors such as innovation, governance, and human capital. Jani (2022) found that shifts in DuPont components frequently offset one another—an increase in profitability may coincide with temporary declines in asset utilization during periods of investment or restructuring.

These findings underscore that post-merger financial outcomes may evolve gradually as institutions integrate operations and optimize resource utilization. In Indonesia's case, the formation of Bank Syariah Indonesia (BSI) through the merger of three state-owned Islamic banks represents a major structural transformation. Applying the DuPont model allows for a detailed examination of how this consolidation affects ROE and its components—profit margin, asset turnover, and equity multiplier—thereby revealing whether post-merger improvements arise from enhanced operational efficiency, profitability gains, or balance sheet restructuring.

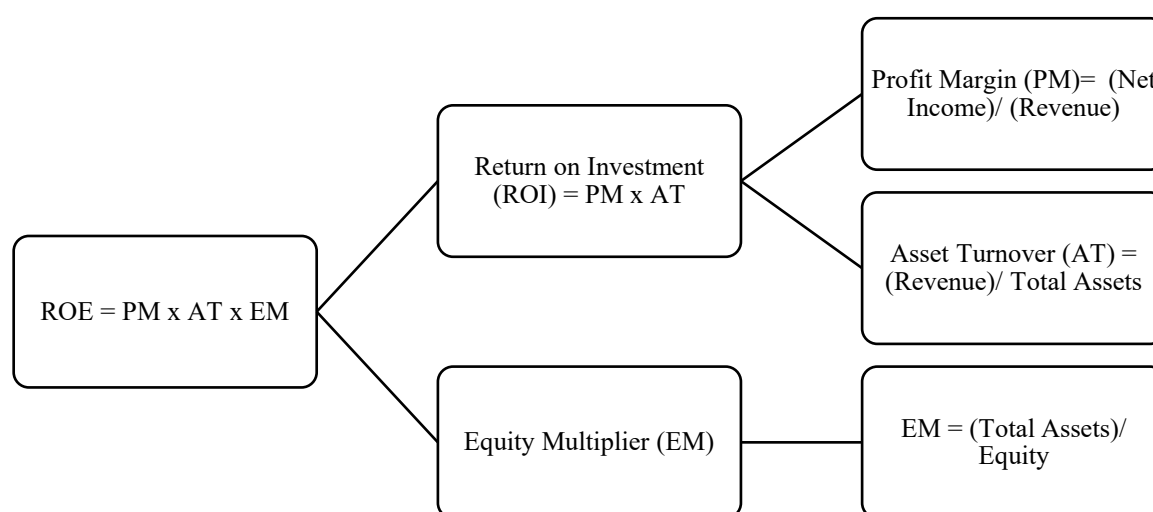
Overall, the literature indicates that the DuPont framework remains a robust tool for diagnosing performance variations across firms and sectors. Its integration into banking research provides a valuable means to assess how strategic initiatives, such as mergers and consolidations, translate into measurable financial efficiency and shareholder value.

By applying the DuPont decomposition to Indonesia's Islamic banking merger, this study not only contributes to the growing literature on Islamic finance efficiency but also provides a structural lens to evaluate how consolidation reshapes profitability composition over time. The theoretical integration of efficiency and intermediation perspectives ensures that the analysis captures both firm-level and systemic implications of the merger process.

3. Methodology

This quantitative research explores the financial performance of Indonesia's Islamic banks prior to and post-2021 mega merger establishing Bank Syariah Indonesia (BSI). The study duration is eight years (2017–2024), i.e., four pre-merging years and four post-merging years. Pre-merging years consist of three merging banks, Bank Syariah Mandiri (BSM), BRI Syariah (BRIS), and BNI Syariah (BNIS) that together account for more than 90% of the Islamic banking market share before consolidation (OJK, 2021). In post-merger examination, the consolidated firm, Bank Syariah Indonesia (BSI), is treated as a single observation with the merging entity.

The DuPont Model is employed as the analytical framework for breaking down Return on Equity (ROE) into its underlying drivers: Profit Margin (PM), Asset Turnover (AT), and Equity Multiplier (EM). The model facilitates the identification of drivers of underlying post-merger financial change—through improved operating efficiency, asset utilization, or leverage adjustment. The DuPont structure breaks down ROE into three multiplicative elements, expressed as illustrated below.



Source: Developed by Author (2025) based on Açıkgöz & Gökhan (2021)

Figure 1. The DuPont Framework

Profit Margin (PM) reflects the bank's operational efficiency and cost management capability, while Asset Turnover (AT) measures asset utilization efficiency in generating revenue. On the other hand, Equity Multiplier (EM) represents financial leverage, indicating how effectively equity is used to support assets. These indicators collectively explain Return on Equity (ROE)—a key measure of shareholder value creation and overall profitability.

Profit Margin (PM) indicates the operating and cost efficiency of the bank, while Asset Turnover (AT) indicates asset utilization efficiency in terms of revenue generation. Financial leverage and its effectiveness in financing assets are indicated by Equity Multiplier (EM). These indicators together represent Return on Equity (ROE)—one key indicator of shareholder value creation and profitability.

The analysis employed in the current study moves in two phases. Descriptive statistics are first utilized to monitor the pre- and post-trend of PM, AT, EM, and ROE. Secondly,

Wilcoxon Signed-Rank Test on SPSS is utilized to determine if variations in each component are statistically significant. The aforementioned non-parametric test is suitable for small samples as well as non-normal data of financial ratios (Gujarati & Porter, 2009).

Conceptual framework of the study is presented in Table 1, connecting DuPont components, theory constructs, and hypothesized effects.

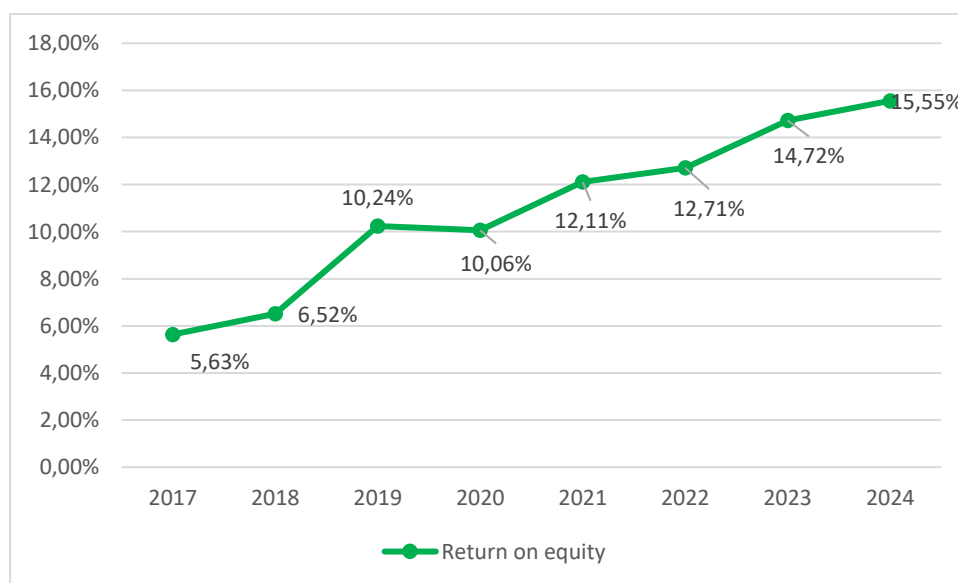
Table 1. Conceptual Framework

Component	Formula	Conceptual Meaning	Theoretical Link	Expected Post-Merger Effect
Profit (PM)	Margin Net Income/ Revenue	Operational Efficiency	Efficiency Theory	Improved due to integration and cost synergy
Asset (AT)	Turnover Revenue/ Total Assets	Asset Utilization Efficiency	Financial Intermediation Theory	Improved through optimized asset base
Equity Multiplier (EM)	Total Assets/ Equity	Leverage and Capital Structure	Risk–Return Tradeoff	Stable or slightly decrease due to conservative leverage
Return Equity (ROE)	on Net Income/ Equity	Overall Profitability	DuPont Framework	Expected improvement overall

Source: Developed by Author (2025)

4. Results And Discussion

The chart shows the trend of Bank Syariah Indonesia (BSI) Return on Equity (ROE) in 2017–2024, with division into pre-merger (2017–2020) and post-merger (2021–2024) periods. For the pre-merger period, ROE showed a consistent increase, from 5.63% in 2017 to 10.06% in 2020. This reflects a steady improvement in the bank's profitability relative to its equity base, which is a reflection of prudent management and business growth before the merger.



Source: Developed by Author based on the data processed by Excel (2025)

Figure 1. ROE Performance of Bank Syariah Indonesia

During the post-merger phase, after 2021, the ROE trend reflects a clear acceleration.

Having started at 12.11% in 2021, the indicator rose to 12.71% in 2022, then steeply to 14.72% in 2023, and subsequently to 15.55% in 2024. This stunning increase indicates the beneficial effect of the merger, as the combined entity reflects improved efficiency, profitability, and improved leverage of equity. Typically, the post-merger era is dominated by more impressive ROE expansion than that of the pre-merger period, showing that resource integration, operational synergy, and enhanced market presence have worked to propel noteworthy financial performance enhancement for the bank. This trend reflects the strategic merits and success of the merger in capturing superior returns to shareholders.

DuPont decomposition provides insights into the profit drivers within the bank before and after Bank Syariah Indonesia (BSI)'s mega merger in 2021. As can be seen from Table 2, the ROE of the bank increased from 8.41% (before merger) to 14.05% (after merger), a 67.14% increase in shareholder returns.

Table 2. ROE Decomposition of Bank Syariah Indonesia

Variables	Pre-Merger	Post-Merger	Changes (%)
Profit margin (%)	9,96	23,53	136,28
Asset turnover (%)	7,81	6,37	-18,39
Equity multiplier (times)	10,81	9,37	-13,33
Return on equity (%)	8,41	14,05	67,14

Source: Developed by Author based on the data processed by SPSS (2025)

A close scrutiny of the DuPont segments reveals that the profit margin (PM) improved by a significant margin of 136.28%, from 9.96% to 23.53%, reflecting enhanced cost efficiency and operating profitability following consolidation. This is in line with the main reason of merger, which is to achieve cost saving and reduce operating cost (Chen & Findlay, 2003). The merger is expected to maximize economies of scale, minimize redundant costs, and maximize financial intermediation capacity. Alternatively, asset turnover (AT) decreased by 18.39%, from 0.078 to 0.064 times, showing a decrease in the rate of asset turnover. This decline could be the short-run effect of post-merger restructuring wherein IT system convergence and asset convergence slowed down business tempo in the short term.

The equity multiplier (EM) fell moderately by 13.33%, to 9.37 times from 10.81, indicating lower utilization of leverage. This indicates that BSI utilized a less aggressive capital structure after the merge, likely for increased solvency and compliance with regulatory standards for capital adequacy levels. On average, the better ROE can be attributed to being mainly caused by improvements in profitability over high leverage or asset usage.

The Wilcoxon Signed Rank Test was conducted to statistically analyze whether the pre- and post-merger differences in ROE were significant. From the results table, the results showed six positive ranks (post-merger > pre-merger) and two negative ranks (post-merger < pre-merger) with no ties, which represents a general trend of improvement.

Table 3. Wilcoxon Signed-Rank Test Results for ROE

Test Parameter	Result
Negative Ranks (Post-Merger < Pre-Merger)	2
Positive Ranks (Post-Merger > Pre-Merger)	6
Ties	0
Z Statistic	-1.820
Asymp. Sig. (2-tailed)	0.069

Source: Developed by Author based on the data processed by SPSS (2025)

The test provided a Z value of -1.820 with Asymp. Sig. (2-tailed) = 0.069, which is higher than the 0.05 significance level. This indicates that at the 5% significance level, the difference in ROE is not significant but at the 10% significance level, it may be weakly significant. Therefore, the positive fiscal effect of the merger is evident but not sufficiently robust to prove sheer statistical reliance, possibly owing to the brief post-merger observation period (2022–2024) and integration adjustment. This is consistent with the findings of Patel (2018), which indicate an increase in post-merger profitability among banks in India. On the other hand, Kahil's (2021) found an insignificant increase in profitability, attributed to the activity ratio not performing well post-merger.

The initial increase in profit margin supports the economies of scale hypothesis, wherein merged banks can leverage shared infrastructure and cost synergies. Meanwhile, the decline in asset turnover and equity multiplier reflects post-merger integration challenges and strategic deleveraging to strengthen capital adequacy under Bank Indonesia and OJK requirements. In summary, although the financial indicators improved substantially, the statistical evidence of significance remains limited, indicating that the full benefits of the merger may materialize gradually as operational integration, digital transformation, and market expansion mature.

The observed dynamics in Bank Syariah Indonesia's post-merger performance align with insights from Açıkgöz and Gökhan (2021), which explained that profitability emerged as a major contributor to improved financial performance, although shifts in efficiency and leverage moderated the overall impact. Jani's (2022) findings further explain this pattern, suggesting that increased investment in new assets can temporarily reduce turnover efficiency even as profit margins rise, resulting in gradual improvements in ROE rather than immediate surges.

In the case of Bank Syariah Indonesia, the merger appears to have strengthened profitability through operational consolidation, while temporary declines in asset turnover likely reflect ongoing integration and expansion of productive capacity. These outcomes are consistent with the notion that post-merger efficiency gains require time to materialize as new resources are fully utilized and strategic synergies take effect.

5. Conclusion

This research investigated Bank Syariah Indonesia (BSI) financial performance surrounding the 2021 mega merger that unified three prominent state-owned Islamic banks. The results confirm that the merger has started to generate positive results in profitability and operational efficiencies. Improvements in internal performance indicators indicate that merging efforts have started to boost the bank's financial base.

Nevertheless, the analysis further shows that the elements of performance did not enhance in harmonized manner. While profitability enhanced, some measures of efficiency and leverage showed mixed movements, reflecting the intricate nature of post-merger realignment. Overall, the evidence showed that the merger has established a positive trend for long-run value creation, although the full advantage may take longer to build up.

The report emphasizes that Islamic bank mergers can generate real payoffs with the right post-merger strategies. Initial signs of profitability increase indicate that cost efficiencies and operating synergies are starting to take effect. The next challenge for the management is to focus on maximizing asset leveraging, digital integration optimization, and performance consistency across all segments of business.

Regulators and policy-makers can look at this merger as a demonstration of how strategic consolidation enhances competitiveness and strength in the Islamic banking industry. The Bank Syariah Indonesia case proves that success in the long term demands more than mere scale, but also on governance power, culture fit, and continuous attempts at innovation.

This research also adds to the literature on Islamic bank mergers in emerging markets. The post-merger trends emphasize that organizational, operating, and cultural alignment are likely to come before measurable financial benefits. Additional future observations of non-financial aspects like technology readiness, integration of employees, and trust of customers would offer an even wider measurement of success in a merger.

Even though this research offers useful insights into Indonesian Islamic banks' profitability prior to and following the 2021 mega merger, there are several restrictions that need to be noted. First, the sample duration for study is confined to an eight-year observation period (2017–2024). Although this selection reduces transitional bias, it also restricts observing the long-run impact of the merger. Subsequent studies could follow up after a longer observation period to assess whether increased efficiency lasts over time.

Second, the study conducts its calculations based on secondary financial data derived from company reports. These data will not necessarily capture qualitative dimensions of post-merger integration—organization culture, digitalization, or customer experience—potentially affecting aggregate performance. A mixed-methods design merging both quantitative and qualitative approaches would yield deeper insights.

Third, there are limited sample banks since just three pre-merger banks and one created-through-merger bank are considered. This reduces the external validity of the results beyond the Indonesian Islamic banking environment. A comparative regional analysis with Islamic bank mergers in other emerging markets could enhance the external validity of the results.

Lastly, the research utilizes DuPont Analysis and Wilcoxon Signed-Rank Test which indeed reflect internal finance dynamics and median-based change but perhaps fail to recognize macroeconomic and policy determinants—like inflation, monetary policy disturbances, or policy reforms—that influence profitability as well. Such work can be conducted in the future using panel regression or efficiency frontier approaches that do recognize these general determinants. Notwithstanding these constraints, the research presents sound empirical evidence of the immediate performance impact of merger in Indonesia's Islamic banking and sets the stage for larger future studies.

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THE EFFECT OF INVENTORY INTENSITY AND COMPANY RISK ON TAX AGGRESSIVENESS WITH THE AUDIT COMMITTEE AS A MODERATION (EMPIRICAL STUDY OF CONSUMER GOODS (FOOD AND BEVERAGE) COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE 2020-2024)

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Abstract

This study aims to obtain empirical evidence on the influence of Inventory Intensity and Company Risk on Tax Aggressiveness with the Audit Committee as a moderation. The population in this study consisted of consumer goods (food and beverage) companies listed on the Indonesia Stock Exchange between 2020 and 2024. This study uses 16 company samples with a sampling method using Purposive Sampling. The data analysis technique used was the Partial Least Square (PLS) model processed using WarpPLS version 8.0. The results of the study indicate that Inventory Intensity and Company Risk have a positive effect on Tax Aggressiveness. The Audit Committee can moderate Company Risk on Tax Aggressiveness, but the Audit Committee cannot moderate Inventory Intensity on Tax Aggressiveness.

Keywords : Inventory Intensity, Company Risk, Tax Aggressiveness, Audit Committee

1. Introduction

State revenue plays a major role in supporting economic growth, development, and improving the welfare of the people, with taxes as the main source of financing as stipulated in Law Number 7 of 2021. "Taxes are mandatory contributions from individuals and entities that are enforceable in accordance with the provisions of the law and are used as much as possible for the prosperity of the people. Indonesia implements a self-assessment system that gives taxpayers the authority to calculate, report, and pay their taxes independently." However, this system leaves greyspots or loopholes that taxpayers can exploit to report lower tax amounts than they should. If not properly monitored, these gray areas can reduce the effectiveness of state revenue and open up opportunities for tax irregularities, which are ultimately known as tax aggressiveness.

Tax aggressiveness is a strategy used by companies to manipulate taxable income through tax planning, which can be done legally or illegally (Susanto et al., 2018). As long as it remains within regulatory boundaries, this practice is considered legitimate, but if it violates regulations, it will result in the risk of sanctions and damage to the company's reputation. The level of aggressiveness is measured by the amount of tax savings obtained (Frank et al., 2009). The case of PT Coca-Cola Indonesia (CCI) demonstrates the complexity of this practice, when the DJP found a shortfall in income tax payments of IDR 49.24 billion due to the charging of expenses that reduced taxable income, although CCI ultimately won the dispute in the Supreme Court (Decision No. 947/B/PK/PJK/2017). This confirms that in increasingly fierce business

competition, companies tend to engage in tax planning to reduce costs, with strategies ranging from full compliance to aggressive tax practices that risk conflict with the authorities (Indradi, 2018).

This study uses consumer goods companies, specifically food and beverage companies listed on the IDX for the period 2020-2024, because this industry is vital in meeting basic needs, resilient during crises, and representative for analysis. Its operational characteristics, such as rapid inventory turnover, thin profit margins, intense price competition, and seasonal demand, encourage companies to take advantage of inventory recording flexibility and tax loopholes to maintain cash flow and profitability (Andhari & Sukartha, 2017; Dwiyantri & Jati, 2019). One factor driving consumer goods companies to engage in tax aggressiveness is inventory intensity, which is the proportion of assets embedded in inventory relative to total assets. High inventory intensity can affect the amount of tax expense because it incurs additional costs related to inventory management (Pinareswati & Mildawati, 2020).

Another factor believed to affect the level of company tax aggressiveness is company risk. Company risk is a factor that influences tax aggressiveness because it is related to strategic management decision-making. In high-risk conditions, executives tend to be more aggressive in tax planning by utilizing tax shields such as depreciation and interest expenses to maintain liquidity and profit stability. This strategy is in line with the concept of risk-shifting, which is reducing fiscal profits by increasing deductible expenses so that the tax burden is reduced and financial stability is maintained. The higher the company's risk, the greater the tendency for management to engage in tax aggressiveness, even though it is accompanied by consequences in the form of increased audit risk and fiscal corrections (Reza & Asqolani, 2022).

Several previous studies show different results, where Yuliana & Wahyudi (2018); Maulana et al., (2022); Marpaung (2025) found that inventory intensity has a positive effect on tax aggressiveness, but Pratama et al., (2023); Ghifary & Lastati (2024) found that inventory intensity has a negative effect on tax aggressiveness. Furthermore, Reza & Asqolani (2022); Ananta & Machdar (2024) found that company risk has a positive effect on tax aggressiveness, but Sembiring & Sidabutar (2022) found that company risk has a negative effect on tax aggressiveness.

The inconsistency of previous research results regarding the effect of inventory intensity and company risk on tax aggressiveness indicates the importance of further research. This study adds the moderating variable of audit committees with an accounting or finance background, as their technical expertise enables more effective oversight of financial statements, increases transparency, strengthens internal controls, and prevents tax evasion. Thus, audit committees with an accounting or finance background are expected to moderate the relationship between inventory intensity, company risk, and tax aggressiveness (Supandi et al., 2022 ; Alafiah et al., 2022).

2. Literature Review

2.1. Agency Theory

Agency Theory (Jensen & Meckling, 1976) highlights the conflict of interest resulting from information asymmetry between managers (agents) and owners (principals). Managers exploit their internal information advantage to make decisions that benefit themselves (Lisa, 2012 in Muuna et al., 2023). This conflict extends to relationships with the government: differences in objectives force companies (agents) to engage in tax aggressiveness for higher profits (Romadhina, 2020; Hasanah & Yohanes, 2022).

2.2. Tax Aggressiveness

Tax aggressiveness refers to a company's active efforts to reduce its tax burden through various planning strategies (Frank et al., 2009; Wulandari, 2022). This practice, although aimed at maximizing profits, often harms the state and creates conflicts of interest. The level of tax aggressiveness is measured using the Book Tax Difference (BTD) proxy, which reflects the difference between accounting profit and fiscal profit due to different standards (Fadilah & Wijayanti, 2017). BTD is used because of its ability to identify aggressive practices without being influenced by earnings management, while also serving as an important indicator for regulators.

2.3. Inventory Intensity

A company's inventory intensity (the ratio of inventory to total assets) is a direct reflection of how management allocates resources (Andhari & Sukartha, 2017). Although high inventory levels increase operating costs for storage, maintenance, and distribution, thereby threatening profits (Ghifary & Lastati, 2024), these costs also provide opportunities for tax avoidance. Agency Theory suggests that managers are encouraged to use these costs, such as deductible insurance premiums (Weygandt et al., 2015), as a way to reduce taxable income, thereby encouraging aggressive tax practices (Pinareswati & Mildawati, 2020). Consequently, studies by Yuliana & Wahyudi (2018), Maulana et al. (2022), and Marpaung (2025) all support the conclusion that companies with higher inventory intensity show a stronger tendency toward tax aggressiveness.

H1: Inventory Intensity has a positive effect on Tax Aggressiveness.

2.4. Company Risk

Corporate risk (in the form of performance deviations from targets, both losses and profits) is closely related to managerial attitudes: managers who are willing to take risks tend to choose tax aggressiveness, while those who are risk-averse tend to be compliant (Dewi & Sari, 2015; Paligorova, 2009; Chasbiandani et al., 2019). Agency theory explains that the internal information possessed by managers encourages them to take aggressive risks in order to reduce taxes and increase profits (Alvirahmi & Herawati, 2022). We measure risk using Excess ROA (negative value = high risk; positive value = low risk) (McGahan & Porter, 2002). Consistent with the literature, higher corporate risk significantly increases the tendency to engage in tax aggressiveness (Reza & Asqolani, 2022; Ananta & Machdar, 2024).

H2: Company Risk has a positive effect on Tax Aggressiveness.

2.5. Audit Committee

Audit committee disclosure, as part of good governance, affects profit through performance monitoring (Meini & Wulandari, 2022; Fitri & Meini, 2023). This committee (regulated by POJK/Bapepam-LK) is tasked with overseeing financial reporting, internal control, and regulatory compliance. Competent independent members have been shown to reduce tax aggressiveness (Sunarsih et al., 2021; Gisela et al., 2024). Theoretically (Agency Theory), audit committees reduce management opportunism and information asymmetry, and have been proven to mitigate the impact of corporate risk on tax aggressiveness, in order to protect stakeholders (Ari & Damayanti, 2021; Reschiwati et al., 2022). Translated with DeepL.co

H3: Audit committees can moderate the influence between inventory intensity and tax

aggressiveness.

H4: Audit committees can moderate the influence between company risk and tax aggressiveness.

2.6. Analytical Framework

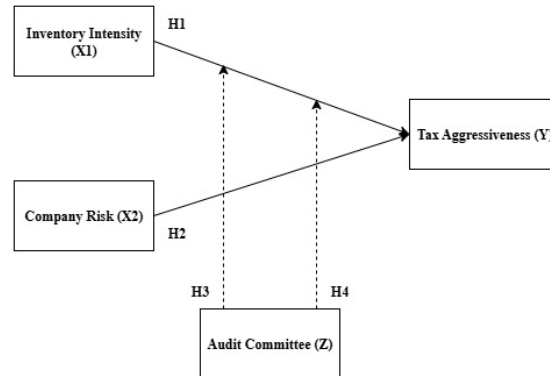


Figure 1. Analytical framework

3. Methodology

3.1. Sample and Data Collection

The population of this study consists of consumer goods companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange (IDX) during the period 2020-2024. The sample selection was conducted using purposive sampling based on specific criteria, namely:

- 1) Food and beverage companies that are included in the consumer goods sector and listed on the IDX during the period 2020-2024.
- 2) Food and beverage companies that present complete financial reports in accordance with the research variable requirements during 2020-2024.
- 3) Food and beverage companies that recorded profits during the 2020-2024 period.

The research data was obtained through a documentation study in the form of financial reports and annual reports of the companies included in the sample. Data analysis was performed using WarpPLS version 8.0 software to test descriptive statistics, outer models, inner models, and research hypotheses.

3.2. Measurement

3.2.1. Tax Aggressiveness

Tax aggressiveness can be carried out through legal or illegal means, and is generally assessed using the Book Tax Difference (BTD) indicator. BTD shows the difference between accounting profit and fiscal profit, thereby illustrating the total difference that affects the amount of tax paid by a company. Therefore, the greater the BTD value, the higher the tendency for companies to engage in tax aggressiveness practices (Yuniarti & Astuti, 2020). The BTD formula is stated as follows (Alesi, 2021):

$$BTD = \frac{\text{Accounting Profit} - \text{Fiscal Profit}}{\text{Total Net Assets}}$$

3.2.2. Inventory Intensity

Inventory intensity indicates how much of the company's funds are allocated to inventory (Izzati & Riharjo, 2022). Its value is obtained from the initial inventory plus purchases during a certain period, then subtracted from the final inventory. A high inventory level will increase the cost burden that the company must bear. The measure of inventory intensity is usually determined by comparing total inventory to total assets owned (Andhari & Sukartha, 2017 in Wulandari, 2022). The formula for inventory intensity (IP) is as follows:

$$\text{Inventory Intensity} = \frac{\text{Total Inventory}}{\text{Total Assets}}$$

3.2.3. Company Risk

Company risk is a condition of uncertainty that can cause a difference between actual and expected performance (Dewi & Sari, 2015). McGahan & Porter (2002) introduced the concept of abnormal profitability or excess profitability, which is a deviation in profit from the normal level of industry profitability, whether higher or lower. This concept emphasizes the importance of industry benchmarks and the appropriate time period in assessing a company's competitiveness. Company risk is measured using Excess ROA (Paligorova, 2009). The Excess ROA formula is as follows:

$$E_{i,c,k,t} = \frac{EBITDA_{i,c,k,t}}{Assets_{i,c,k,t}} - \frac{1}{N_{c,k,t}} \sum_{j=1}^{N_{c,k,t}} \frac{EBITDA_{j,c,k,t}}{Assets_{j,c,k,t}}$$

Explanation :

$E_{i,c,k,t}$: Excess ROA of company i, in country c, industry k, in year t.

$\frac{EBITDA_{i,c,k,t}}{Assets_{i,c,k,t}}$: ROA (Return on Assets) of company i.

→ calculated from EBITDA divided by Total Assets.

→ EBITDA = Earnings Before Interest, Taxes, Depreciation, and Amortization.

$\frac{1}{N_{c,k,t}} \sum_{j=1}^{N_{c,k,t}} \frac{EBITDA_{j,c,k,t}}{Assets_{j,c,k,t}}$: Average ROA of all companies j in industry k and country c in year t.

→ $\frac{1}{N_{c,k,t}} = \frac{1}{\text{Number of companies in industry group k, country c, year t}}$

→ $\sum_{j=1}^{N_{c,k,t}} = \text{Sum of all companies in that group.}$

3.2.4. Audit Committee

The audit committee is a team formed by the board of commissioners to support independent commissioners in supervising the preparation and examination of financial statements (Sunarsih et al., 2021). The expertise of audit committee members in accounting or finance plays an important role in minimizing presentation errors, accelerating the issuance of financial reports, and increasing the effectiveness of supervision of internal controls and the quality of external auditors' work (Ojeka et al., 2015). A person is categorized as an accounting expert if they have an educational background in accounting/finance or professional experience

as a CPA, auditor, CFO, head of accounting, accounting officer, or financial officer. The audit committee measurement formula is as follows (N. G. Putri & Erinos, 2019):

$$RKAK = \frac{JKA \text{ PAK}}{JKA}$$

Explanation :

RKAK = Accounting or Financial Expertise Ratio.

JKA PAK = Number of Audit Committee members with a background in Accounting/Finance.

JKA = Number of Audit Committee members.

3.3. Data analysis

1. **Descriptive Statistical Analysis**, is used to describe research variables through minimum, maximum, average, and standard deviation values. The results are presented in the following table :

Table 1. Descriptive Statistical Analysis

	Inventory Intensity	Company Risk	Tax Aggressiveness	Audit Committee
MAX	0,399	0,426	0,114	1,000
MIN	0,023	-0,101	-0,037	0,333
MEAN	0,127	-0,000	0,019	0,650
Std. Deviation	0,068	0,096	0,029	0,259

Source: data processed by researchers

2. **Outer Model Evaluation**, evaluates the relationship between indicators and latent constructs. Reflective constructs are tested for validity and reliability, while formative constructs are examined for weight significance and VIF. This evaluation ensures that the indicators are suitable for use before inner model analysis.

Table 2. Output Indicator Weight and VIF Results

Variable	SE	P-Value	Outer Loading	AVE	Cronbach's Alpha	Composite Reliability
II --> TA	0.083	<0.001	1.000	1.000	1.000	1.000
CR --> TA	0.083	<0.001	1.000	1.000	1.000	1.000
AC*II --> TA	0.083	<0.001	1.000	1.000	1.000	1.000
AC*CR --> TA	0.083	<0.001	1.000	1.000	1.000	1.000

Source: data processed by researchers

- a) The test results show a correlation coefficient value $> 0,03$, p-value $< 0,05$, and outer loading value $> 0,70$, thus fulfilling convergent validity and can be considered valid as a variable measure.
- b) The Average Variance Extracted (AVE) is greater than 0,50. This figure indicates that all indicators are valid in measuring the research construct.
- c) The reliability test produces Cronbach's Alpha and Composite Reliability values greater than 0,70. Therefore, the data is reliable.

3. Inner Model Evaluation

Table 3. Fit Model Results and Latent Variable Coefficients Output

Parameter/rule of thumb	Coefficient	P-Value	Result
Average path coefficient (APC)	0,329	$P=0,001<0,05$	Meets Criteria
Average R-squared (ARS)	0,795	$P=0,001<0,05$	Meets Criteria
Average adjusted R-squared (AARS)	0,784	$P=0,001<0,05$	Meets Criteria
Average block VIF (AVIF)	acceptable if ≤ 5 , ideally $\leq 3,3$	$1,326<3,3$	No Multicollinearity
Average full collinearity VIF (AFVIF)	acceptable if ≤ 5 , ideally $\leq 3,3$	$2,687<3,3$	No Multicollinearity
Tenenhou's GoF (GoF) Source: data processed by researchers	small $\geq 0,1$, medium $\geq 0,25$, large $\geq 0,36$	0,891	Large
Q-squared coefficients	0,812	$Q>0$	Meets Criteria

The results of the analysis show that the research model is valid and reliable, as evidenced by significant APC, ARS, and AARS values ($<0,05$), AVIF and AFVIF scores ($<3,3$), and a GoF of 0,891, which indicates high feasibility. The Adjusted R-Squared value for tax aggressiveness of 0,784 indicates that 78,4% of the variation can be explained by the research variables, while the rest is influenced by other factors. In addition, Q-Squared of 0,812 confirms that the model is quite relevant and reliable for predicting tax aggressiveness.

4. Hypothesis Testing

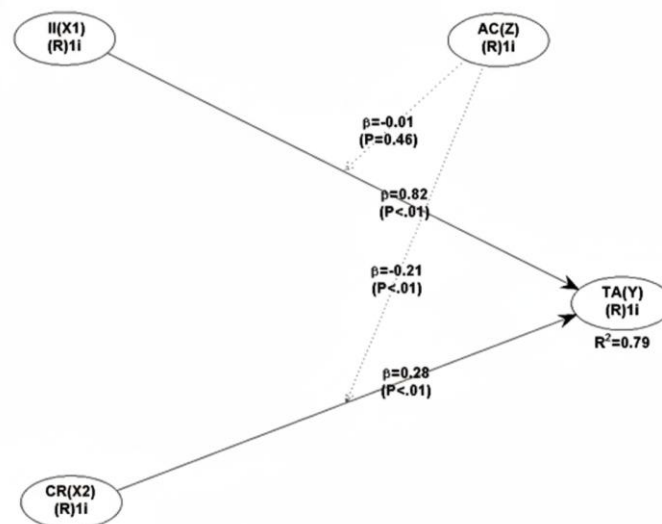


Figure 2. SEM PLS Model

Table 4. Significance Test Results and Coefficients

		Path Coefficients	P-Value	Relationships Between Variables	Result
Inventory Intensity	→	0,824	<0,001	Positive Significant	Accepted
Tax Aggressiveness					
Company Risk	→	0,275	<0,001	Positive Significant	Accepted
Tax Aggressiveness					
Audit Committee					
*Inventory Intensity	→	-0,008	0,461	Cannot Moderate	Rejected
Tax Aggressiveness					
Audit Committee					
*Company Risk	→	-0,210	0,006	Moderates	Accepted
Tax Aggressiveness					

Source: data processed by researchers

Table 4 shows that Inventory Intensity (X1) has a significant positive effect on Tax Aggressiveness (Y) with a coefficient of 0,824 and a P-Value < 0,001, thus accepting H1. Company Risk (X2) also has a significant positive effect on Tax Aggressiveness with a coefficient of 0,275 and a P-Value < 0,001, thus accepting H2. However, the role of the Audit Committee with an Accounting/Finance background (Z) is not significant in moderating the relationship between X1 and Y (coefficient -0,008; P-Value 0,461), thus H3 is rejected. Conversely, Z is proven to significantly moderate the relationship between X2 and Y with a coefficient of -0,210 and a P-Value of 0,006, thus accepting H4.

4. Results And Discussion

4.1. The Effect of Inventory Intensity on Tax Aggressiveness

The results of testing using WarpPLS 8.0 show that Inventory Intensity (X1) has a significant effect on Tax Aggressiveness (Y) with a P-Value <0,001, confirming a strong positive relationship (coefficient of 0,824). This means that the higher the inventory intensity, the greater the tendency for companies to engage in tax aggressiveness practices. Thus, the first hypothesis (H1) is accepted.

This finding shows that inventory plays a strategic role not only in operations but also in fiscal management. High inventory levels generate additional costs such as storage, distribution, and maintenance, which reduce pre-tax profits and open opportunities for management to engage in aggressive tax planning through accrual manipulation, cost recognition arrangements, or working capital policies. From an Agency Theory perspective, this condition gives management the discretion to determine accounting policies that can reduce tax liabilities while maintaining performance in the eyes of shareholders.

Previous studies (Yuliana & Wahyudi, 2018; Maulana et al., 2022; Marpaung, 2025) also confirm that high inventory levels can increase managerial flexibility in fiscal strategy, despite incurring additional burdens that reduce accounting profits and impact the amount of tax payable. In the food and beverage industry, the tendency for high and stable inventory intensity increases companies' incentive to engage in tax aggressiveness, reflected through positive book tax differences. Thus, inventory intensity not only reflects asset allocation but also serves as an important instrument in tax liability reduction strategies.

4.2. The Effect of Corporate Risk on Tax Aggressiveness

The results of testing with WarpPLS 8.0 show that Corporate Risk (X2) has a significant effect on Tax Aggressiveness (Y) with a P-Value <0,001 and a positive coefficient of 0,275, which means that the higher the risk faced by the company, the greater the tendency to engage in tax aggressiveness practices. Thus, the second hypothesis (H2) is accepted.

This finding shows that high risk encourages management to implement aggressive tax strategies to reduce tax liabilities, maintain financial stability, and increase after-tax profits. Corporate risk reflects uncertainty in achieving operational, financial, and strategic objectives, which are often influenced by leadership style, managerial policies, and industry conditions. In the food and beverage sector, risks can arise from fluctuations in demand, production capacity constraints, supply chain disruptions, and strict food safety regulations, all of which have the potential to reduce profitability. In line with Agency Theory, these conditions encourage managers as agents to use tax aggressiveness as a strategy to balance their interests with those of shareholders, as a lower tax burden will increase net profit.

Previous studies (Reza & Asqolani, 2022; Ananta & Machdar, 2024) also show that companies with high risk are more likely to engage in aggressive tax planning. This is supported by findings that the majority of food and beverage companies in the 2020-2024 period recorded negative excess ROA, indicating high financial risk, as well as positive book tax differences, reflecting aggressive tax practices. Thus, the higher the risk faced by a company, the greater the incentive for management to be aggressive in managing tax expenses.

4.3. The Moderating Effect of the Audit Committee on the Relationship between Inventory Intensity and Tax Aggressiveness

The results of testing with WarpPLS 8.0 show that the moderating role of the Audit Committee with a background in Accounting or Finance Education (Z) on the relationship

between Inventory Intensity (X1) and Tax Aggressiveness (Y) is not significant, as indicated by a P-Value of 0,461 ($>0,05$) and a negative coefficient of -0,008. Thus, the third hypothesis (H3) is rejected, which means that the Audit Committee is unable to moderate the effect of Inventory Intensity on Tax Aggressiveness.

This condition occurs because inventory management in the food and beverage sub-sector companies is routine operational, where an increase in inventory automatically adds to storage, warehousing, distribution, and labor costs, which directly reduce pre-tax profits. This process is systematic and leaves little room for the audit committee to be strategically involved, so that their accounting or financial expertise is focused more on supervising record keeping rather than on daily operational decision-making that has a direct implication on tax aggressiveness. As a result, the role of the audit committee becomes less effective in preventing aggressive tax practices related to inventory intensity. To improve its effectiveness, the audit committee needs to strengthen its oversight through regular reviews of expense reports, ensuring the accuracy of records, encouraging internal controls, and establishing closer coordination with operational management in order to reduce the potential for tax aggressiveness arising from inventory management.

4.4. The Moderating Effect of Audit Committee on the Relationship between Corporate Risk and Tax Aggressiveness

The results of testing with WarpPLS 8.0 show that Audit Committees with a background in Accounting or Finance (Z) play a significant role in moderating the relationship between Corporate Risk (X2) and Tax Aggressiveness (Y), as indicated by a P-Value of 0,006 ($<0,05$) with a negative coefficient of -0,210. Thus, the fourth hypothesis (H4) is accepted, which means that the presence of the audit committee is able to weaken the influence of corporate risk on the tendency to engage in tax aggressiveness.

The negative coefficient value indicates that although corporate risk increases the likelihood of aggressive tax practices, the role of audit committees with a deep understanding of accounting, finance, and tax regulations is able to suppress the intensity of this relationship. They function as more careful supervisors, assessing risks realistically and considering the legal and reputational consequences of aggressive tax strategies, thereby encouraging the implementation of stricter internal controls and transparency. With competent audit committee oversight, tax aggressiveness practices resulting from high corporate risk can be considered more carefully or even prevented, thereby strengthening the role of the audit committee as an effective governance mechanism in maintaining a balance between risk-taking and tax compliance.

5. Conclusion

This study aims to analyze the effect of Inventory Intensity and Corporate Risk on Tax Aggressiveness with an Audit Committee with an accounting or finance background as a moderating variable in 16 food and beverage sub-sector companies listed on the IDX for the period 2020-2024 using SEM-PLS with WarpPLS 8.0.

The results show that Inventory Intensity and Corporate Risk have a positive effect on Tax Aggressiveness, where high inventory levels incur additional costs that reduce taxable income, while increased risk encourages management to choose aggressive tax strategies to maintain financial stability and increase after-tax profits. Audit committees with accounting or financial backgrounds are unable to moderate the relationship between Inventory Intensity and Tax

Aggressiveness due to the routine and operational nature of inventory management, but they have been proven to be able to weaken the relationship between Corporate Risk and Tax Aggressiveness through their supervisory functions, understanding of regulations, and implementation of stricter internal controls.

Companies are advised to manage inventory and risk carefully and strengthen the role of the audit committee, while the government needs to improve regulations and supervision to prevent aggressive tax practices. Further research is recommended to use global benchmarks in risk measurement and add tax aggressiveness indicators other than BTB for more accurate and comprehensive results. Thus, it can be concluded that corporate tax aggressiveness is influenced by internal factors such as inventory intensity and corporate risk, but can be mitigated through the role of an audit committee competent in accounting or finance, so that tax management is more controlled, transparent, and compliant with regulations.

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EVALUATION OF THE RELATIONSHIP AMONG SERVICE QUALITY, PERCEIVED VALUE, CRM, AND CUSTOMER ENGAGEMENT TOWARD LOYALTY AND CUSTOMER SATISFACTION AT AWAL CARE VETERINARY CLINIC

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Abstract

Purpose: This study aims to evaluate the influence of Customer Engagement, Service Quality, Perceived Value, and Customer Relationship Management (CRM) on Customer Satisfaction and Customer Loyalty at Awal Care Veterinary Clinic, East Jakarta. The research seeks to identify the key determinants that shape customer loyalty in the context of veterinary healthcare services. Methodology: The research employed a quantitative approach using PLS-SEM analysis. A total of 290 respondents who had used the clinic's services in the past two months were selected through purposive sampling. The data were collected via questionnaires consisting of six constructs measured on a 6-point Likert scale. Findings: The results indicate that Service Quality, Perceived Value, and CRM significantly influence Customer Satisfaction, while Customer Engagement does not. Furthermore, Customer Engagement, Perceived Value, CRM, and Customer Satisfaction significantly affect Customer Loyalty. CRM and Customer Satisfaction emerge as the strongest predictors of loyalty. The findings highlight that loyalty in veterinary services is shaped more by emotional connection, personalized communication, and post-service engagement rather than service quality alone. Suggestion: Veterinary clinics should strengthen CRM systems, enhance customer value perception, and build engagement strategies that foster long-term emotional relationships with clients. Future research could expand to multiple clinics or compare public and private veterinary institutions.

Keywords: CRM, loyalty, satisfaction, customer, veterinary clinic

1. Introduction

The shift in urban lifestyles has made pets an integral part of family life, leading to a significant increase in demand for medical care, grooming, vaccination, and behavioral consultation services. Awal Care Veterinary Clinic, established in 2014 with four branches across Jakarta and Bekasi, is currently facing intense competition in this growing sector. Based on internal data, the number of patients decreased from 30,908 in 2022 to 25,462 in 2023 a decline of approximately 18%, indicating the need to evaluate service strategies and customer relationship management to maintain customer satisfaction and loyalty.

According to the Directorate of Animal Health Ministry of Agriculture (2022), there are 67 veterinary clinics and 184 pet shops operating in the DKI Jakarta area, with the highest concentration in East Jakarta. Amidst fierce competition and the ease with which customers can compare services through social media, veterinary clinics are expected not only to deliver high-quality medical services but also to create emotional experiences and foster active customer engagement. In the context of modern service marketing, engagement is not merely the frequency of interaction but the depth of emotional, cognitive, and behavioral attachment customers have toward a brand or service provider (Roy et al., 2022). High level of customer engagement has been proven to strengthen loyalty (Ahmad et al., 2022).

Customer engagement has become increasingly vital in veterinary health services because customer decisions are influenced not only by technical quality but also by the affective relationships built between pet owners, veterinarians, and staff. Customers who feel emotionally connected to the clinic tend to be more satisfied and loyal (Widyowati et al., 2023). In the veterinary context, engagement may take the form of digital communication through social media, participation in community programs, or feedback on animal care. Effective engagement fosters trust and long-term commitment, which serve as the foundation for customer loyalty (Wongsansukcharoen, 2022).

Beyond customer engagement, service quality remains a key determinant influencing customer perceptions of the clinic. The five main dimensions tangibility, reliability, responsiveness, assurance, and empathy identified by Yeong et al. (2022), serve as benchmarks for service excellence. Studies in the healthcare sector demonstrate that service quality directly affects both satisfaction and loyalty (Nguyen et al., 2021). In veterinary services, the empathy shown by doctors and staff plays a crucial role, as it involves an emotional connection with the clients' pets.

Meanwhile, customer perceived value functions as a psychological construct reflecting the customer's assessment of the benefits received relative to the costs incurred. Customers feel satisfied when the perceived value meets or exceeds expectations functionally, emotionally, or socially (Chou et al., 2023; Ge et al., 2021). A high perceived value strengthens customers' intention to reuse the same clinic's services, making it a prerequisite for building long-term loyalty.

Furthermore, Customer Relationship Management (CRM) serves as a systematic strategy to build and maintain long-term relationships between the clinic and its customers. Integrated CRM systems through continuous communication, automated reminders, and personalized services help strengthen interactions between customers and service providers (Rane et al., 2023). Research by Malki et al. (2024) shows that effective CRM enhances satisfaction and reinforces customer loyalty. In the context of veterinary clinics, CRM plays an essential role in building customer trust and comfort with the medical professionals caring for their pets. Therefore, this study aims to evaluate the influence of customer engagement, service quality, perceived value, and CRM on customer satisfaction and loyalty at Awal Care Veterinary Clinic, East Jakarta, to provide new insights into customer behavior dynamics in the animal healthcare service sector.

2. Hypothesis development

2.1. The Influence of Customer Engagement on Customer Satisfaction

Customer engagement describes the extent to which customers are emotionally, cognitively, and behaviorally involved in their interactions with a brand (Perez Benegas & Zanfardini, 2025). In the context of service marketing, engagement represents the customer's active involvement in the co-creation of value. Customers who are emotionally and cognitively engaged tend to feel more satisfied, as such involvement enhances their perceived control, trust, and social connection with the brand (de Azambuja et al., 2023).

In veterinary clinic services, customer engagement emerges when customers provide feedback, participate in community activities, or interact through social media. These forms of involvement create positive experiences that strengthen trust and comfort. According to Yi et al. (2021), Engagement has a significant effect on customer satisfaction through the enhancement of interpersonal relationships and perceived emotional value. Therefore, the higher the level of customer engagement with the veterinary clinic, the greater the satisfaction they will feel toward the services provided.

H1: Customer Engagement has a positive effect on Customer Satisfaction

2.2.The Influence of Service Quality on Customer Satisfaction

Service quality is a fundamental factor that determines customer satisfaction in every form of service (Bungatang & Reynel, 2021). Customers evaluate service quality based on the dimensions of tangibility, reliability, responsiveness, assurance, and empathy. In the context of a veterinary clinic, aspects such as cleanliness of the waiting area, punctuality of examinations, and the veterinarian's empathy serve as key determinants of perceived quality. According to Sugiarto & Octaviana (2021), High service quality generates a sense of satisfaction because customers perceive that the services received meet or even exceed their expectations.

Study by Dzreke (2025) It shows that customers who perceive the service as fast, professional, and attentive have higher levels of satisfaction compared to those who experience a mismatch between expectations and reality. In a veterinary clinic, satisfaction is not only related to the treatment outcomes but also to how the staff interact and show care toward the pets. Therefore, improving the multidimensional aspects of service quality is believed to significantly enhance customer satisfaction.

H2: Service Quality has a positive effect on Customer Satisfaction

2.3.The Influence of Perceived Value on Customer Satisfaction

Customer perceived value is the customer's evaluation of the benefits obtained compared to the sacrifices made (Sawitri & Alhasin, 2022). Customers feel satisfied when the value they receive whether functional, emotional, social, or monetary meets or exceeds their expectations (Irawan et al., 2023). In the context of veterinary clinic services, customers will feel satisfied if the costs they pay are commensurate with the quality of service, the care given to their pets, and the comfort of the facilities.

Kotler & Keller (2022) explains that perceived value is a key driver of customer satisfaction because it reflects the balance between the benefits gained and the costs incurred. When customers feel that their service experience provides emotional value (such as peace of mind and trust in the veterinarian), they tend to be more satisfied and are more likely to make repeat visits. Thus, the higher the customer's perceived value of the services provided, the greater the level of satisfaction they will experience.

H3: Perceived Value has a positive effect on Customer Satisfaction.

2.4.The Influence of Customer Relationship Management on Customer Satisfaction

Customer Relationship Management (CRM) focuses on managing long-term relationships between an organization and its customers through effective communication strategies, data management, and service personalization (Rane et al., 2023). CRM enables organizations to understand customer preferences and provide services that are relevant, timely, and tailored to their needs. In the context of a veterinary clinic, CRM may include vaccination schedule reminders, post-treatment follow-up services, and digital feedback systems that strengthen customer interactions with the clinic.

Research by Saha (2025) found that CRM has a positive effect on customer satisfaction because it creates a more personalized and responsive relationship. Through CRM, customers feel valued as every interaction is recorded and used as a basis for service improvement. According to Alam et al. (2021), effective CRM strengthens trust and reduces customer uncertainty. Therefore, well-implemented CRM is believed to enhance customer satisfaction at Awal Care Veterinary Clinic.

H4: Customer Relationship Management has a positive effect on Customer Satisfaction.

2.5.The Influence of Customer Engagement on Customer Loyalty

Customer engagement plays an important role in creating loyalty by enhancing customers' emotional commitment and attachment to the brand (C.-C. Huang & Chen, 2022). Actively

engaged customers not only feel satisfied but also exhibit loyal behaviors such as repeat purchases, brand advocacy, and resistance to competitors (Cheng et al., 2024). Engagement strengthens customer relationships through pleasant and memorable interaction experiences, especially in trust-based services such as veterinary healthcare.

Study by Izogo et al. (2021) asserts that customers who feel engaged tend to develop a stronger brand commitment, thereby increasing their willingness to continue using the same services. In the context of a veterinary clinic, customers who actively interact and participate in clinic activities are more likely to recommend the services to other pet owners. Thus, customer engagement serves as a key driver in the formation of long-term loyalty.

H5: Customer Engagement has a positive effect on Customer Loyalty

2.6.The Influence of Service Quality on Customer Loyalty

Customer loyalty depends not only on satisfaction but also on a consistent experience of service quality Parasuraman et al. (1988) states that customers who receive high quality service are more likely to become loyal, as they perceive the service provider to have reliable and trustworthy standards. Study by Alzaydi (2024) demonstrates that service quality has a positive effect on customer loyalty, with satisfaction serving as a mediating factor.

In the context of a veterinary clinic, customers will remain loyal if they experience fast, professional, and empathetic service from the veterinarians and clinic staff. The quality of interpersonal interactions and the reliability in handling pets create an emotional bond that strengthens loyalty (Wu & Chang, 2023). Therefore, maintaining consistency in service quality becomes the key to retaining long-term customers.

H6: Service Quality has a positive effect on Customer Loyalty

2.7.The Influence of Perceived Value on Customer Loyalty

Perceived value has a direct implication for customer loyalty because customers tend to choose services that provide greater benefits compared to the costs incurred (Nguyen et al., 2021b). When customers perceive that the veterinary clinic provides services with high functional and emotional value, they are more likely to remain loyal and reject competitors' offers. According Paulose & Shakeel (2022), The value perceived by customers serves as a competitive differentiator and forms the basis of loyalty in the service industry.

Research by Kotler & Keller (2022) emphasizes that perceived value encompasses not only service quality but also the emotional experience during interactions. In veterinary healthcare services, customers who perceive that the clinic offers an optimal balance between medical quality, comfort, and cost tend to demonstrate higher loyalty. Thus, enhancing customers perceived value will have a significant impact on loyalty.

H7: Perceived Value has a positive effect on Customer Loyalty

2.8.The Influence of Customer Relationship Management on Customer Loyalty

CRM is a strategic factor that strengthens customer loyalty through enhanced personal interactions and long-term trust (Rane et al., 2023). Effective implementation of CRM enables veterinary clinics to identify customer needs patterns, provide relevant recommendations, and establish effective two-way communication. According Khan et al. (2022), CRM has a direct effect on customer loyalty because it strengthens emotional relationships and creates a sense of belonging toward the organization.

Ariyanti et al. (2025) ...adds that the integration of digital CRM, such as service notifications, exclusive promotions, and membership systems, strengthens customer loyalty by enhancing convenience and satisfaction in interactions. In the context of a veterinary clinic, CRM serves as an emotional connector, ensuring that customers feel recognized and valued. Therefore, the better the implementation of CRM, the stronger the customer loyalty toward the clinic's

services.

H8: Customer Relationship Management has a positive effect on Customer Loyalty

2.9. The Influence of Customer Satisfaction on Customer Loyalty

Customer satisfaction is the **fundamental foundation** for building sustainable loyalty. Satisfied customers are more likely to **make repeat purchases** and **recommend the services** to others (Kotler & Keller, 2022). According Sitorus & Rachmawati (2024), The **positive relationship between satisfaction and loyalty** is a **universal phenomenon** in the service sector. Customers who experience alignment between their expectations and the service outcomes tend to develop an **emotional bond** that strengthens their loyalty to the service provider.

In the context of a veterinary clinic, customer satisfaction fosters long-term trust and encourages advocacy behavior. Ahmadi & Ataei (2024) demonstrates that satisfied customers tend to become brand advocates, contributing to the positive image of the organization. Thus, maintaining customer satisfaction serves as a key strategy for strengthening loyalty and ensuring the sustainability of the clinic's business.

H9: Customer Satisfaction has a positive effect on Customer Loyalty

2.10. Research Model

This study develops a conceptual model that explains the relationship among customer engagement, service quality, perceived value, and customer relationship management (CRM) on customer satisfaction and loyalty at Awal Care Veterinary Clinic. The model is based on consumer behavior and service marketing theories, emphasizing that customer engagement and the quality of service interactions play a central role in creating positive experiences that lead to satisfaction and long-term commitment. Each independent variable is assumed to have a direct effect on customer satisfaction, while satisfaction is expected to serve as a key determinant of loyalty formation. In addition, the model also predicts the existence of direct effects of customer engagement, service quality, perceived value, and CRM on customer loyalty without passing through satisfaction.

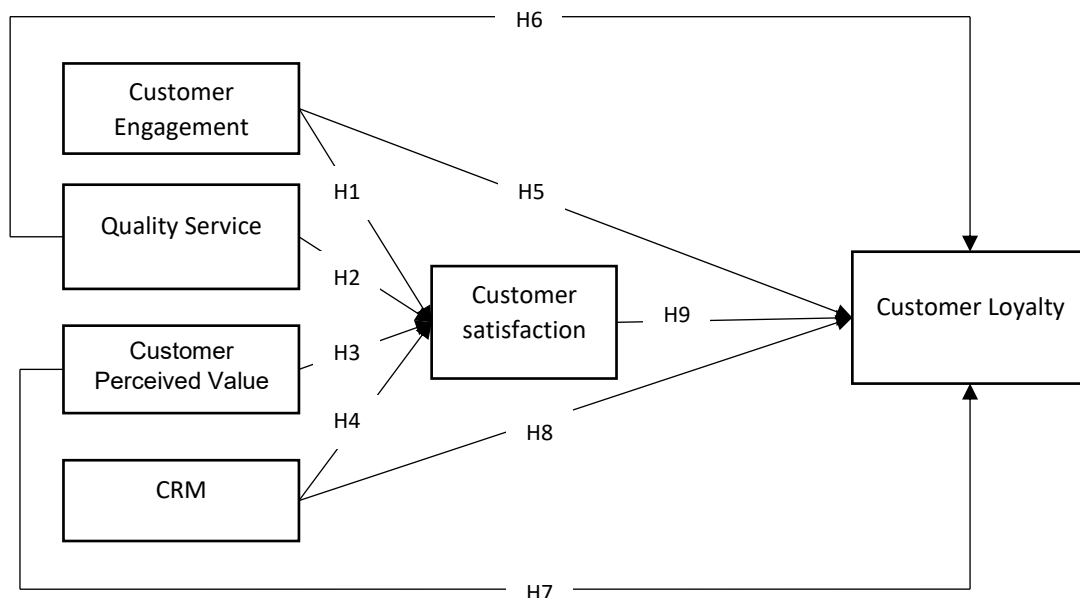


Figure 1. Research Model

3. Methodology

3.1. Sample and Data Collection

This study employs a quantitative approach, aiming to identify the statistical relationships among the variables (Creswell & Creswell, 2017). The research was conducted at Awal Care Veterinary Clinic, an animal healthcare service located in Duren Sawit District, East Jakarta. From a time perspective, this study falls under the category of a cross-sectional study, in which data collection was carried out once in 2025, without considering changes in data over time.

The population of this study consists of all customers of Awal Care Veterinary Clinic, with the exact number unknown. Therefore, the sampling technique used was non-probability sampling with a purposive sampling approach. The criteria for respondents included customers who had used the clinic's services within the past two months whether for outpatient care, vaccination, or veterinary medical consultation. The total sample size of the study was 290 respondents, in accordance with the recommendations of Hair Jr et al. (2021) which states that the minimum sample size for the Partial Least Squares–Structural Equation Modeling (PLS-SEM) model is 10 times the number of indicators used. With a total of 29 indicators, the minimum required sample size is $10 \times 29 = 290$ respondents.

The data collection technique was carried out using a survey method through the distribution of questionnaires both on-site and online via Google Forms. The questionnaire consisted of statements representing six main constructs: Customer Engagement, Service Quality, Perceived Value, Customer Relationship Management (CRM), Customer Satisfaction, and Customer Loyalty. Each item was measured using a 6-point Likert scale, with categories ranging from 1 = Strongly Disagree to 6 = Strongly Agree. The use of an even-numbered scale was intended to avoid respondents' tendency to choose a neutral midpoint (neutral midpoint bias) and to encourage clearer expression of attitudes.

3.2.Measurement

3.2.1. Customer Engagement

The Customer Engagement variable was measured by adapting Huang et al. (2022) (1) Cognitive Engagement, which refers to the level of customers' attention and understanding of the clinic's services; (2) Emotional Engagement, which reflects the degree of trust, pride, and emotional closeness customers feel toward the clinic; and (3) Behavioral Engagement, which represents customers' active participation in providing feedback, recommendations, or service reviews. A total of five indicators were adapted to fit the context of veterinary healthcare services.

3.2.2. Service Quality

Service Quality was measured using the SERVQUAL model developed by Sumi & Kabir (2021). This model includes five dimensions: Tangibles (physical facilities, cleanliness, and comfort), Reliability (dependability and consistency of medical staff), Responsiveness (speed and promptness of service), Assurance (competence and sense of security), and Empathy (care toward both the animals and their owners). Each dimension was measured using linguistically modified indicators to fit the veterinary clinic context.

3.2.3. Customer Perceived Value

The Perceived Value variable was adapted from Kato (2021). This construct includes four dimensions: Functional Value (the alignment of service outcomes with expectations), Emotional Value (comfort and peace of mind), Social Value (the positive image associated with using the clinic's services), and Price Value (the balance between the cost and the benefits received). Five indicators were used to measure the extent to which customers assess the total value they obtain from the services they use.

3.2.4. Customer Relationship Management (CRM)

The CRM variable was measured by adapting indicators from Payne & Frow (2017) and (El Sheikh et al., 2020). The CRM dimensions in this study include: Customer Data Management, Communication and Follow-up, Loyalty Programs (membership, points, discounts), Complaint Handling, and Digital Media Utilization. Five indicators were used to assess the extent to which the clinic manages long-term relationships with customers through responsive and personalized interactions.

3.2.5. Customer Satisfaction

Customer satisfaction was measured based on the definition provided by Kotler & Keller (2022), which defines it as the emotional response of customers after comparing their expectations with the actual service performance received. Four indicators were used: satisfaction with service quality, satisfaction with interaction experience, alignment between expectations and actual service, and the intention to continue using the clinic's services.

3.2.6. Customer Loyalty

Customer loyalty was measured by adapting the scale from Zeithaml (1988) and Malki et al. (2024). This variable is defined as the customer's commitment to reuse the service and recommend it to others. Four indicators were used: repurchase intention, word-of-mouth recommendations, resistance to competitors' offers, and preference for the same clinic. All items were measured using a 1–6 Likert scale to maintain consistency with the other variables.

3.3. Data analysis

Data analysis was conducted using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method with SmartPLS version 3.0 software. The analysis was carried out in two main stages: (1) Evaluation of the Outer Model, which includes reliability testing, convergent validity, and discriminant validity; and (2) Evaluation of the Inner Model, which involves hypothesis testing and estimation of relationships among variables through path coefficients.

Reliability testing was performed using Cronbach's Alpha and Composite Reliability (CR), while validity testing employed the Average Variance Extracted (AVE) and the Fornell–Larcker criterion. Furthermore, the significance of the structural paths was tested using the bootstrapping method with 5,000 resamples to obtain *t-statistics* and *p-values*. The R^2 and Q^2 values were used to assess the predictive capability of the model for the endogenous variables (Customer Satisfaction and Customer Loyalty).

The PLS-SEM approach was chosen because it is predictive in nature and suitable for complex models with a moderate sample size and non-normal data distribution. The results of this analysis are expected to provide comprehensive empirical insights into how customer engagement, service quality, perceived value, and CRM simultaneously influence customer satisfaction and loyalty within the context of veterinary healthcare services.

4. Results and discussion

4.1. Research Results

The analysis of the measurement model (outer model) and the structural model (inner model) was conducted using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach. This analysis was carried out to evaluate the validity and reliability of the latent constructs and to test the relationships among variables in the research model, which includes Service Quality, Perceived Value, Customer Relationship Management (CRM), Customer Engagement, Customer Satisfaction, and Customer Loyalty.

Table 1. Outer Model Results

Variables	Indicator	Outer Loading	AVE	Cronbach's alpha	CR
Customer Engagement	CE1	0.832	0.839	0.839	0.892
	CE2	0.858			
	CE3	0.787			
	CE4	0.807			
Customer Loyalty	CL1	0.871	0.902	0.902	0.932
	CL2	0.908			
	CL3	0.85			
	CL4	0.888			
CRM	CRM3	0.931	0.904	0.904	0.94
	CRM4	0.935			
	CRM5	0.882			
Customer Satisfaction	CS1	0.886	0.871	0.871	0.912
	CS2	0.895			
	CS3	0.728			
	CS4	0.882			
Perceived Value	PV1	0.708	0.794	0.794	0.858
	PV2	0.726			
	PV3	0.761			
	PV4	0.76			
Service Quality	PV5	0.745	0.858	0.858	0.914
	SQ1	0.853			
	SQ2	0.912			
	SQ3	0.882			

(Source: Processed data, 2025)

Table 1 presents the results of the outer model assessment used to evaluate the convergent validity and construct reliability. The outer loading values for all indicators are above 0.70, indicating that each indicator has a strong contribution to its respective latent construct. This suggests that all measurement items effectively represent the theoretical concepts of the variables being measured.

The Average Variance Extracted (AVE) values for all constructs are also above 0.50 (ranging between 0.794 and 0.902), demonstrating that more than 50% of the variance of the indicators can be explained by their corresponding latent constructs. Additionally, both Cronbach's Alpha and Composite Reliability (CR) values exceed 0.70, indicating that all constructs possess high internal consistency and good reliability.

Therefore, it can be concluded that all variables in the model meet the criteria for convergent validity and reliability.

Table 2. Results of Validity Discriminant Test with HTMT

	CRM	Customer Engagement	Customer Loyalty	Customer Satisfaction	Perceived Value	Service Quality
CRM						
Customer Engagement	0.631					
Customer Loyalty	0.842	0.709				
Customer Satisfaction	0.79	0.591	0.88			

Perceived Value	0.681	0.623	0.696	0.66	
Service Quality	0.786	0.731	0.726	0.72	0.647

(Source: Processed data, 2025)

Table 2 presents the results of the discriminant validity test using the Heterotrait-Monotrait Ratio (HTMT) approach. All HTMT values are below the threshold of 0.90, indicating that each construct has a clear conceptual distinction from the others. The highest HTMT value is between Customer Satisfaction and Customer Loyalty at 0.88, suggesting a strong relationship that remains within acceptable limits and does not indicate multicollinearity among constructs. This confirms that the research instrument successfully distinguishes each variable empirically in accordance with the underlying theoretical framework.

Table 3. Inner Model Results

Path	f-square	R-square adjusted	Q ²
Customer Engagement -> Customer Satisfaction	0.006		
Service Quality -> Customer Satisfaction	0.037	0.562	0.397
Perceived Value -> Customer Satisfaction	0.034		
CRM -> Customer Satisfaction	0.215		
Customer Engagement -> Customer Loyalty	0.077		
Service Quality -> Customer Loyalty	0.000	0.735	0.564
Perceived Value -> Customer Loyalty	0.015		
CRM -> Customer Loyalty	0.138		
Customer Satisfaction -> Customer Loyalty	0.311		

(Source: Processed data, 2025)

The results of the inner model assessment (Table 3) show the adjusted R-square and Q² values, which indicate the model's predictive strength. The variable Customer Satisfaction has an adjusted R-square value of 0.562, meaning that 56.2% of its variance can be explained by the four independent constructs Customer Engagement, Service Quality, Perceived Value, and CRM. Meanwhile, Customer Loyalty has an adjusted R-square value of 0.735, indicating that 73.5% of the variance in customer loyalty can be explained by the combination of Customer Engagement, Service Quality, Perceived Value, CRM, and Customer Satisfaction. The Q² values for each construct are above zero (0.397 and 0.564), demonstrating that the model possesses good predictive relevance.

Specifically, the f-square values indicate the strength of the effects among variables. The strongest relationship is found between Customer Satisfaction and Customer Loyalty, with an f-square value of 0.311, indicating a strong effect. Furthermore, CRM on Customer Satisfaction (0.215) also shows a moderate effect, suggesting that the customer relationship management system plays an important role in enhancing customer satisfaction. In contrast, Customer Engagement on Customer Loyalty (0.077) shows a small but significant effect, indicating that customer engagement provides an additional contribution to loyalty, even though it is not the dominant factor.

Table 4. Results of Structural Model Hypothesis Testing

	Hipotesis	Koefisien	T hitung	P values	Keterangan
H1	Customer Engagement -> Customer Satisfaction	0.068	1.055	0.291	Ditolak

H2	Service Quality -> Customer Satisfaction	0.194	2.703	0.007	Diterima
H3	Perceived Value -> Customer Satisfaction	0.156	2.725	0.006	Diterima
H4	CRM -> Customer Satisfaction	0.453	6.985	0.000	Diterima
H5	Customer Engagement -> Customer Loyalty	0.190	4.244	0.000	Diterima
H6	Service Quality -> Customer Loyalty	-0.012	0.215	0.830	Ditolak
H7	Perceived Value -> Customer Loyalty	0.083	1.967	0.049	Diterima
H8	CRM -> Customer Loyalty	0.310	5.440	0.000	Diterima
H9	Customer Satisfaction -> Customer Loyalty	0.433	8.065	0.000	Diterima

(Source: Processed data, 2025)

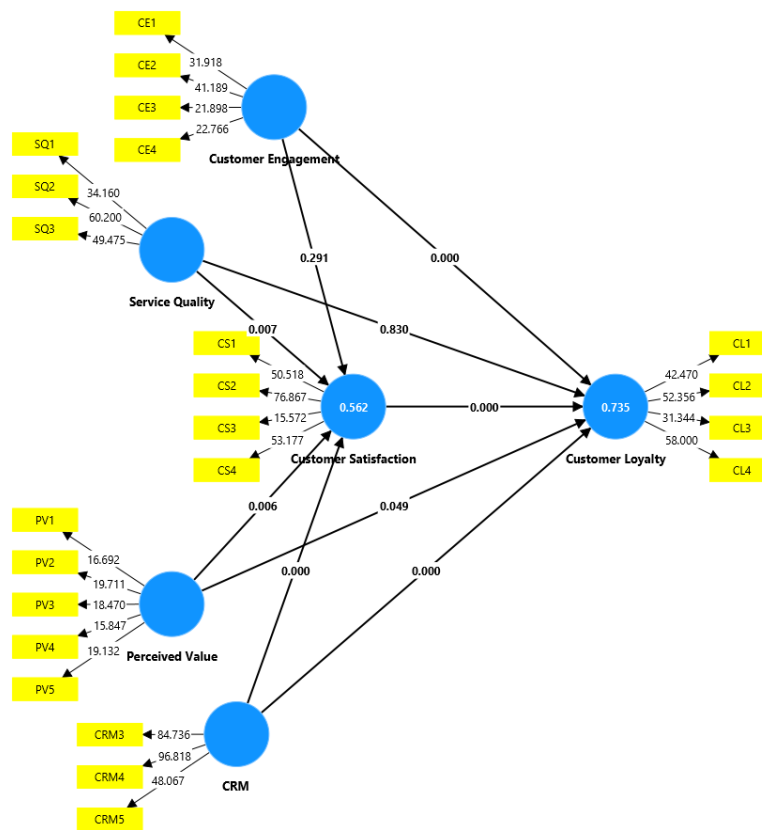


Figure 1. SEM PLS Structural Model Diagram

Table 4 presents the results of the hypothesis testing of the structural model using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach. This test aims to identify the causal relationships among the latent variables—Customer Engagement, Service Quality, Perceived Value, Customer Relationship Management (CRM), Customer Satisfaction, and Customer Loyalty. A t-statistic value greater than 1.96 and a p-value less than 0.05 indicate a significant relationship at the 95% confidence level.

The test results indicate that H1 is rejected, meaning that Customer Engagement does not have a significant effect on Customer Satisfaction ($\beta = 0.068$; $t = 1.055$; $p = 0.291$). This finding suggests that customer engagement does not always lead directly to satisfaction,

particularly in the context of veterinary clinic services, which tend to emphasize medical expertise and professional trust rather than customer social interaction. This result is consistent with the findings of Le et al. (2021) that the effect of engagement on satisfaction can be indirect, depending on the service context and the quality of the customer experience

Conversely, H2 is accepted, indicating that Service Quality has a positive and significant effect on Customer Satisfaction ($\beta = 0.194$; $t = 2.703$; $p = 0.007$). This confirms that the better the quality of service—including aspects of reliability, empathy, and responsiveness of medical staff the higher the level of customer satisfaction (Ali et al., 2024). In the context of veterinary clinics, customers' perceptions of facility cleanliness, veterinarian professionalism, and service speed are the main factors that shape satisfaction (Turkson et al., 2025).

Furthermore, H3 is accepted, indicating that Perceived Value has a positive and significant effect on Customer Satisfaction ($\beta = 0.156$; $t = 2.725$; $p = 0.006$). This suggests that customers who perceive the clinic's services as providing greater value compared to the costs incurred tend to feel more satisfied. This result is consistent with the findings of Paulose et al. (2022) and Sawitri et al. (2022), which emphasize that perceived value is a strong predictor of customer satisfaction because it reflects the balance between the benefits gained and the sacrifices made. In addition, H4 is accepted, with CRM showing the strongest effect on Customer Satisfaction ($\beta = 0.453$; $t = 6.985$; $p = 0.000$). This means that the more effective the customer relationship management system such as personalized communication, post-service follow-ups, and pet medical record tracking the higher the level of customer satisfaction. This finding supports the results of research by Rane et al. (2023) which states that CRM increases customer satisfaction through service personalization and quick responsiveness to customer needs.

Regarding the relationship with Customer Loyalty, H5 is accepted, indicating that Customer Engagement has a significant effect on customer loyalty ($\beta = 0.190$; $t = 4.244$; $p = 0.000$). This means that customer involvement in active interactions with the clinic such as sharing experiences, participating in community activities, or engaging through social media can strengthen loyalty (Lauwrence et al., 2024). Namun, H6 ditolak, menunjukkan bahwa *Service Quality* tidak berpengaruh signifikan terhadap *Customer Loyalty* ($\beta = -0.012$; $t = 0.215$; $p = 0.830$). However, H6 is rejected, indicating that Service Quality does not have a significant effect on Customer Loyalty ($\beta = -0.012$; $t = 0.215$; $p = 0.830$). This suggests that good service quality alone is not sufficient to build loyalty without the support of emotional connection and consistent customer experience (Mostafa & Kasamani, 2020). Then, H7 is accepted, confirming that Perceived Value has a positive effect on Customer Loyalty ($\beta = 0.083$; $t = 1.967$; $p = 0.049$). This indicates that customers who perceive greater value from the services are more likely to return and recommend the clinic to others. This result is consistent with the study by Nguyen et al. (2021b) which found that perceived value is an important factor in maintaining customer loyalty in healthcare services

Furthermore, H8 is accepted, indicating that CRM has a significant effect on Customer Loyalty ($\beta = 0.310$; $t = 5.440$; $p = 0.000$). This implies that an effective CRM system such as vaccination reminders, follow-up care, and personalized communication strengthens the long-term relationship between customers and the clinic. The study by Singh et al. (2023) also found that CRM acts as a bridge between satisfaction and loyalty in the healthcare service sector. In hypothesis H9, the result shows acceptance, indicating that Customer Satisfaction has a positive and significant effect on Customer Loyalty ($\beta = 0.433$; $t = 8.065$; $p = 0.000$). This finding reinforces the classical theory Oliver (1999) that satisfaction is the main determinant in the formation of customer loyalty. Customers who feel satisfied with the quality of services and interactions they receive tend to exhibit loyal behaviors, including the intention to return and to recommend the clinic to others (An et al., 2023).

5. Conclusion

The results of this study show that Customer Relationship Management (CRM) and Customer Satisfaction are the most dominant factors in shaping Customer Loyalty at Awal Care Veterinary Clinic. Although Service Quality has been proven to enhance satisfaction, it does not have a direct effect on customer loyalty. These findings emphasize that customer loyalty in the context of veterinary clinic services is determined not only by the technical quality of care but also by emotional relationships and ongoing interactions between customers and the clinic. In addition, Perceived Value has been shown to increase both satisfaction and loyalty, while Customer Engagement plays a significant role in influencing loyalty, although it does not directly affect satisfaction. Overall, these results illustrate that customer relationship strategies based on personalization, interactive communication, and professional trust are key to building long-term loyalty in the veterinary healthcare service sector.

5.1. Research Implications

Practically, this study highlights the importance of implementing an integrated CRM system to enhance customer experience and strengthen emotional attachment to the clinic. The clinic is advised to leverage digital technologies in building two-way relationships, such as automated vaccination reminders, online consultations, and personalized communication through social media.

Theoretically, this study expands the literature on customer behavior in the veterinary healthcare service sector, a context that remains underexplored, by demonstrating that CRM and Perceived Value have a stronger effect than Service Quality in shaping customer loyalty.

5.2. Limitations of Research and Suggestions

This study has limitations in its scope, as it only covers a single clinic located in East Jakarta, thus limiting the generalizability of the results. In addition, the data were collected using a cross-sectional approach, which does not capture changes in customer behavior over time. Future research is recommended to employ a comparative study approach among clinics in different regions and to consider other mediating variables such as trust and emotional attachment, which may strengthen the relationship between customer satisfaction and loyalty.

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THE INFLUENCE OF REGIONAL FINANCIAL INDEPENDENCE, EFFECTIVENESS OF LOCAL OWN-SOURCE REVENUE, BUDGET EFFICIENCY, AND REGIONAL CASH MANAGEMENT ON REGIONAL GOVERNMENT PERFORMANCE

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Abstract

Purpose: This study aims to analyze the effect of Regional Financial Independence, Effectiveness of Local Own-Source Revenue (PAD), Budget Efficiency, and Regional Cash Management on Local Government Performance during the 2020–2023 period, Methodology: The research employs a quantitative approach under the positivist paradigm. Secondary data were obtained from audited Local Government Financial Reports and the Government Agency Performance Accountability Reports (LAKIP). The sample was determined using purposive sampling of districts/municipalities that published SAKIP scores. Data analysis was conducted using Partial Least Squares – Structural Equation Modeling (PLS-SEM) with the SmartPLS 4.0 application. Findings: The results reveal that Regional Financial Independence and Budget Efficiency have a positive and significant effect on Local Government Performance, while PAD Effectiveness shows a negative and significant effect. Meanwhile, Regional Cash Management has a negative but insignificant effect. These findings indicate that financial independence and budget efficiency are the key drivers in enhancing local government performance. Suggestion: This study only covers local governments in three provinces (West Java, Central Java, and East Java) during the 2020–2023 period. Future research could expand to other regions and include additional variables such as capital expenditure or governance quality to provide more comprehensive insights.

Keywords: Budget Efficiency, Effectiveness of Local Own-Source Revenue, Regional Financial Independence, Regional Cash Management, Regional Government Performance

1. Introduction

Regional autonomy provides local governments with broad authority to manage fiscal resources independently, with the ultimate goal of enhancing public services and community welfare (Undang-Undang (UU) Nomor 23 Tahun 2014 Tentang Pemerintahan Daerah, 2014). A key indicator of successful autonomy is Regional Financial Independence, which reflects the extent to which local governments can finance development without relying on central transfers (Ghofar et al., 2023). However, most local governments in Indonesia remain highly dependent on transfer funds, indicating weak financial independence.

Alongside this, the Effectiveness of Local Own-Source Revenue (PAD) has become a pressing issue, as its realization often falls short of targets, creating potential fiscal burdens and eroding government legitimacy. Budget Efficiency is equally critical, given limited resources that demand optimal development outcomes at minimal cost. Moreover, Regional Cash Management plays a pivotal role in fiscal stability, where poor management may lead to

liquidity crises and hinder the fulfillment of expenditure obligations. Recent budget deficit cases in Pangandaran Regency (IDR 350 billion), Tegal City (IDR 15 billion), and Rembang Regency (over IDR 239 billion) illustrate the urgent need for sound fiscal and cash management practices (Fadilah, 2023); (Rasban, 2025); (Wibowo, 2025).

Previous studies on these factors, however, present mixed findings. Some report that Regional Financial Independence, PAD Effectiveness, and Budget Efficiency significantly improve government performance, while others find no significant effects. Research on Regional Cash Management remains relatively limited. These inconsistencies point to a research gap regarding the combined influence of these fiscal variables on Regional Government Performance.

Therefore, this study aims to analyze the effects of Regional Financial Independence, PAD Effectiveness, Budget Efficiency, and Regional Cash Management on the performance of regional governments in Indonesia during the 2020–2023 period.

2. Hypothesis development (quantitative)

2.1. Agency Theory

Agency Theory, as explained by Jensen & Meckling, (1976), describes the contractual relationship between the principal and the agent, in which the principal delegates decision-making authority to the agent to act in the principal's interest. In the context of local government, society serves as the principal, while local governments act as the agent. Problems arise when conflicts of interest occur, where agents may not fully act in accordance with the expectations of the principals (Susilawati & Kushendar, 2023). This theory is relevant in explaining how local governments manage public finances and account for their performance.

2.2. Legitimacy Theory

According to Suchman, (1995), Legitimacy Theory emphasizes that organizations require legitimacy in order to be accepted by society. Suchman further defines legitimacy as the perception that an organization's actions are consistent with socially established norms, values, and beliefs. In the context of governance, legitimacy plays an essential role in maintaining public trust. Local governments that manage finances effectively are more likely to gain legitimacy from the public, whereas failures in budget management may erode public confidence.

2.3. Information Asymmetry Theory

Information Asymmetry Theory, as introduced by Akerlof, (1970), explains conditions in which one party possesses more information than the other, potentially creating imbalances in decision-making. In the context of local government finance, governments have greater access to financial information compared to the public as users of financial reports. This asymmetry may lead to misinterpretations of local government performance. Therefore, transparency and accountability in financial management are crucial to minimize the risks of information asymmetry.

2.4. New Public Management Theory

New Public Management (NPM) emerged in the 1980s as a new paradigm in public sector management that emphasizes efficiency, effectiveness, and result orientation (Hood, 1991). Key characteristics of NPM include performance measurement, output orientation, decentralization, the adoption of private-sector management principles in the public sector, and efficient use of resources. Asmorowati et al., (2024) argue that the implementation of NPM promotes transparency, accountability, and competitiveness in the public sector, ultimately improving

service quality. Within this study, NPM provides the basis for explaining the importance of financial independence, budget efficiency, and cash management in enhancing local government performance.

2.5.Regional Financial Independence

Regional Financial Independence reflects the capacity of local governments to finance their expenditures without relying on central government transfers. Ghofar et al., (2023) state that higher levels of financial independence strengthen the ability of local governments to fund programs, thereby ensuring sustainable development. Such independence can only be achieved through transparent, accountable, efficient, and effective financial management. This variable is important to assess the extent to which fiscal autonomy has been realized in supporting local government performance.

2.6.Effectiveness of Local Own-Source Revenue (PAD)

The Effectiveness of Local Own-Source Revenue (PAD) reflects the extent to which actual revenue realization meets the predetermined targets. According to Mardiasmo, (2018), effectiveness is understood as the comparison between achieved results and planned targets. A higher level of PAD effectiveness contributes more significantly to development financing, whereas low effectiveness may impose additional fiscal burdens on local governments. Hence, PAD effectiveness is an important indicator for assessing local government performance.

2.7.Budget Efficiency

Budget Efficiency indicates the extent to which local governments can produce maximum output with minimal input. Sawir, (2020) explains that efficiency represents the optimal relationship between revenue and expenditure. Sofyan et al., (2025) further note that countries with higher levels of public spending efficiency tend to achieve stronger economic growth and better public services. In the context of local governments, budget efficiency becomes a key factor in improving performance quality.

2.8.Regional Cash Management

Regional cash management refers to the process of planning, controlling, and managing government cash flows to ensure the availability of funds for programs and development activities. Ghofar et al., (2023) emphasize that effective cash management strengthens fiscal independence and maintains financial stability. Conversely, weak cash management may lead to budget deficits, delayed obligations, and potential defaults. Thus, cash management represents a critical variable influencing local government performance.

2.9.Local Government Performance

Local Government Performance reflects the extent to which government institutions succeed in achieving their goals, vision, and mission. Mayasari, (2022) defines performance as accountability for the success or failure in program implementation. Edowati et al., (2021) further argue that improvements in transparency and accountability in financial management directly enhance local government performance. Therefore, local government performance serves as the dependent variable used to evaluate the overall effectiveness of regional financial management. The measurement of Local Government Performance is based on the SAKIP score obtained from the evaluation conducted by the Ministry of Administrative and Bureaucratic Reform (KemenPANRB)

2.10. Regional Financial Independence and Local Government Performance

Regional Financial Independence reflects the capacity of local governments to finance activities

without relying on central transfers, which in turn enhances fiscal stability and accountability (Oki et al., 2020). Empirical studies reveal mixed evidence: while some report a significant positive effect on Local Government Performance (Ramadhan et al., 2022); (Anynda & Hermanto, 2020); and Burhan et al., (2022), others find no significant relationship (Hakiki et al., 2023); (Azzahro et al., 2023); and Marizka, (2024). These inconsistencies highlight a research gap, particularly during the 2020–2023 period marked by the pandemic

H1: Regional Financial Independence positively affects Local Government Performance

Effectiveness of Local Own-Source Revenue (PAD) and Local Government Performance

PAD Effectiveness demonstrates the extent to which revenue realization meets predetermined targets, reflecting the ability of local governments to achieve fiscal goals and implement programs effectively (Mardiasmo, 2018); (Amu et al., 2023). While several studies confirm its positive impact on performance (Permatasari & Trisnarningsih, 2022); (Anynda & Hermanto, 2020); and (Rahil et al., 2024), others report no significant effect (Marizka, 2024); (Ijtihad & Harsono, 2024); and Mayanti et al., (2023). These divergent findings indicate a gap in understanding, especially in the post-pandemic fiscal context.

H2: PAD Effectiveness positively affects Local Government Performance

Budget Efficiency and Local Government Performance

Budget Efficiency reflects the government's ability to maximize outputs with minimal inputs, thereby ensuring optimal use of public resources (Raden Mas Rachmanninditya Dwifarchan & Umi Sulistiyanti, 2023). Empirical evidence is inconclusive: some studies support its significant effect on performance (Setiawan & Ramdan, 2024), whereas others find no significant impact (Rahil et al., 2024). These mixed findings suggest contextual or methodological variations, warranting further investigation during the 2020–2023 period.

H3: Budget Efficiency positively affects Local Government Performance

Regional Cash Management and Local Government Performance

Regional Cash Management ensures liquidity for short-term obligations and fiscal stability (Ghofar et al., 2023). Poor management may cause deficits and hinder program implementation, while adequate liquidity supports performance. Although research directly linking cash management to Local Government Performance is scarce, related studies on liquidity show both positive (Nugraheni et al., 2024); (Purwoko & Muid, 2025); and (Erawati et al., 2022) and non-significant effects (Sari et al., 2025) and (Nuryanti & Suryandani, 2025). This inconsistency reveals a research gap, particularly in the regional governance context.

H4: Regional Cash Management positively affects Local Government Performance

In summary, the literature highlights the importance of fiscal independence, revenue effectiveness, budget efficiency, and cash management in shaping Local Government Performance. However, prior empirical findings remain inconsistent, especially in the context of the pandemic and post-pandemic period. To address these gaps, this study examines the influence of these four fiscal variables on the performance of local governments in Indonesia during 2020–2023.

3. Methodology

This study employs an explanatory research design to investigate the influence of Regional Financial Independence, Effectiveness of Local Own-Source Revenue (PAD), Budget Efficiency, and Regional Cash Management on Local Government Performance. A positivist

paradigm underpins the study, emphasizing an objective and empirical approach based on measurable quantitative data. The research adopts a deductive reasoning process, whereby hypotheses are derived from established theories and prior empirical studies.

The analysis was conducted using a quantitative methodology with secondary data drawn from audited Local Government Financial Reports (LKPD), officially published by local governments and the Audit Board of Indonesia (BPK), as well as performance accountability reports (LAKIP) and SAKIP evaluation scores released by the Ministry of Administrative and Bureaucratic Reform (KemenPANRB).

The unit of analysis consists of district and municipal governments in West Java, Central Java, and East Java. Data were collected in a natural, non-contrived setting without direct researcher intervention.

A longitudinal design covering the period 2020–2023 was employed, enabling the assessment of performance trends before, during, and after the COVID-19 pandemic. The data were analyzed using Partial Least Squares (PLS) with the SMART-PLS 4.0 software to evaluate the relationships between the independent variables and Local Government Performance.

Table 1. Measurement Instruments and Sources of Variable Measurement

Concept	Variable	Measuring Instrument	Source
Dependent	Local Government Performance	SAKIP score based on evaluation by the Ministry of Administrative and Bureaucratic Reform (KemenPANRB)	KemenPANRB
Independent	Regional Financial Independence	$\frac{\text{Local Own – Source Revenue}}{\text{Central or Provincial Government Transfers} + \text{Loans}} \times 100\%$	(Halim & Kusufi, 2013)
	Effectiveness of Local Own-Source Revenue (PAD)	$\frac{\text{Actual PAD Revenue}}{\text{Target PAD Revenue}} \times 100\%$	(Halim & Kusufi, 2013)
	Budget Efficiency	$\frac{\text{Realized Direct Expenditure}}{\text{Total Realized Expenditure}} \times 100\%$	(Mohamad Mahsun, 2006)
	Regional Cash Management	$\frac{\text{Regional Cash, excluding BLUD Short – Term Liabilities, excluding BLUD debt}}{\text{Total}} \times 100\%$	Adapted from Liquidity Ratio (Cash Ratio)

The research population consists of 100 district and municipal governments in West Java, Central Java, and East Java. Using purposive sampling based on the completeness of Local Government Financial Reports (LKPD) and the availability of consistent SAKIP evaluation scores during the study period, 47 local governments were selected as the sample. Data were obtained through a survey strategy using secondary sources, namely audited financial reports and officially published performance evaluation results

4. Results and discussion

4.1. Descriptive Statistics

Table 1. Descriptive Statistical Analysis Result

Variable	N	Minimum	Maximum	Mean	Standard Deviation
KPD	139	58.11	84.23	69.705	6.162
KKD	139	0.075	0.75	0.255	0.131
EPAD	139	0.791	1.258	1.041	0.099
EA	139	0.878	1	0.944	0.027
MKD	139	0.002	16.977	4.087	3.655

(Source: SmartPLS 4.0 Output)

Descriptive statistical analysis was conducted to provide an overview of the research variables, namely Local Government Performance, Regional Financial Independence, PAD Effectiveness, Budget Efficiency, and Regional Cash Management for the period 2020–2023.

The results show that Local Government Performance ranged from a minimum score of 58.11 (Semarang Regency, 2020) to a maximum of 84.23 (Banyuwangi Regency, 2023), with a mean of 69.71 and a standard deviation of 6.16. This indicates a considerable degree of variation across local governments, although the distribution remains relatively controlled.

Regional Financial Independence recorded a minimum value of 0.075 (Pangandaran Regency, 2020) and a maximum of 0.75 (Bandung City, 2022), with a mean of 0.255 and a standard deviation of 0.131. These results reflect a relatively low level of fiscal independence, with substantial variation among local governments.

PAD Effectiveness ranged from 0.791 (Malang City, 2023) to 1.258 (Sukoharjo Regency, 2022), with an average of 1.041 and a standard deviation of 0.099. This suggests that, on average, local governments were able to exceed their targeted PAD revenues.

Budget Efficiency showed relatively low variation, with values ranging between 0.878 (Boyolali Regency, 2020) and 1.00 (Tuban Regency, 2023). The mean efficiency was 0.944 with a standard deviation of 0.027, indicating that most local governments managed their budgets efficiently.

Regional Cash Management exhibited the widest variation among variables, ranging from 0.002 (Banyuwangi Regency, 2023) to 16.977 (Kudus Regency, 2022). The mean value of 4.087 with a standard deviation of 3.655 reflects significant disparities in liquidity management across regions, with most governments maintaining adequate cash reserves while others experienced high liquidity risk.

Overall, the descriptive statistics highlight substantial heterogeneity among local governments, particularly in fiscal independence and cash management, whereas PAD Effectiveness and Budget Efficiency appear relatively more stable:

4.2. Outer Model Testing

In data analysis using SmartPLS, the evaluation of the outer model is carried out based on three main criteria, one of which is convergent validity. The outer model was assessed using the Partial Least Squares (PLS) algorithm through the SmartPLS 4.0 application

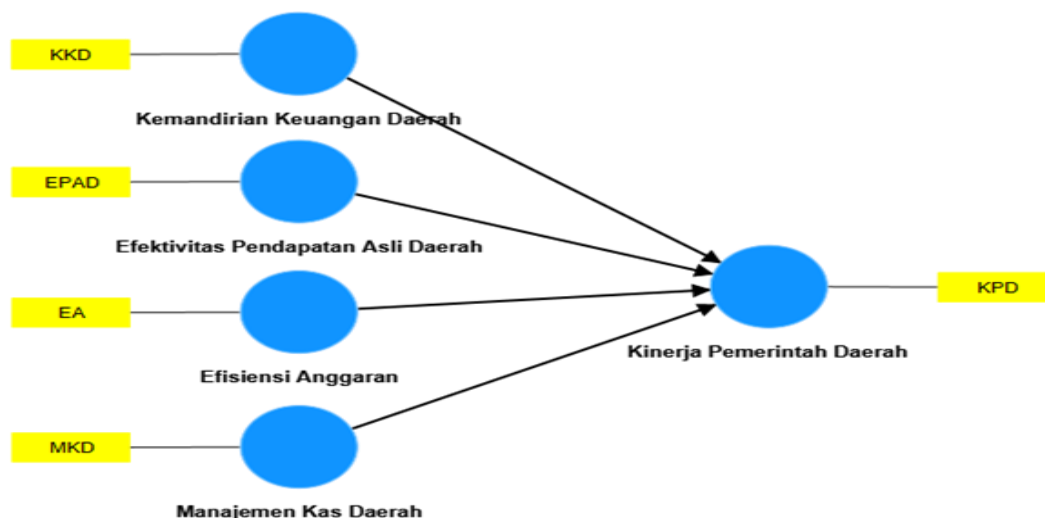


Figure 1. Indicator Testing Model Using the PLS-Algorithm

(Source: SmartPLS 4.0 Output)

According to Rahadi, (2023), convergent validity is evaluated through the loading factor, which reflects the degree of correlation between an indicator and its underlying construct. A higher loading factor indicates a stronger contribution to explaining the latent construct. In general, indicators with a loading factor above 0.70 are considered to have good convergent validity. However, indicators with loading factor values between 0.50 and 0.70 may still be retained if the construct's Average Variance Extracted (AVE) exceeds 0.50. Therefore, a construct can be considered to fulfill convergent validity if all indicators demonstrate a loading factor ≥ 0.70 , or in certain cases, when indicators with a loading factor between 0.50 and 0.70 are retained, provided that the AVE value is greater than 0.50.

Table 3. Outer Loading

	<i>Outer Loadings</i>	Criteria	Status
Budget Efficiency	1	> 0.5	Valid
Effectiveness of Local Own		> 0.5	Valid
Source Revenue	1		
Regional Financial Independen	1	> 0.5	Valid
Regional Government Performance	1	> 0.5	Valid
Regional Cash Management	1	> 0.5	Valid

(Source: SmartPLS 4.0 Output)

The results presented in the table demonstrate that all variable indicators meet the validity requirements, as evidenced by their standardized relative measure values exceeding the threshold of 0.5. Accordingly, it can be inferred that all indicators are appropriate for inclusion in the research model.

4.3.Inner Model Testing

Following the outer model assessment to ensure construct validity and reliability, the subsequent stage involves testing the structural model (inner model). The purpose of the inner model evaluation is to assess the relationships among latent variables by examining the path coefficients and the R-squared values of the dependent variables.

According to Kusumo (2022), this testing is employed to evaluate the strength and direction of the relationships among constructs, as well as to examine the model's alignment with the underlying theoretical framework. The results of the inner model testing in this study indicate significant values and relationship directions that can be utilized to assess the support for the proposed hypotheses.

1. R-Square Results

In conducting the structural model assessment, the first step involves examining the adjusted R-square values of each dependent latent variable. The following are the adjusted R-square estimates obtained from the analysis using SmartPLS software:

Table 4. Coefficient of Determination Test Result

	R-square	R-square adjusted
Local Government Performance	0.272	0.251

(Source: SmartPLS 4.0 Output)

The analysis results indicate that Regional Financial Independence, Effectiveness of Local Own-Source Revenue, Budget Efficiency, and Regional Cash Management collectively explain 25.1% of the variance in Local Government Performance. This suggests that the contribution of these four independent variables to the research model is classified as moderate. Meanwhile, 74.9% of the variance in Local Government Performance is explained by other factors not included in this study. These factors include regional expenditure management

(Ramadhan et al., 2022); intergovernmental revenue (Azzahro et al., 2023), budget realization and accounting control (Setiawan & Ramdan, 2024), capital expenditure and economic growth (Burhan et al., 2022), as well as budget allocation transparency (Lestari et al., 2024).

2. Q-square Results

The R-square values of the aforementioned dependent variables were utilized to calculate the Q-square coefficient of determination. According to (Kusumo, 2022), a model is considered adequate when the Q-square value exceeds zero. The Q-square ranges between $0 < Q^2 < 1$. The results of the Q-square calculation are presented as follows:

Table 5. Q-Square Test Results

	Q²predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE
KPD	0.224	5.467	4.209	5.467

(Source: SmartPLS 4.0 Output)

The Q-square calculation yielded a value of 0.224, indicating that 22.4% of the independent variables are suitable in explaining the dependent variable. In addition to the R-square and Q-square values, the model fit of PLS and the analyzed data can also be assessed using the Standardized Root Mean Square Residual (SRMR). A model is considered to have a perfect fit when the SRMR value is less than 0.08, and is regarded as acceptable when the SRMR value is less than 0.10.

Table 6. Model Fit Results

	Saturated model	Estimated model
SRMR	0.000	0.000
d_ ULS	0.000	0.000
d_ G	0.000	0.000
Chi-square	0.000	0.000
NFI	1.000	1.000

(Source: SmartPLS 4.0 Output)

Based on the model fit results presented in the table above, the PLS model yielded an SRMR value of 0.00000000000000020 for the estimated model, indicating that the model achieves a perfect fit.

3. Hypothesis Testing

Hypothesis testing is employed to examine the effect of one variable on another. The method applied involves analyzing the path coefficient estimates in the structural model through the bootstrapping procedure. The hypothesis testing results are evaluated based on the t-statistics value, which is compared against the t-table threshold of 1.96. If the t-statistics value is less than 1.96, the hypothesis is rejected.

Table 7. Path Coeffisien and T-statistic Test Results

	Hipotesis	Koefisien Jalur	T-statistics	p-values
KKD -> KPD	+	0.343	4.726	0.000002349
EPAD -> KPD	+	-0.201	2.521	0.012
EA -> KPD	+	0.325	4.195	0.000027808
MKD -> KPD	+	-0.016	0.238	0.812

(Source: SmartPLS 4.0 Output)

The results of the hypothesis testing are as follows:

Effect of Regional Financial Independence on Local Government Performance

The results indicate that Regional Financial Independence has a significant effect on Local Government Performance, with a t-statistics value of 4.726 (> 1.96) and a p-value of 0.000002349 (< 0.05). The path coefficient of 0.343 shows a positive effect. This coefficient is the highest among all variables, suggesting that Regional Financial Independence exerts the strongest influence on Local Government Performance. Accordingly, the first hypothesis (H1) is accepted.

Effect of Effectiveness of Local Own-Source Revenue on Local Government Performance

The hypothesis testing shows that the Effectiveness of Local Own-Source Revenue significantly affects Local Government Performance, with a t-statistics value of 2.521 (> 1.96) and a p-value of 0.012 (< 0.05). However, the path coefficient is negative, indicating that the direction of the effect is contrary to the hypothesized relationship. Therefore, the second hypothesis (H2) is rejected.

Effect of Budget Efficiency on Local Government Performance

The testing of Budget Efficiency yields a t-statistics value of 4.195 (> 1.96) and a p-value of 0.000027808 (< 0.05). The positive path coefficient indicates that Budget Efficiency significantly influences Local Government Performance. Thus, the third hypothesis (H3) is accepted.

Effect of Regional Cash Management on Local Government Performance

The results show that Regional Cash Management does not significantly affect Local Government Performance, with a t-statistics value of 0.238 (< 1.96) and a p-value of 0.812 (> 0.05). The negative path coefficient further indicates that the hypothesized relationship is unsupported. Consequently, the fourth hypothesis (H4) is rejected.

The Effect of Regional Financial Independence on Local Government Performance

The findings indicate that Regional Financial Independence plays a critical role in enhancing Local Government Performance. Fiscal independence enables local governments to finance development and public services without excessive reliance on central government transfers. This is consistent with the perspective of Dian Anita & Octavianidori, (2024), who emphasized that Local Government Performance can be reflected in the ability to reduce fiscal dependency, optimize local potential, and increase the contribution of locally generated revenue (PAD) to regional expenditure.

From the lens of Agency Theory, higher fiscal independence expands the capacity of local governments, as agents, to fulfill their mandates to society, as the principal. This also reinforces Legitimacy Theory, since fiscal independence reflects accountability and responsibility in managing public resources. Furthermore, the New Public Management (NPM) paradigm supports these findings by asserting that fiscal decentralization fosters efficiency, transparency, and results orientation. These findings are consistent with Ramadhan et al., (2022) and Permatasari & Trisnaningsih, (2022), who confirmed that regional independence contributes significantly to regional financial performance.

The Effect of Local Own-Source Revenue (PAD) Effectiveness on Local Government Performance

This study reveals that the effectiveness of PAD does not necessarily enhance Local Government Performance, and may even show a negative relationship. This could be attributed to PAD targets being set too low or the adoption of short-term strategies that emphasize achieving revenue targets without corresponding improvements in expenditure management or

development outcomes. Increased PAD revenue does not automatically translate into better service quality if it is not managed with a results-oriented approach.

From the perspective of Information Asymmetry Theory, this condition may arise due to the imbalance of information between local governments and citizens regarding the utilization of PAD, leading to negative perceptions of government performance. Legitimacy Theory further suggests that public legitimacy may decline if increased PAD is not accompanied by transparency and accountability in its use. These results align with Rahil et al. (2024), who found a negative effect of PAD effectiveness on financial performance in local government institutions.

The Effect of Budget Efficiency on Local Government Performance

Budget Efficiency is found to positively contribute to Local Government Performance. This implies that the ability of local governments to utilize financial resources optimally enhances the effectiveness of public service delivery and development. According to Sawir, (2020), efficiency is achieved when organizations can produce maximum output at minimum cost without compromising quality. Hafizi & Ayu Amalia, (2022) also emphasized that regional expenditure efficiency can be observed when budget realization is well-targeted and free from waste.

Theoretically, Budget Efficiency aligns with the principles of New Public Management (NPM), which emphasize the effective and efficient use of public budgets. Agency Theory suggests that efficiency reduces the potential for agency problems in budget management, while Legitimacy Theory highlights that citizens perceive governments as more credible when budgets are managed prudently. These findings are consistent with Lestari et al., (2024), who demonstrated a positive effect of budget efficiency on village government performance.

The Effect of Regional Cash Management on Local Government Performance

The findings indicate that Regional Cash Management does not have a significant effect on Local Government Performance. This may be explained by the fact that liquidity ratios only reflect short-term capacity to meet obligations, rather than the effectiveness of planning and implementing development programs. In practice, some regions achieve high performance scores despite cash deficits, as performance evaluations place greater emphasis on strategic planning, reporting, and alignment between budgeting and outcomes, as reflected in the SAKIP evaluation system (Anggraini & Akbar, 2022).

From a theoretical perspective, Information Asymmetry Theory explains that the benefits of cash management are less visible to the public due to limited access to information, thereby having little impact on perceptions of government performance. Legitimacy Theory further supports this finding, as non-transparent cash management does not enhance government legitimacy in the eyes of citizens. These results diverge from Hartoto et al., (2025) and Erawati et al., (2022), who found a positive effect of liquidity on performance, but are consistent with Nugraheni et al., (2024), who demonstrated that the current ratio does not significantly influence financial performance.

5. Conclusion

The findings of this study demonstrate that Regional Financial Independence has a positive and significant effect on Local Government Performance. This indicates that a higher level of fiscal independence enhances government performance, as lower reliance on central government transfers allows local governments greater flexibility in financing development programs and public services. Furthermore, the Effectiveness of Local Own-Source Revenue (PAD) is also found to significantly influence performance, albeit in a negative direction. This

suggests that higher PAD effectiveness does not necessarily reflect improved performance, as in practice, effectiveness may be achieved through setting low revenue targets or employing short-term strategies that do not support long-term development outcomes.

In addition, the study reveals that Budget Efficiency exerts a positive and significant effect on Local Government Performance. This finding highlights that efficient budget management, characterized by minimizing waste and optimizing resource utilization, contributes to improving the quality of public services and achieving development goals. In contrast to the other variables, Regional Cash Management, proxied by liquidity ratios, does not significantly affect Local Government Performance. This can be explained by the fact that liquidity primarily reflects short-term financial capacity to meet obligations, which does not directly capture government performance in terms of planning, implementation, or evaluation of development programs.

5.1. Limitations and Implications

This study is limited by data availability, as not all local governments publish their Government Agency Performance Accountability Reports (LAKIP/LKjIP) or SAKIP evaluation scores, thereby restricting the sample to regions with complete information. Consequently, the findings may not fully represent all local governments in Indonesia. Future research should consider alternative measures of local government performance more directly linked to fiscal independence, PAD effectiveness, budget efficiency, and cash management, as well as incorporate additional factors such as the Human Development Index, local fiscal policies, or government size. Extending the geographic scope beyond Java, particularly to central and eastern Indonesia, would also enhance the generalizability of the results. Moreover, the negative association between PAD effectiveness and performance warrants further investigation into PAD management practices and local tax structures.

From a policy perspective, the results underscore the importance for local governments and the Local People's Representative Council (DPRD) to strengthen fiscal independence and budget efficiency while ensuring transparency and accountability. Optimizing PAD should be pursued without imposing undue socio-economic burdens on communities, and efficiency gains must be balanced with clear reporting to reinforce public trust. Although cash management did not significantly affect performance, maintaining adequate liquidity remains crucial for operational continuity and fiscal stability. Overall, the findings highlight that fiscal autonomy and efficient resource allocation are key to enhancing local government performance and legitimacy.

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THE INFLUENCE OF FINANCIAL LITERACY AND OVERCONFIDENCE ON INVESTMENT DECISION MAKING.

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Abstract

Purpose, this study aims to empirically examine the influence of financial literacy and overconfidence among students. Methodology, this study uses a quantitative approach with a questionnaire containing 35 statements distributed to 329 students at the Tri Bhakti College of Economics and obtained 143 valid respondents. Data analysis was performed using the Partial Least Squares (PLS) method. Findings, the results show that financial literacy and overconfidence have a significant positive effect on investment decision making. These findings indicate that students' knowledge and confidence play a greater role in investment decision making. Suggestions, this study is limited to students at STIE Tri Bhakti, so the results cannot be generalized broadly. Further research is recommended involving a more diverse group of respondents and adding other variables to broaden the understanding of behavioral factors in investment decisions.

Keywords: Financial Literacy, Overconfidence, Investment Decision Making.

1. Introduction

The number of investors in the Indonesian capital market reached 17.02 million SIDs, an increase of 11.42% compared to the end of 2024. This achievement shows significant growth in public participation in investment, in line with increasing financial literacy and the interest of the younger generation in the capital market (Indonesia Stock Exchange, 2025).



Figure 1. Number of Registered Investors

The low level of financial literacy in Indonesia is a concern amid the rampant cases of fraud in investing, commonly referred to as bogus investments. People who are affected by bogus investments are an indicator that their financial literacy is still low, making them easily tempted to invest (Choiriah, 2023).

The Indonesia Stock Exchange (IDX) advises the public not to use funds from debt or loans to buy shares on the capital market. The IDX always reminds the public and investors that investing in shares has the potential to provide good returns, but also carries the risk of loss. IDX Development Director Hasan Fawzi reminded investors not to be overconfident and focused on pursuing maximum profits in the short term or instantly. The IDX also encourages investors to continue learning and improving their understanding of stock investment (Antara, 2021).

Financial literacy has a positive and significant effect on investment decision-making in research (Khairiyati & Krisnawati, 2019); (Helvira & Hariyanti, 2022); (Dinung et al., 2022); (Fadila et al., 2022); (Putri & Hamidi, 2019). However, in the study by Lestari et al. (2022), financial literacy had a negative and insignificant effect on investment decision-making.

Overconfidence has a positive and significant effect on investment decision making in the studies by (Yulistiyan et al., 2023); (Ferennita et al., 2022); (Theressa & Armansyah, 2022); (Widiastuti et al., 2024); (Salvatore & Esra, 2020). However, in the study by Rakhmatulloh & Asandimitra (2019), overconfidence has a negative and insignificant effect on investment decision making.

Based on these phenomena, this study highlights the psychological and knowledge factors that influence investors in investment decision making and the importance of financial literacy, as well as exploring the consequences of excessive confidence on investment decision making.

2. Hypothesis development (quantitative)

2.1. Financial Literacy

Many people are becoming increasingly aware of the importance of investing as the key to obtaining financial benefits in the future. This shows the crucial role of financial literacy in investment decision-making. Financial literacy itself is defined as financial products and services (including institutions, features, benefits, risks, and obligations). A number of studies have proven the positive and significant influence of financial literacy on investment decision-making, such as studies in Bandung (Khairiyati & Krisnawati, 2019), Pontianak (Helvira & Hariyanti, 2022), Muhammadiyah University of Kupang (Dinung et al., 2022), North Luwu (Fadila et al., 2022), and among management master students (Putri & Hamidi, 2019). These results show that individuals with better financial literacy are able to make more appropriate decisions and manage their finances effectively. Overall, financial literacy can promote prosperity through successful investment. Based on this description, the hypothesis proposed is:

H1: Financial literacy has a positive effect on investment decision-making.

2.2. Overconfidence

The concept of overconfidence describes an attitude of excessive confidence in one's own abilities and knowledge that can influence investment decision-making. In addition to demographic factors such as age, gender, and income, this psychological factor also plays an important role. Young investors who have high levels of self-confidence tend to act irrationally and often make excessive transactions, while those who lack confidence are more cautious. Various studies, such as those conducted on students at Muhammadiyah University Ponorogo

(Yulistiyani et al., 2023), young investors in Semarang City (Ferennita et al., 2022), active investors in the capital market who are at least 17 years old in Indonesia (Theressa & Armansyah, 2022), in Bekasi City (Widiastuti et al., 2024), and research in Jakarta (Salvatore & Esra, 2020), show that overconfidence has a positive and significant effect on investment decision-making. Based on this description, the hypothesis proposed is:

H2: Overconfidence has a positive effect on investment decision-making.

2.3. Research Model

To facilitate understanding of this research, a research model was created as a basis for discussing the issues under study. Based on this description, the research model can be illustrated as follows:

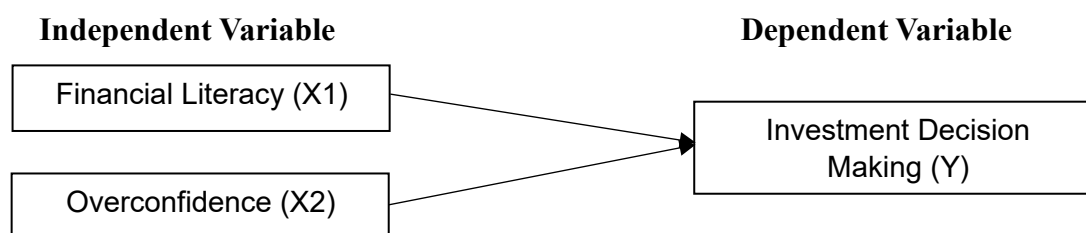


Figure 2. Research Model

3. Methodology

3.1. Sample and Data Collection

This study uses a correlational study to identify the main factors that influence investment decision making. The approach used is quantitative with a cross-sectional method, using primary data obtained through questionnaires (Sakaran, 2009).

The sampling technique used is non-probability sampling with subjective considerations, ease of access, and specific criteria so that the selected respondents are relevant to the research objectives. The research sample consists of 143 active students from the Tri Bhakti College of Economics, who come from the Accounting and Management study programs with 76 and 67 respondents, respectively.

3.2. Measurement

In this study, the measurement of each variable will be presented in tabular form to make it more systematic and easier to understand. The table summarizes the dimensions and main sources (references) underlying the measurement of each dependent and independent variable.

Table 2. Variable Measurement

Type	Variable	Dimension	Source
Independent Variable	Financial Literacy	1. Basic knowledge of finance 2. Saving and loans 3. Investment 4. Insurance	Fadila et al., (2022)
	Overconfidence	1. Self-concept 2. Risk tolerance 3. Investment strategy	Yulistiyani, Rapini and Setiawan, (2023)
Dependent Variable	Investment Decision Making	1. Return 2. Risk 3. The time factor	Dinung, Hasyim and Amalo, (2022)

Source: Fadila et al. (2022); Yulistiyan et al. (2023); Dinung et al. (2022)

3.3.Data analysis

Data analysis was conducted using the Partial Least Squares (PLS-SEM) method through SmartPLS software. This method was chosen because of its ability to handle complex latent variable models, does not require normally distributed data, and is resistant to multicollinearity problems between dependent variables thus it is often referred to as a “soft modeling” method. PLS allows researchers to test relationships between latent variables (both for prediction and theory confirmation). Furthermore, according to (Hayati & Amalia, 2021), SEM-PLS can expand theory, test complex models, and measure latent variables that cannot be observed directly while taking measurement errors into account.

4. Results and discussion

4.1.Results

4.1.1. Normality Testing, Convergent Validity and Reliability Testing

The fundamental assumption of multivariate analysis is normality. The data are considered normal if the skewness value is in the range of ± 1.96 at a significance of 0.05 (Hair et al., 2010). The data is deemed normal since, according to the table, the normality test indicates that each variable's skewness value is less than 1.96. In the meantime, the data processing findings demonstrated that all indicators and dimensions created latent variables, with loading factor >0.7 and AVE >0.5 meeting the validity of convergence (Hair et al., 2010). Additionally, the reliability test revealed that each variable had Cronbach's alpha and composite reliability values greater than 0.7, indicating the dependability of the data. All things considered, the assessment of the measurement model (outer model) verifies that all dimensions and indicators originate from latent variables.

4.1.2. The Hypothesis Test

In this study, a model feasibility test will be carried out (R^2 coefficient of determination test and F test) for hypothesis testing using multiple linear regression to see the movement of influence between the independent variable and the dependent variable. Hair et al. (2010) state that multiple regression is an appropriate method of analysis when the research problem involves one matrix-dependent variable which is considered to be related to two or more matrix-independent variables in response to changes in the independent variable. This goal is most often achieved through the statistical rule of least squares.

The test findings are shown in the table:

Table 3. T-test Results (individual)

Variable	Prediction	Original Sample (O)	P Values
FL -> IDM	+	0,443	0,000*
O -> IDM	+	0,329	0,001*
R- square		0,422	
Adjusted R- square		0,414	

Significance Level *0.05

Source: SmartPLS Data Processing Results

Caption: FL = Financial Literacy; O = Overconfidence; IDM = Investment Decision Making.

Based on the table above, the following conclusions can be drawn from the hypothesis testing results:

a) The results of testing the hypothesis of the effect of financial literacy on investment decision-making obtained an original sample result of 0.443 and a p-value of 0.000. Meaning that the significance is $0.000 < 0.05$, so H1 is accepted, and it can be stated that financial literacy has a

positive and unidirectional effect on the hypothesis, which supports the theory and has a statistically significant effect on investment decision making.

b) The results of testing the hypothesis of the effect of overconfidence on investment decision making obtained an original sample result of 0.329 and a p-value of 0.001, meaning that the significance is $0.001 < 0.05$, Therefore, H3 is accepted, so it can be stated that overconfidence has a positive and direct effect on the hypothesis, which supports the theory and has a statistically significant effect on investment decision making.

4.1.3. Explanatory

The R- square value of 0,422 in the study indicates that 42.2% of the variation in investment decision-making can be explained by financial literacy and overconfidence. The regression model used is quite good at explaining the influence of the two variables, although there are still 57.8% variations that are not explained in this study. While, the Adjusted R- square of 0,415 indicates that after considering the number of variables used, 41.5% of the variation in investment decisions can be explained by the model. Adjusted value provides a more realistic depiction of the quality of the regression model by correcting for the number of independent variables included.

5. Discussions

5.1. Financial literacy has a positive and significant effect on investment decision-making.

The results of this study include: Khairiyati and Krisnawati (2019); Helvira and Hariyanti (2022); Dinung, Hasyim and Amalo (2022); Fadila et al. (2022); Putri and Hamidi (2019) research that proves financial literacy has a significant effect on investment decision making. This explains that among students of the Tri Bhakti College of Economics, which is the unit of analysis in this study, it is reflected in the financial knowledge, skills, and confidence of respondents in financial management, confirming the positive influence of financial literacy on investment decision-making. Financial literacy is the ability to manage finances effectively to improve the welfare of life by making investment decisions in investing activities in a certain era. Financial literacy also explains knowledge about finance in the aspect of financial institutions and financial concepts as a whole as well as the ability to utilize financial products and manage personal finances in the short and long term.

5.2. Overconfidence has a positive and significant effect on investment decision-making

The outcomes of this study include: Yulistiyan, Rapini and Setiawan (2023); Ferennita, Hasan and Astuti (2022); Theresa and Armansyah (2022); Widiastuti et al. (2024); Salvatore and Esra (2020) one of the factors that can influence stock investment decision making is overconfidence of often referred to as a person's overconfidence in interpreting knowledge and abilities and believing in the validity of the information they have. Many psychological findings conclude that overconfidence behavior tends to lead to decision making with inaccurate predictions, so that compared to those who are more rational in their decision-making, they produce greater errors. Overconfidence has a role and influence in investor investment decisions, this can be seen from the investor's personal self-awareness that excessive confidence without seeing the risks that will be taken.

6. Conclusion

- (1) Financial literacy has a positive and significant effect on investment decision-making.
- (2) Overconfidence has a positive and significant effect on investment decision-making.

6.1. Theoretical Implications

The results of this can help broaden the understanding of investor behavior in making investment choices. By finding a relationship between financial literacy and overconfidence, this finding can improve the ability for more accurate analytical models of investor behavior in the capital market.

6.2. Managerial Implications

This research produces useful findings for students, especially for the student activity unit of the capital market study group at Tri Bhakti College of Economics to be able to organize interactive training programs, such as workshops and financial simulations, to improve financial-literacy. In addition, financial related courses should be integrated into various study programs to provide a comprehensive understanding.

6.3. Policy Implications

The findings in this study can develop public policy. The government as a regulator can make firmer regulations regarding financial education such as mandatory basic financial courses in formal and informal schools. (OJK) as a regulatory agency in Indonesia can increase educational campaigns to improve public financial literacy.

6.4. Limitations

This study has several major limitations. First, the sample is still limited so not all global populations can describe the overall behavior of investors. Second, the distribution of questionnaires was carried out via WhatsApp so that the questionnaires obtained were not monitored in detail in filling them out. Therefore, it can have the possibility of respondent subjectivity in waiting for confirmation from respondents. In addition, this study does not consider external factors that influence investment decisions, such as macroeconomic conditions and previous experience. The measurement of overconfidence may also not cover all aspects of investor behavior.

6.5. Suggestion

For future researchers, it is suggested that with a broader and more diverse sample, future research could also explore the relationship between financial literacy and other psychological factors, such as anxiety or motivation to invest. Conducting a longitudinal survey to track changes in financial literacy and investment behavior of university students over time may also provide valuable insights. By keeping these limitations in mind and implementing the suggestions, future research could provide more meaningful insights into investment decision-making among university students.

Restate the main argument, and present the conclusion of the analysis in the form of a narrative instead of numbering.

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THE INFLUENCE OF RELIGIOSITY AND INCOME ON THE DECISION TO PAY ZAKAT IN BEKASI CITY

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Abstract

Purpose This study aims to obtain empirical evidence about the effect of religiosity and income on the decision to pay zakat. *Methodology:* This research uses a quantitative method with a questionnaire containing 25 statements, distributed through social media to the people of Bekasi City. Of the 120 questionnaires distributed, 75 respondents from 12 sub-districts were obtained. Data analysis was carried out using PLS SEM version 3.0. *Findings* This result of this study found that religiosity has a positive and statistically significant effect on the decision to pay zakat. In addition, the income has a positive influence and statistically significant effect on the decision to pay zakat. *Suggestion* This study introduces innovative variables in terms of the decision to pay zakat, particularly in enhancing religious values and knowledge that provide new insights. However, these findings are limited to the research in this research variable, and in terms of applicability, it needs a wider scope such as in the context of education, attitude, or subjective norms that require further research.

Keywords: Religiosity, Income, Decision to Pay Zakat.

1. Introduction

Zakat, which mean growth, improvement, and purification, is a certain portion of the property owned at a certain time and distributed to the rightful parties. It is called a form of growth and improvement because by paying zakat, a person reduces sins and increases good deeds. As one of the five pillars of islam, zakat has an important position as a religious obligation that also brings great benefits in social aspects (ABBAS, 2015). The obligation of zakat refers to the general evidence of zakat as said by Allah Subhanahu Wata'ala in surah At-Taubah (9) verse 103:

خُذْ مِنْ أَمْوَالِهِمْ صَدَقَةً تُطَهِّرُهُمْ وَتُزَكِّيهِمْ بِهَا وَصَلِّ عَلَيْهِمْ إِنَّ صَلَاتَكَ سَكَنٌ لَهُمْ وَاللَّهُ سَمِيعٌ عَلِيمٌ ١٠٣

“Take zakat from their wealth (in order to) purify and cleanse them, and pray for them because indeed your prayer is peace for them. Allah is All-Hearing, All-Knowing.”

Zakat, as one of the pillars of islam, plays an important role in wealth distribution and the reduction of social inequality globally. In the global context, zakat contributes to efforts to reduce poverty, support community welfare, and promote social justice. With the huge potential of Muslim-majority countries including Indonesia, zakat can be an effective instrument in strengthening people's economy and improving social conditions.

Indonesia, as a country with the largest Muslim population in the world, has enormous potential in collecting zakat funds. Bekasi City, as one of the buffer areas of the capital city, has many residents who work in Jakarta. As a buffer zone, the economic resources in Bekasi are also quite large. With more economics drivers, the potential of zakat that can be collected and empowered by Zakat Management. Organization (OPZ) is also getting

bigger. However, the lack of synergy between OPZ, both Zakat Amil Institution (LPZ) and Zakat Amil Agency, causes problems in mapping Muzakki cannot be solved (Putra, 2016). To overcome the lack of synergy between OPZ such as LAZ and Amil Zakat Agency, a shared digital platform is needed as a central database of muzakki and mustahiq. This platform facilitates real-time information sharing, avoids data duplication, and accelerates zakat management.

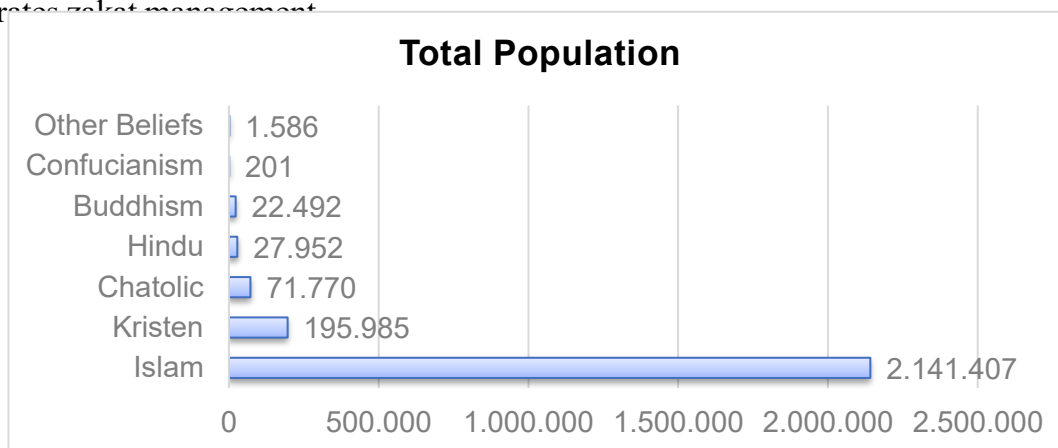


Figure 1. Total Population In Bekasi City By Religion 2024

Source: <https://bekasikota.bps.go.id>

Based on the data figure 1, Bekasi City is one of the cities with a dense population that has considerable zakat potential. Base on data from the National Amil Zakat Agency (BAZNAS) and other zakat institutions, the potential for zakat in Bekasi City continues to increase every year. This is encouraged by the distribution of zakat funds carried out by BAZNAS Bekasi City, namely the Smart Bekasi Program (Fakhriah, 2016).

Muzakki tend to give their zakat directly to the people closest to them, In line with the culture and values of the surrounding teachings, muzakki revealed that they feel more satisfied when distributing their zakat directly to mustahiq (Nugroho & Nurkhin, 2019). This view is in line with the hadith narrated by Salman bin Amir Radhiyallahu Anhu, in which the Prophet said:

"Indeed, charity to a poor person has the reward of one charity, while charity to a relative has two rewards: the reward of charity and the reward of establishing kinship." (HR: An-Nasai no. 2583, At-Tirmidhi no. 658, Ibn Majah no. 1844).

According to the hadith, giving zakat directly to close relatives is permissible as long as they qualify as zakat recipients. In this context, religiosity becomes one of the main factors underlying the decision of muzakki to distribute their zakat directly to mustahiq according to their beliefs.

Religiosity is a form of human relationship with their creator through religious teachings that have been internalized in a person and are reflected in their daily attitudes and behavior (Saputra, 2020). If you have a high sense of religiosity, of course a person's awareness and interest in paying zakat will also be high, and someone will sincerely pay zakat (Zaki & Suriani, 2021). High religiosity encourages individuals to pay zakat sincerely, understanding zakat as a religious and social obligation. Income factor interacts with religiosity, where higher income and religious people tend to be more aware of their responsibility in paying greater zakat.

Religiosity has a very important role, as expressed in the research of (Jibu et al., 2022), which states that Muslims with a high level of religiosity will increasingly understand the obligation of zakat as one of the pillars of Islam that must be fulfilled. The collected zakat is distributed fairly to those who are entitled to receive it. This group of zakat recipients has been determined by Allah Subhanahu Wata'ala in Surah At-Taubah (9) verse 60:

﴿ إِنَّمَا الصَّدَقَتُ لِلْفُقَرَاءِ وَالْمَسْكِينِ وَالْعَمِلِينَ عَلَيْهَا وَالْمُؤَلَّفَةِ قُلُوبُهُمْ وَفِي الرِّقَابِ وَالْغُرَمِيِّنَ وَفِي سَبِيلِ اللَّهِ وَابْنِ السَّبِيلِ فَرِيضَةً مِّنَ اللَّهِ وَاللَّهُ عَلِيمٌ حَكِيمٌ ٦٠ ﴾

“Indeed, zakat is only for the poor, the needy, the collectors of zakat, those whose hearts are softened (converts), to (liberate) slaves, to (free) those in debt, for the cause of Allah and for the traveler (who needs help), as an obligation from Allah. Allah is All-Knowing, All-Wise.”

With the revelation of this verse, the target of zakat becomes clearer and each party can know their rights, namely the eight groups (asnaf) who are entitled to receive zakat. This verse explains that there are eight categories of zakat recipients, which include: the poor, the poor, zakat administrators (amil), muallaf, riqab, people in debt (gharim), fi sabilillah and people who are travelling (ibnu sabil).

In addition income is also a factor considered by muzakki in issuing their zakat. Islam not only stipulates the obligation of zakat on wealth, but also requires zakat on income. This income includes proceeds from agriculture, trade, and various income obtained from various jobs and businesses (Zaki & Suriani, 2021). With the obligation of zakat on income, islam aims to help the poor and reduce social inequality.

According to data from the Central Statistics Agency (BPS), in March 2023 there were 25.90 million Indonesians living in poverty. Of these, around 74.21 percent were below the food poverty line. Which means nearly 20 milion people face the risk of hunger every day. The majority of them are Muslims. If the amil zakat agency is able to optimize the potential of zakat in Indonesia, Muslims have a great opportunity to make a more significant contribution in supporting the government to overcome poverty (Muwarni, 2024).

Previous research has found mixwd results from the effect of religiosity and income on the decision to pay zakat. Religiosity was found to have a positive and significant influence on the decision to pay zakat by (Erwan Aristyanto & Agus Sarwo Edi, 2022) and (Nadila Roza, 2022). However, research by (Syafitri et al., 2021) did not find a significant effect. Different results with research (Afandi et al., 2022) and (Arrosyid & Priyojadmiko, 2022), which found religiosity does not have a positive influence on the decision to pay zakat.

In previous research on income, it was found to have a positive and statistically significant effect on the decision to pay zakat by (Utari Anggriani et al., 2023), (Syahri Ramayani et al., 2023), (Busnetty et al., 2024), and (Misdawita et al., 2022).

With the research, it is hoped that it can provide information the decision to pay zakat and provide benefits and can be used as a reference for further researchers and be useful in decision making. In addition, This research is expected to fill the gap in zakat literature, provide new insights, and support the development of better policies in zakat management in Indonesia, especially in Bekasi City. Researches are interested in examining the effect of religiosity and income on the decision to pay zakat, because these factors greatly influence the decision of muzakki in issuing or paying zakat. With the 2 variables above, researches can find out the factors that can influence muzakki in making decisions to pay zakat.

1.1. Religiosity

Religiosity is the relationship between an individual and the religion he adheres to and

believes in so that religiosity makes a person always interpret his life from a religious point of view so that it affects mindset affects behavior in his environment and affects problem solving in his life (Wardani & Pitensah, 2021). It can be concluded that Religiosity refers to a person's relationship with God that influences the way the individual understands the meaning of his or her life through a religious perspective. This is reflected in their mindset and approach to various life problems, which are then reflected in their daily attitudes and behaviors.

1.2. Income

Income is the amount of money or goods received by individual companies and organization from business activities carried out such as sales of products and services to customers receipt of wages receipt of rent receipt of interest or profits used to meet daily needs for the realization of economic welfare (N. & Rahmi, 2024). Revenue is also defined as realized income derived from transactions during a certain period at the historical cost of goods concerned (Ananda, 2023). It can be concluded that Income refers to the amount of money or goods received by an individual, company, or organization as a result of business activities that have been carried out within a certain period of time, in return for the contribution of factors of production with the aim of making a profit.

1.3. Decision to Pay

Decision making is the process of selecting alternative actions to achieve certain goals or objectives (Amalia & Firmadhani, 2015). Meanwhile, according to (Ratiwi & Febriansyah, 2020) decision making is a mechanism for assessing and selecting one or several options. It can be concluded that Decision making is a process or way to choose the most appropriate action or attitude after considering various alternative options available.

2. Hypothesis development (quantitative)

2.1. Religiosity

One of the factors that influence the decision of muzakki in paying zakat is the level of religiosity. Faith in Allah, the desire to carry out His commands, and awareness of social impacts, supported by adequate understanding and knowledge, will shape the level of religiosity of muzakki. This then influences their decision to channel zakat through amil zakat institutions. in accordance with the Tawhidic Relationship Theory which emphasizes that man's relationship with God is the center of all aspects of life, including religious behavior. In this theory, the stronger one's relationship with God, the deeper the level of religiosity, which influences decisions and actions in accordance with religious teachings. Therefore, the higher the level of religiosity of muzakki, the greater their decision to pay zakat, in accordance with the principle of tali tauhid (tawhid). Research results (Erwan Aristyanto & Agus Sarwo Edi, 2022) show that religiosity has a positive effect on people's decisions to pay zakat. Likewise with research (Nadila Roza, 2022) which shows that religiosity has a positive effect on the muzakki decision to pay zakat. Based on this explanation, the researches took the hypothesis, namely

H₁ : Religiosity has a positive effect on the decision to pay zakat.

2.2. Income

Islam teaches that every asset earned is subject to zakat. Some types of assets that are subject to zakat include agricultural products, mining resources, as well as income from various jobs such as salaries, honorariums, wages, trade profits, and income from halal businesses. in the Theory of Tawhidic Relationships links income to spiritual responsibilities, including the obligation to pay zakat. Income is seen as a trust from Allah, which must be managed in accordance with the values of tawhid. Paying zakat is a form of obedience and social

awareness, where part of the income is channeled to help those in need. In this theory, zakat is a way to get closer to Allah while maintaining social balance, in accordance with the principle of tawhid. The results of research (Busnetty et al., 2024; Misdawita et al., 2022; Syahri Ramayani et al., 2023; Utari Anggriani et al., 2023) which have proven that income has a positive and significant effect on the decision to pay zakat. Based on this explanation, the researches took the hypothesis, namely

H₂ : Income has a positive effect on the decision to pay zakat.

2.3. Research Model

To facilitate understanding of this research, a research model was created as a basis for discussing the issues under study. Based on this description, the research model can be illustrated as follows:

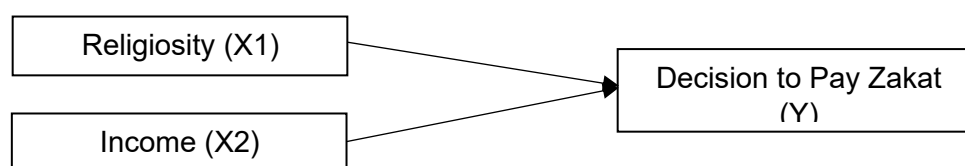


Figure 2. Research Model

3. Methodology

The population of this study are muzakki who pay zakat through zakat management institutions or organizations and non-organization of zakat management in Bekasi City. The research sample is people who have understanding and experience related to zakat, including muzakki who pay zakat through amil zakat institutions and also have income that has reached nisab such as entrepreneurs, company employees, and teachers. The variables used in this study are as a follow:

Table 1. Research Objects

Type	Variable	Dimension	Source
Independent Variables	Religiosity	1. Belief 2. Religious knowledge 3. Religious Practice 4. Experience	(Busnetty et al., 2022)
	Income	1. Own Income 2. More Income 3. Income Reaches Nisab 4. Assets Reach Haul	(Busnetty et al., 2024)
Dependent variable	Decision to Pay Zakat	1. Needs Assesments 2. Information Retrieval 3. Alternative Evaluation 4. The Decision to Pay Zakat 5. Behavior After Paying zakat	(Busnetty et al., 2022)

Data analyisis used in this study using the Partial Least Square (PLS) method. Partial Least Square-Structural Equation Modeling (PLS-SEM) is a statistical method for

analyzing the relationships between variables in complex models, especially when data are not normal or samples are small. It combines measurement and structural models, optimizing the variance explained by the model. PLS-SEM is suitable for imperfect data and can address non-linear relationships, by generating path coefficient estimates and measuring the validity and reliability of the model through indicators such as Average Variance Extracted (AVE) and Composite Reliability. The linear equation model in this regression is as follows:

$$DPZ = \beta_0 + \beta_1RG + \beta_2IC + \epsilon$$

4. Results

4.1. Respondent Demographics

There were 75 respondents filled out this research questionnaire, each of whom came from 12 sub-districts in Bekasi City. With 37 male respondents and 38 female respondents, where the majority of the respondents were aged between 20 years and 30 years. Of these, 64 people came from high school or vocational high school graduates, 13 people had a bachelor's degree, 6 people had a diploma degree, 5 people only graduated from junior high school, 2 people who were only limited to elementary school graduates, and 1 person who had a master's degree. In terms of income level, the majority of respondents, namely 35 people have an income of less than 3 million rupiah, where the majority of respondents have worked in the range if 1 year to 5 years. In addition, the majority of respondents in this study have jobs in the field of selling goods and services. In this study, 64 people paid zakat fitrah, 10 people paid zakat income, and 1 person paid zakat investment. With the majority of respondents paying the zakat at zakat management institutions such as BAZNAS or at the nearest mosque.

4.2. Normality Testing, Convergent Validity, and Reliability Testing

The fundamental assumption of multivariate analysis is normality. The data is considered normal if the slope value is in the range of ± 1.96 at a significance of 0.05 (Hair et al., 2017). The data are considered normal because, according to the table, the normality test shows that the slope value of each variable is less than 1.96. Meanwhile, the data processing findings showed that all indicators and dimensions created latent variables, with a loading factor of > 0.7 and $AVE > 0.5$ satisfying the validity of convergence (Hair et al., 2017). In addition, the reliability test revealed that each variable had an alpha and Cronbach composite reliability value greater than 0.7, which indicates the reliability of the data. All things considered, the assessment of the measurement model (the outer model) verifies that all dimensions and indicators are derived from latent variables.

4.3. The Hypothesis Test

The hypothesis in this study can be known from the calculation of the model using the PLS bootstrapping technique. From the results of the bootstrapping calculation, the statistical t value of each relationship or path will be obtained. This hypothesis testing is set with a significance level of 0.05. The hypothesis can be accepted if the original sample value is in line with the hypothesis. The result of the calculation for hypothesis testing in this study, using the direct effect of the independent variable on the dependent variable obtained as follows:

Table 2. T test Results (individual)

Variable	Prediction	Original Sample	P Values
RG -> DPZ	+	0.374	0.000*
IC -> DPZ	+	0.370	0.000*
R-squared		0.346	
Adjusted R-squared		0.328	

Significance Level *0.05

Source: SmartPLS Data Processing Results

Caption RG : Religiosity, IC : Income, DPZ : Decision to Pay Zakat

4.4. Explanatory

R-squared (R^2) shows how much variation in the decision to pay zakat (DPZ) can be explained by the independent variables, namely religiosity (RG) and income (IC). The R-squared value of 0.346 means that 34.6% of the variation in the decision to pay zakat can be explained by these two variables. Adjusted R-squared provides adjustment by considering the number of variables in the model, thus providing a more accurate picture. Its value of 0.328 indicates that after adjustment, 32,8% of the variation in the decision to pay zakat can be explained by this model.

5. Discussion

5.1. Religiosity has a positive and significant on the Decision to Pay Zakat

This result supports research (Erwan Aristyanto & Agus Sarwo Edi, 2022; Nadila Roza, 2022). The results of this study are consistent and in line with the theory of planned behavior (TPB) which emphasizes that a person's behavior is determined by their intentions, which are influenced by attitudes and subjective norms, In the context of zakat, the higher the level of religiosity, the more likely a person feels morally and socially obligated to pay zakat. A person with high religiosity will be able to consider all his behavior in accordance with the teachings of his religion. So that it is able to prevent bad behavior from a person. Belief In Allah SWT, the desire to obey his commands, and awareness of social consequences supported by deep knowledge and understanding will form the level of religiosity of a muzakki. A person who has high religiosity also tends to be more open to a well-organized zakat institution, because they believe that proper zakat management will have a significant impact on zakat recipients. Therefore, transparency and professional management of zakat institutions become important factors that encourage muzakki with high religiosity to carry out their obligations more consistently. thus, the higher the level of religiosity of a muzakki, the greater the interest and decision to pay zakat.

5.2. Income has a positive and significant on the Decision to Pay Zakat

This result is in line with research (Busnetty et al., 2024; Misdawita et al., 2022; Syahri Ramayani et al., 2023; Utari Anggriani et al., 2023). The results of this study support the marginal utility theory which states that the additional value obtained from each additional unit of income will decrease as income increases. In the context of zakat, individuals with higher income will feel the decreasing marginal utility of additional income. Therefore, they tend to be more willing to pay zakat as the financial impact of paying zakat is less significant for them compared to those with low income. For example, someone with a high income may

feel that giving some money to zakat will not significantly reduce their comfort in life, as the utility they derive from the additional income is already likely to decrease.

6. Conclusion

Religiosity has a positive and significant on the decision to pay zakat. This means that if someone has a high level of religiosity, the awareness of the decision to pay zakat will also increase. Income has a positive and significant on the decision to pay zakat. This means that the higher the income a person has, the more capable the person will be to pay zakat.

6.1. Research implications

6.1.1. Theoretical Implication

This study examines the religiosity and income of muzakki who pay zakat at zakat management institutions and non-agencies in Bekasi City, with the hope of becoming a reference in overcoming the low realization of zakat, so that the potential of zakat can be maximized. It is hoped that the result of this study will encourage zakat management institutions to take strategic steps to increase the decision of muzakki to pay zakat. In addition, this study is expected to add to the academic literature and develop a more comprehensive theoretical model, and can be used to test the variables of religiosity and income as independent variables, with the decision to pay zakat as the dependent variable in the Bekasi City community.

6.1.2. Managerial Implication

The results of this study are expected to provide managerial contributions to zakat management organizations in increasing the decision of muzakki to pay zakat, whsh is an important factor in realizing the potential of zakat in Indonesia. Zakat management institutions need to take advantage of the high level of religiosity by strengthening religious campaigns that emphasize the importance of zakat as a religious obligation, as well as linking it to spiritual nd social values. In addition, zakat institutions need to educate the public about the relevance of zakat in building social solidarity and reducing economic inequality, by portraying zakat as one of the main pillars in achieving people's welfare. Facing the existing income variations, zakat institutions can develop more flexible zakat payment schemes, such as a gradual payment system or based on a percentage of income that can be adjusted to the ability of muzakki. Thus, every layer of society, both low and high income earners, can still contribute according to their ability.

6.1.3. Policy Implication

This research is expected to contribute policies to the government related to the decision of muzakki to pay zakat, to overcome the realization of zakat that is not optimal compared to its potential. The implementation of zakat is regulated in Law No. 23 of 2011, which is expected to improve the management of zakat so that muzaki are more confident in channeling it through official institutions. The government needs to strengthen the implementation of zakat law by clarifying the role of zakat institutions, such as BAZNAS, to ensure more transparent and professional management. Zakat institutions should optimize the use of digital technology to facilitate zakat collection and distribution, and introduce productive zakat programs that fund small businesses or other economic empowerment. In addition, zakat institutions need to cooperate with religious institutions, media, and community organizations to carry out massive education campaigns on the obligation of zakat and its impact on reducing economic inequality. The development of more flexible zakat payment schemes, such as automatic salary deductions or income-based payments, can also increase

public participation from various groups. With these steps, it is expected that zakat institutions can improve the effectiveness of zakat management, expand its social impact, and build overall public trust.

6.2. Limitations of Research

The Limitation of this research is that researches only examine muzakki who pay their zakat at zakat management organizations and non-organizations zakat management in Bekasi City. In addition, many of the respondents obtained did not meet the desired criteria for this study. In collecting data through questionnaires, there were many answers that were not in line with expectations because the author could not accompany respondents directly when filling out the questionnaire. This led to discrepancies in some answers. In addition, many muzakki were reluctant to fill out the questionnaire because they felt that the personal data requested was too sensitive and risky to share.

6.3. Suggestions

Based on the research that has been conducted and there are still limitations in this study it is recommended that further research be carried out with a wider area coverage, so as to obtain a more representative sample and in accordance with the specified criteria. In addition, researchers are expected to be more active in accompanying respondents during questionnaire filling to ensure more accurate and relevant data quality. This assistance can also help reduce the possibility of inappropriate or incorrect answers due to respondents' ignorance. In this way, future research is expected to produce more valid and in-depth data, and make a greater contribution to the development of the study of zakat. And it is also advisable to look for other unique variables besides the variables used in this study such as attitude variables, education variables or subjective norm variables which of course can influence the decision of muzakki to pay zakat.

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INVESTMENT ACCOUNT HOLDER, NON-PERFORMING FINANCING, AND ISLAMIC SOCIAL REPORTING: THE ROLE OF ISLAMIC CORPORATE GOVERNANCE IN ISLAMIC BANKS

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Abstract

This study aims to investigate and analyze the relationship between Investment Account Holders (IAH) and Non-Performing Financing (NPF) on Islamic Social Reporting (ISR), with Islamic Corporate Governance (ICG) serving as a moderating variable. Employing a quantitative research design, the study uses a sample of the ten largest Islamic banks worldwide during the period 2018–2023. The hypotheses are tested using multiple regression analysis with EViews 9 software. The findings reveal that both Investment Account Holders and Non-Performing Financing exert insignificant effects on Islamic Social Reporting. However, Islamic Corporate Governance demonstrates a significant positive influence on Islamic Social Reporting and moderates the relationship between Non-Performing Financing and Islamic Social Reporting, but not between Investment Account Holders and Islamic Social Reporting. These results suggest that Islamic banks should strengthen their Islamic Corporate Governance practices to enhance the quality of their social reporting. This study is limited to a six-year observation period (2018–2023) and a sample of the ten largest Islamic banks, which may not fully represent the broader population of Islamic financial institutions. Future research could extend the study period, include a more diverse sample, or employ alternative analytical methods to provide more comprehensive insights.

Keywords: Investment Account Holder, Non-Performing Financing, Islamic Corporate Governance, Islamic Social Reporting.

1. Introduction

Islamic Social Reporting (ISR) is a reporting standard designed to measure and disclose the social performance of companies, particularly entities that operate using sharia approaches and principles. Haniffa was the first person to introduce the concept of Islamic Social Reporting (ISR) to the academic world in 2002 with his research entitled “Social Reporting Disclosure: An Islamic Perspective”. This research developed a framework for Islamic social reporting in response to the limitations of conventional Corporate Social Responsibility (CSR), which was considered to not fully reflect Islamic spiritual values and accountability (Prasetyo, 2022).

Although ISR practices are becoming more widely known, the quality of disclosure in the Islamic banking industry still faces challenges. The Islamic Finance Development Indicator (IFDI) 2024 shows that more than half of the countries surveyed scored zero on the sustainability indicator, due to weak disclosure of zakat, corporate social responsibility (CSR), and Qard al-Hasan practices (IFDI, 2024). This highlights the gap between the rapid growth of Islamic banking assets and social responsibility, which should be a key pillar of the Islamic financial system.

In Islamic banking, Investment Account Holders (IAH) are an important factor influencing the quality of Islamic Social Reporting (ISR). The Saudi Central Bank report (2023) notes that Islamic investment funds contribute 35.2% of total Islamic financial assets in Saudi Arabia (SAMA, 2023), emphasizing the strategic role of IAHs and the need for social reporting to protect their interests. However, research on the influence of IAHs on ISR still shows mixed results. Ningsih (2021) found a significant positive influence, where the larger the third-party funds, the broader the disclosure of ISR as a form of transparency and accountability. Conversely, Vionita et al., (2021) stated that IAH has no effect on ISR, because disclosure is more influenced by the uniform general practices of Islamic banks and low ISR awareness.

Another factor is Non-Performing Financing (NPF) or problematic financing. Puspasari & Muzakki (2021) found that NPF has a positive effect on ISR. However, Yahawi et al. (2020) stated that it has no effect, and Koni & Dayi (2023) even found a negative effect. During the pandemic, Dubai Islamic Bank recorded an NPF of 5.7% due to the acquisition of Noor Bank (Dubai Islamic Bank, 2021), while Abu Dhabi Islamic Bank reported an increase in non-performing assets to AED 7.7 billion from AED 5.4 billion in 2019 (Gulf News, 2021). Interestingly, despite the increase in NPF, Islamic banks in the United Arab Emirates have actually strengthened their social reporting. The number of companies in the UAE that publish sustainability reports rose from 44% in 2017 to 51% in 2020 (Ellili & Nobanee, 2023). This reflects that in times of crisis, social reporting (ISR) is used to strengthen institutional credibility and build social legitimacy as a form of reputation risk mitigation and a response to stakeholder expectations (Goud et al., 2020).

In addition, Islamic Corporate Governance (ICG) is believed to strengthen the relationship between IAH and NPF towards ISR because sharia governance requires transparency and accountability. However, previous studies have shown mixed results. For example, Suryadi & Lestari (2018) stated that ICG does not have a significant effect on ISR, while Rosita & Kurniawati (2022) found a positive effect.

Based on this research gap, this study is important to re-examine the role of IAH, NPF, and ICG on ISR in Islamic banks, in order to strengthen governance practices and social disclosure in accordance with Islamic principles. As Allah says in QS. Al-Baqarah [2]:267, every asset that is managed is a trust that will be accounted for in the future, so honest and transparent disclosure is part of the worship and social responsibility of Islamic financial institutions.

2. Hypothesis development

2.1. Literature Review

2.1.1. Islamic Worldview

Islamic Worldview or *ru'yatul Islam lil wujud* is a Muslim's comprehensive view of the world, based on Allah's revelation and the example of the Prophet Muhammad *Shalallahu 'Alaihi Wasallam* (Ibrahim et al., 2021).

2.1.2. Sharia Enterprise Theory

This theory is based on the concept of *amanah*, that all company resources are entrusted by Allah, so that managers are obliged to be accountable to capital owners, the community, the environment, and especially Allah *Subhanahu wa Ta'ala* (Triyuwono, 2000).

2.1.3. Tawhidi String Relation

This methodology emphasizes interaction, integration, and evolution of knowledge through the shuratic process with the Qur'an as the main source of knowledge (Choudhury, 2007).

2.1.4. Resource Dependence Theory

This theory states that organizations depend on external resources such as information, legitimacy, and public support, so that this dependence influences organizational strategies and decisions (Pfeffer & Salancik, 1978).

2.1.5. Stewardship Theory

Stewardship Theory, as developed by Donaldson & Davis (1991), views managers or executives as stewards who act in the best interests of the organization and its stakeholders. This theory rejects the basic assumption of Agency Theory, which assumes that managers always act opportunistically.

2.1.6. Investment Account Holder (IAH)

An Investment Account Holder is a party that mandates a sharia financial institution to manage funds based on the mudharabah-musyarakah profit-sharing principle (AAOIFI, 2015).

2.1.7. Non-Performing Financing (NPF)

NPF indicates the level of non-performing financing in Islamic banking (Yahawi et al., 2020).

2.1.8. Islamic Social Reporting (ISR)

ISR is a reporting standard for disclosing the social performance of entities based on Islamic principles (Haniffa, 2002).

2.1.9. Islamic Corporate Governance (ICG)

ICG is Islamic corporate governance that focuses on protecting the interests of all stakeholders in accordance with Islamic principles (Siagian et al., 2021).

2.2. Relationship between variables

2.2.1. The Influence of Investment Account Holders on Islamic Social Reporting

Investment Account Holders (IAH), as fund owners who bear investment risks, play an important role in promoting the accountability and transparency of Islamic banks. Based on Sharia Enterprise Theory, banks are responsible not only to shareholders, but also to IAH, the community, and Allah. Previous studies have shown the positive influence of IAH on Islamic Social Reporting disclosure (Astuti & Nurkhin, 2019; Hariyanti & Annisa, 2021).

H₁: Investment Account Holders have a positive influence on Islamic Social Reporting.

2.2.2. The Influence of Non-Performing Financing on Islamic Social Reporting

Non-Performing Financing (NPF) reflects the financing risk of Islamic banks. Although a high NPF ratio can reduce the bank's focus on social responsibility (Koni & Dayi, 2023), risk pressure can also encourage ISR transparency to maintain stakeholder trust (Puspasari & Muzakki, 2021). The Tawhidi String Relations perspective emphasizes that banks remain driven to fulfill their social responsibilities as a mandate (Choudhury, 2007).

H₂: Non-Performing Financing has a positive effect on Islamic Social Reporting.

2.2.3. The Influence of Islamic Corporate Governance on Islamic Social Reporting

Islamic Corporate Governance (ICG) reflects the compliance of Islamic banks with Islamic principles through the role of the Sharia Supervisory Board (DPS), which ensures accountability and stakeholder interests. Previous studies show that ICG has a positive effect on ISR, with the SSC encouraging management to act in a trustworthy and transparent manner (Rosita & Kurniawati, 2022; Siagian et al., 2021).

H₃: Islamic Corporate Governance has a positive effect on Islamic Social Reporting.

2.2.4. Moderation of ICG on the influence of IAH on ISR

The influence of IAH on ISR is affected by the quality of ICG. The implementation of ICG principles, such as an active DPS, transparency, and accountability, strengthens the bank's response to stakeholder information needs, thereby increasing ISR disclosure. Stewardship Theory and Sharia Enterprise Theory emphasize that managers act in good faith, so that good sharia governance strengthens the positive impact of IAH (Mais et al., 2024; Ningsih, 2021; Nuraeni & Rini, 2019; Wairooy & Haryono, 2023).

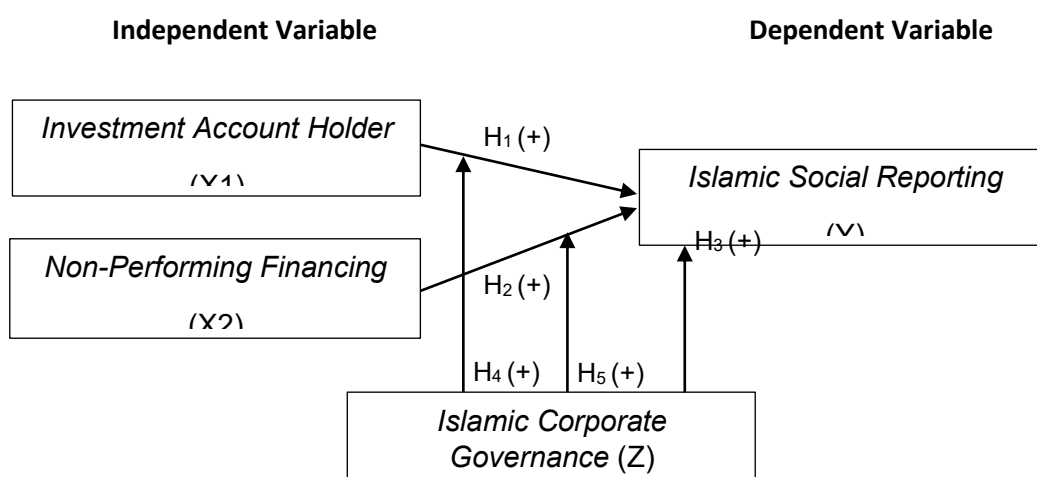
H₄: Islamic Corporate Governance strengthens the influence of Investment Account Holders on Islamic Social Reporting.

2.2.5. Moderation of ICG on the influence of NPF on ISR

NPF affects ISR disclosure, either decreasing it due to risk pressure or increasing it as a form of moral accountability. Strong ICG, particularly active DPS, can strengthen ISR disclosure even when NPF risk is high. Stewardship Theory and Tawhidi String Relation emphasize that risk does not exempt banks from social responsibility, as ISR reporting is a mandate from Allah and society (Choudhury, 2007; Donaldson & Davis, 1991).

H₅: Islamic Corporate Governance strengthens the influence of Non-Performing Financing on Islamic Social Reporting.

2.3. Research Model



3. Methodology

3.1. Sample and Data Collection

This research uses a quantitative explanatory design to analyze the influence of Investment

Account Holder (IAH) and Non-Performing Financing (NPF) on Islamic Social Reporting (ISR), with Islamic Corporate Governance (ICG) as a moderating variable. The study population consists of global Islamic banks that are publicly listed and consistently publish annual reports. Using a purposive sampling technique, ten banks were selected as the sample: Al Rajhi Bank, Kuwait Finance House, Dubai Islamic Bank, Alinma Bank, Maybank Islamic, Abu Dhabi Islamic Bank, Qatar Islamic Bank, Masraf Al Rayan, Bank Albilad, and CIMB Islamic Bank (TABInsight, 2025). The observation period covers 2018–2023. Data were collected from secondary sources, including audited annual reports, sustainability reports, and financial statements available on each bank’s official website.

3.2. Measurement

3.2.1. Investment Account Holder

Investment Account Holder (IAH) is measured using the ratio between total investment funds placed in the form of temporary syirkah funds and paid-up capital in shareholder equity, as per the approach used by Farook et al. (2011)

3.2.2. Non-Performing Financing

Non-Performing Financing (NPF) is measured by calculating the ratio between the amount of non-performing financing and total financing, referring to the method used by Yahawi et al. (2020).

3.2.3. Islamic Corporate Governance

Islamic Corporate Governance is measured using the scoring approach developed by Farook et al. (2011), which includes five equally weighted indicators: (1) existence of a Sharia Supervisory Board (SSB), (2) number of SSB members (≥ 7), (3) cross-membership in other Islamic banks, (4) doctoral qualification of SSB members, and (5) good reputation of SSB members. The total score (0–5) represents the Islamic governance quality of each bank.

3.2.4. Islamic Social Reporting

Islamic Social Reporting (ISR) is measured using an approach developed by Othman et al. (2009), which compiles disclosure indicators based on six main themes with a total of 42 criteria.

3.3. Data analysis

The study applies panel data regression analysis using E-Views 9 software to examine the effect of IAH and NPF on ISR, moderated by ICG. Two models are tested:

Model 1: to examine the direct effects of Investment Account Holder (IAH), Non-Performing Financing (NPF), and Islamic Corporate Governance on Islamic Social Reporting (ISR).

$$ISR = a + \beta_1 IAH + \beta_2 NPF + \beta_3 ICG + \varepsilon$$

Model 2: to test the moderating effect of Islamic Corporate Governance (ICG).

$$ISR = a + \beta_4 IAH * ICG + \beta_5 NPF * ICG + \varepsilon$$

Diagnostic tests such as Chow Test, Hausman Test, and Lagrange Multiplier Test were conducted to determine the best model (pooled, fixed, or random effects).

4. Results and discussion

4.1. Descriptive Analysis

Table 1. Descriptive Statistics Test Results

Variable	N	Min	Max	Mean	Std. Dev
Islamic Social Reporting	60	0.428	0.928	0.738	0.100

Investment Account Holder	60	5.972	104.446	22.247	22.906
Non-Performing Financing	60	0.004	0.090	0.025	0.024
Islamic Corporate Governance	60	1.000	5.000	3.000	1.314

Source: Processed data (2025)

Table 1 presents the descriptive statistics of all variables with 60 balanced observations from 2018 to 2023. The average Islamic Social Reporting (ISR) value is 0.738, indicating that Islamic banks in the sample have a relatively high level of disclosure. The mean Investment Account Holder (IAH) is 22.247, showing a wide variation (Std. Dev. 22.906). Non-Performing Financing (NPF) has a low mean value of 0.025, reflecting the sound financing quality of the sampled banks. Meanwhile, Islamic Corporate Governance (ICG) has an average score of 3.0, which shows a moderate implementation of sharia governance practices.

4.2. Panel Data Regression Model Estimation

Table 2. Model Specification Tests

Model	Test	Prob.	Decision
Model 1	Chow Test	0.000	Fixed Effect Model Selected
	Hausman Test	0.030	Fixed Effect Model Selected
Model 2 (Moderation)	Chow Test	0.000	Fixed Effect Model Selected
	Hausman Test	0.002	Fixed Effect Model Selected

Source: Processed data (2025)

Table 2 shows the model specification test results. Based on the Chow and Hausman tests, the Fixed Effect Model (FEM) was chosen as the most appropriate estimation method for both models (with and without moderation).

4.3. Hypothesis Testing Model 1

Table 3. Partial Test (Fixed Effect Model)

Variable	Prediction	Coefficient	t-Statistic	Prob.	Description
C		0.556	12.424	0.000*	
IAH	+	0.002	1.399	0.084	IAH does not have a significant effect on ISR; however, the direction of the relationship is consistent with the hypothesis, indicating that its effect is not yet strong enough to support the theory.
NPF	+	1.095	1.554	0.063	NPF does not have a significant effect on ISR; however, the direction of the relationship is consistent with the hypothesis, indicating that its effect is not yet strong enough to support the theory.
ICG	+	0.033	2.875	0.006*	ICG has a significant effect on ISR and is consistent with the hypothesis, which supports the theory.

<i>R-Squared</i>	0.759
<i>Adjusted R-Squared</i>	0.697
<i>F-statistic</i>	12.352
<i>Prob(F-Statistic)</i>	0.000

Description:

**5% Significance Level*

IAH (Investment Account Holder), NPF (Non-Performing Financing), ICG (Islamic Corporate Governance), ISR (Islamic Social Reporting).

Source: Processed data (2025)

Referring to Table 3, the Adjusted R-Squared value of 0.697 indicates that the combination of the Investment Account Holder, Non-Performing Financing, and Islamic Corporate Governance variables can explain 69.7% of the variation in Islamic Social Reporting (ISR). The remaining 30.3% is caused by other variables not included in this study.

4.4. Hypothesis Testing Model 2

Table 4. Partial Test (Fixed Effect Model)

Variable	Predi- ction	Coeffi- cient	t- Statistic	Prob.	Description
C		0.663	29.392	0.000*	
IAH*IC G	+	0.000	1.475	0.073	ICG did not significantly moderate the relationship between IAH and ISR, although the direction of the interaction remained positive. This indicates that ICG did not strengthen the positive influence of IAH on ISR, suggesting that ICG acts as a moderating predictor.
NPF*IC G	+	0.462	2.292	0.013*	ICG significantly moderates the relationship between NPF and ISR in a positive direction, indicating that ICG strengthens the influence of NPF on ISR. This result suggests that ICG functions as a quasi-moderator.
<i>R-Squared</i>					0.757
<i>Adjusted R-Squared</i>					0.701
<i>F-statistic</i>					13.615
<i>Prob(F-Statistic)</i>					0.000

Description:

**5% Significance Level*

IAH (Investment Account Holder), NPF (Non-Performing Financing), ICG (Islamic Corporate Governance), ISR (Islamic Social Reporting).

Source: Processed data (2025)

According to Table 4, the Adjusted R-Squared value of 0.701 indicates that Investment Account Holders and Non-Performing Financing, when moderated by Islamic Corporate Governance, explain 70.1% of the variation in the Islamic Social Report (ISR). The remaining 29.9% is explained by other factors outside the scope of this study.

4.5. Discussion of Research Results Model 1

4.5.1. The Influence of Investment Account Holders on Islamic Social Reporting

The results show that Investment Account Holder (IAH) has a positive but insignificant effect on Islamic Social Reporting (ISR). This finding supports the theoretical direction of Shariah Enterprise Theory (Triyuwono, 2000) and Resource Dependence Theory (Pfeffer & Salancik, 1978), which place IAH as an important stakeholder in promoting social transparency, but empirically it has not been proven strongly. These results are in line with the research by Vionita et al. (2021), which confirms the passive nature of IAH, but differs from Astuti & Nurkhin (2019) and Hariyanti & Annisa (2021), who found a significant positive influence. This insignificance is due to the weak governance rights of IAH, high investment fund variation, and the dominance of internal factors and regulations that are more decisive in determining the level of ISR disclosure.

4.5.2. The Influence of Non-Performing Financing on Islamic Social Reporting

The results of the study indicate that Non-Performing Financing (NPF) has a positive but insignificant effect on Islamic Social Reporting (ISR). Based on the Tawhidi String Relation framework (Choudhury, 2007), every Islamic economic activity, including financing risk management, should reflect the integration of spiritual values and social responsibility, so that an increase in NPF should ideally encourage broader social reporting. However, the insignificant positive result indicates that this ethical relationship has not been strongly implemented because the average NPF of global Islamic banks is still at a healthy level below 5%. This finding is in line with Yahawi et al. (2020), who found that financing risk does not have a significant effect on social disclosure, indicating that ISR practices are more influenced by institutional factors and external pressures than internal risks.

4.5.3. The Influence of Islamic Corporate Governance on Islamic Social Reporting

The results show that Islamic Corporate Governance (ICG) has a positive and significant effect on Islamic Social Reporting (ISR), thus accepting the fourth hypothesis. This finding is in line with the Stewardship Theory assumption that management acts as a steward that prioritizes the interests of stakeholders, so that strong sharia governance can encourage increased social transparency. These results support the research by Rosita & Kurniawati (2022), which found a significant influence and showed that the quality and effectiveness of the Sharia Supervisory Board (SSB) play an important role in strengthening ISR practices. Thus, the implementation of good ICG not only improves sharia compliance but also strengthens the social accountability of Islamic banks through more comprehensive disclosure in line with the principles of maqasid sharia and global sustainability demands.

4.6. Discussion of Research Results Model 2

4.6.1. Islamic Corporate Governance does not strengthen the influence of Investment Account Holders on Islamic Social Reporting

The results of the study indicate that Islamic Corporate Governance (ICG) does not strengthen the influence of Investment Account Holders (IAH) on Islamic Social Reporting (ISR). Based on Shariah Enterprise Theory (Triyuwono, 2000), ICG should be an accountability mechanism that channels the social aspirations of IAH as owners of risk capital. However, empirically, this function has not been fulfilled because IAHs tend to be passive and the role of the Sharia Supervisory Board (DPS) is still limited to product compliance rather than social oversight. As a result, ICG fails to serve as a channel of horizontal accountability between IAHs and management, while ISR practices are more influenced by external pressures such as regulations and ESG trends than by internal governance.

4.6.2. *Islamic Corporate Governance strengthens the influence of Non-Performing Financing on Islamic Social Reporting.*

The results of the study indicate that Islamic Corporate Governance (ICG) strengthens the influence of Non-Performing Financing (NPF) on Islamic Social Reporting (ISR), thus accepting the hypothesis. Based on Stewardship Theory, bank managers act as stewards who are responsible for safeguarding the interests of stakeholders through social transparency, especially when financing risks increase. Strong Sharia governance, through the active role of the Sharia Supervisory Board (DPS), encourages management to remain consistent with the principles of accountability and maqasid values. Thus, ICG acts as a quasi moderator (Sharma et al., 1981) that not only strengthens the relationship between NPF and ISR but also directly improves the quality of Sharia bank social reporting.

5. Conclusion

This study concludes that Investment Account Holder (IAH) and Non-Performing Financing (NPF) have a positive but insignificant effect on Islamic Social Reporting (ISR), while Islamic Corporate Governance (ICG) has a positive and significant effect. In addition, ICG is proven to strengthen the influence of NPF on ISR, but does not strengthen the relationship between IAH and ISR. This shows that good Sharia governance is able to improve the social accountability of Islamic banks, especially in conditions of increased financing risk, but is not yet effective in channeling the influence of investment fund holders.

5.1. *Research implications*

Practically, these results emphasize the importance of strengthening ICG as a means of maintaining the transparency and legitimacy of Islamic banks. The active role of the Sharia Supervisory Board is key in ensuring Sharia compliance while expanding social reporting. The originality of this research lies in proving the moderating role of ICG on the relationship between financing risk and social reporting in a global context.

5.2. *Limitations of Research and Suggestions*

The limitations of this study lie in the limited sample size and the quantitative nature of the ISR measurement. Further research is recommended to expand the cross-country sample and combine qualitative approaches in order to explore in greater depth the role of governance and maqasid shariah values in Islamic social reporting practices.

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THE EFFECT OF AUDIT FEES, AUDIT TENURE, AUDIT ROTATION, AND FIRM SIZE ON AUDIT QUALITY

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Abstract

This study aims to examine the effect of audit fees, audit tenure, audit rotation, and firm size on audit quality. This study uses quantitative data. The sample consists of 14 mining companies listed on the Indonesia Stock Exchange for the 2020-2024 period. The analysis technique used to test the hypotheses is multiple regression analysis using Eviews 9 software. The results of this study indicate that audit fees have a positive effect on audit quality, audit tenure has a negative effect on audit quality, audit rotation has a positive effect on audit quality, and client firm size has a positive effect on audit quality.

Keywords: Audit Quality, Firm Size, Audit Rotation, Audit Tenure, Audit Fees

1. Introduction

Publicly traded companies in Indonesia are experiencing rapid growth, resulting in increased demand for financial statement audits. Financial statements provide quantitative financial information as a basis for decision-making for both internal and external parties. According to the Financial Accounting Standards Board (FASB), financial statements must contain two important characteristics: relevance and reliability. However, these characteristics are difficult to measure, so companies require auditors to provide accurate information for decision-making and ensure compliance between reports prepared by management and existing accounting standards. This regulation is also stated in the Decree of the Chairman of Bapepam and LK, Regulation Number X.K.6 of 2012, which states that "Publicly traded companies are required to publish financial statements that have been audited by independent auditors" (Ratu and Tri, 2018).

High-quality audit results can impact the image of a public accounting firm, as audit quality encompasses clarity of information derived from the auditor's examination of audited financial statements in accordance with applicable standards. Audit quality is used to enhance the credibility of financial statements for users of accounting information, thereby reducing the risk of unreliable information in the financial statements for users, particularly investors. Audit quality is crucial for ensuring that the information in the financial statements can be used as a basis for reliable decision-making by stakeholders, including stockholders, suppliers, creditors, employees, customers, and the government. (Eko and I Ketut, 2017).

The phenomenon at PT. Timah Tbk (TINS) has just released its 2019 financial report. In addition to a net loss of IDR 611.28 billion in 2019, Timah management revised the restated 2018 financial report data. Timah management made quite significant revisions. Previously, TINS's net profit as of December 31, 2018, was IDR 531.35 billion, but now the figure is revised to IDR 132.29 billion

TINS's 2018 and 2019 financial reports were audited by the PwC Indonesia network, namely the Public Accounting Firm Tanudiredja, Wibisana, Rintis & Partners. Note 4 of the TINS financial report as of December 31, 2019, states that TINS management is reconsidering the interpretation of relevant facts, circumstances, and accounting treatments. Some of the

reasons cited by TINS management for revising the financial report include: (1) Underrecording of the cost of revenue from tin sales. (2) Incorrect investment property balance. (3) Incorrect method of disclosing income from the sale of residential buildings. (4) Uncollected prepaid taxes. (5) Transactions between companies within the same group and others.

Audit quality is defined as the auditor's ability to detect material errors and the willingness to disclose them (Novrilia, Arza, & Sari, 2019). In performing their work, auditors must comply with applicable auditing standards and the public accountant code of ethics. Audit quality can be influenced by variables such as audit fees, audit duration, and audit rotation. Although audit quality is a highly subjective concept and cannot be accurately measured, it is simply a proxy used to describe the concept.

According to Purnomo in 2019, he found that audit fees affect audit quality. In other words, the influence of audit fees charged or paid by companies for auditor service fees has a greater impact on the quality of audits performed by independent auditors. Audit fees are the amount the client must pay to the auditor to conduct the audit. The fees to be paid depend on the risk, the complexity of the audit process, and the number of auditors required. Before starting the audit process, audit fees are determined in accordance with policies established by the auditor and their client to avoid value conflicts that could reduce the quality of public accounting (Yolanda, 2019).

Audit tenure, which is the length of the engagement between the auditor from the KAP and the client, can affect audit quality, as can be seen from the length of the auditor's engagement with the client. According to Dewi & Dwiyantri (2016), the authority of the auditor's engagement period is intended to prevent the auditor from becoming too close to the client so that the auditor can remain free to examine the client's financial statements.

If a client company rotates audits, it can reduce or prevent the client from having a close relationship with the auditor. As a result, the auditor will not worry about their independence in auditing the company's financial statements. However, if the company never rotates audits, there will likely be a very close relationship between the client and the auditor, which can reduce the auditor's independence. Based on this background, the author is interested in.

2. Literature Review

2.1. Agency Theory

According to Agustini et al. (2021), Agency Theory, or agency theory, states that there is a conflict between management as the agent and the owner as the principal. The principal wants to know all information, including management's actions related to their funds in the company and their investments. This is achieved by requesting reports from the agent (management). Cahyati (2021) states that the primary objective of agency theory is to address agency problems that arise because the parties involved have different objectives. According to agency theory, auditors must act as parties who can reduce or overcome information asymmetry between the owner and the principal. One of the auditor's responsibilities is to assess the credibility of the financial statements provided by the agent, a deficiency of which can be seen in the quality of the auditor's audit. Professional public accountants, according to the Indonesian Institute of Accountants (IAI) (SPAP 2002:2), are those who uphold integrity, objectivity, and independence. Furthermore, ensuring independence will ensure high audit quality. Agency problems arise between auditors and management because management appoints auditors to perform audits on their behalf. However, management also bears the costs and services of the

audit. This can lead to clients becoming dependent on the auditor for extended periods, and can lead to an increased auditor-client relationship.

2.2. Audit Quality

According to Rahmawati (2021), audit quality is the implementation of an audit that meets standards and is able to uncover and report any violations committed by the client. Auditing functions as a process to reduce information misalignment between managers and shareholders by using external parties to validate financial statements. According to Purnomo (2019), public accounting firms (KAP) are divided into four size categories: (1) Big Four International Firms, (2) National Firms, (3) Large Regional and Local Firms, and (4) Small Local Firms. The outcome of an audit is the auditor's opinion on the audited financial statements. Audit opinions consist of 5 (five) types (Setiyanti, 2020), namely (1) Unqualified Opinion, (2) Qualified Opinion, (3) Modified Unqualified Opinion with an Explanatory Paragraph (Modified Unqualified Opinion), (4) Adverse Opinion and (5) Disclaimer of Opinion.

2.3. Audit Fee

According to Mulyadi (2016), an audit fee is the amount of a member's fee, which can vary depending on, among other things: the risk of the assignment, the complexity of the services provided, the level of expertise required to perform the service, the fee structure of the Public Accounting Firm (KAP) in question, and other professional considerations. Agoes (2012) states that an audit commission is a monetary or other form of compensation given to an auditor from a client or other party in exchange for obtaining an engagement. The audit fee is determined when a contract is established between the auditor and the client based on an agreement and is usually determined before the audit process begins.

2.4. Audit Tenure

According to Mgbame et al. (2012), the engagement period between an audit firm and the same client has been a topic of discussion, particularly when companies face the dilemma of deciding whether to switch audit firms after a certain period or maintain a long-term relationship with the same firm. Long audit tenure can lead to controversial findings. The length of the engagement period is a matter of debate because it can impact the auditor's performance at the client company, affecting factors such as the auditor's emotional connection with the client, independence, fees, and other factors. Al-Thuneibat et al. (2021) argue that a long relationship between an auditor and their client has the potential to create closeness between the auditor and the client, enough to hinder auditor independence and reduce audit quality.

2.5. Audit Rotation

According to Agustini & Siregar (2020), audit rotation is a regulation requiring organizations or businesses to change auditors or Public Accounting Firms. Audit rotation can occur for two reasons: audit rotation due to binding government regulations and voluntary audit rotation by company management. Voluntary audit rotation by a company with respect to the Public Accounting Firm that audited its financial statements can result in a loss of economic interest, which can be minimized by keeping the audit rotation period short. This allows the auditor to maintain their independence in conducting the audit.

2.6. Company Size

According to Suciana (2018), company size is determined based on total assets at the end of the year. Because company size is always increasing, large companies will certainly use the services of independent and highly skilled public accounting firms (KAPs) to obtain high-quality audit results. Agency expenses will increase with company size. Total assets, stock market value, and net worth are some indicators that can determine company size. Companies are divided into three categories: large companies, medium-sized companies, and small companies. Larger companies have greater assets, so they are more confident in their business prospects and tend to choose large public accounting firms to obtain higher-quality audits than smaller companies, which can reduce uncertainty about the company's long-term prospects. Companies also tend to choose small public accounting firms to reduce costs, but the audit quality provided by small public accounting firms is not as good as that of large public accounting firms.

3. Hypothesis development

3.1. The Effect of Audit Fees on Audit Quality

Nurintiati & Purwanto (2017) conducted research that found that audit fees positively impact audit quality. Their research showed that a company's discretionary accruals increase as audit fees increase. In most cases, paying companies for audits can be more profitable when they find other services outside of auditing that can maximize audit quality. As explained above, the hypothesis is:

H1: Audit fees have a positive effect on audit quality.

3.2. The Influence of Audit Tenure on Audit Quality

According to Hasanah (2018), audit tenure is the period of engagement between an auditor and a client, measured in years. Audit tenure consists of two constructs: economic incentives and auditor expertise. Audit tenure can create economic incentives that cause auditors to become less independent. Furthermore, auditor expertise is linked to audit tenure, allowing auditors to gain a better understanding of the client's business processes and avoid risks. Financial Services Authority Regulation (POJK) Number 13/POJK.03/2017 concerning the Use of Public Accountant Services and Public Accounting Firms in Financial Services Activities. Article 16 paragraph (1) states that parties carrying out financial services activities are required to limit the use of audit services to historical financial information for three consecutive reporting years. Article (3) states that parties carrying out financial services activities may only reuse audit services for annual historical financial information from the same Public Accountant after 2 (two) consecutive reporting fiscal years of not using audit services for annual historical financial information from the same Public Accountant (colling-off period). As explained above, the hypothesis presented is:

H2: Audit Tenure has a negative effect on Audit Quality.

3.3. The Effect of Audit Rotation on Audit Quality

Permatasari & Astuti (2019) stated that their findings strongly support the positive effect of audit rotation on audit quality. They explained that the length of the engagement period is negatively correlated with audit quality, thus requiring repeated audits to restore the trust of financial statement users. Entities are advised to utilize audit partner rotation to restore public trust and improve the quality of financial statement audits. There are two types of auditor rotation: voluntary and mandatory. Minister of Finance Regulation No. 17/KMK.01/2008 and

Financial Services Authority Regulation No. 13/POJK.03/2017 stipulate that financial statement audits can be conducted by three public accountants for at least six consecutive accounting years. Those who support the auditor rotation policy argue that when the same auditor is employed for a long period, audit quality will decline. As explained above, the proposed hypothesis is:

H3: Audit Rotation has a positive effect on Audit Quality

3.4. *The Influence of Client Firm Size on Audit Quality*

Research by Buchori & Budiantoro (2019) suggests that, partially, firm size significantly and positively influences audit quality. This means that larger firm sizes improve internal controls, which can lead to improved audit quality, as auditors have greater flexibility in examining and understanding the information contained within the firm. Berikang et al. (2018) state that larger firm sizes improve audit quality. This is due to the use of larger and more reputable public accounting firms by larger firms. As explained above, the proposed hypothesis is:

H4: Client firm size has a positive effect on audit quality.

4. Methodology

The purpose of this study is to determine whether there is a relationship between the variables of the Influence of Audit Fees, Audit Terune, Audit Rotation, and Company Size on Audit Quality. In this study, positivism is used as a research paradigm and is systematically arranged using deductive logic from the beginning of the hypothesis formulation. This study uses quantitative data. Quantitative methodology usually measures consumer knowledge, attitudes, behavior, or opinions. This methodology answers questions about quantity, frequency, amount, time, and who (Cooper & Schindler, 2014). However, a case study is a strategic research that aims to investigate and study a particular event or phenomenon; the unit of analysis uses an organization with minimal researcher involvement. This study uses a cluster probability sampling design. Researchers did not find any intervention in this research setting. For the implementation time, panel data, consisting of cross-sections and time series, is used through data analysis, namely hypothesis testing.

As for the secondary data measurements used, they are made in a table like the following example:

Table 1. Measuring instruments and sources of variable measurement

Concept	Variable	Measurement	Sumber
Dependent	Audit Quality	1 for non-Big 4 Public Accounting, 2 for non-Big 4 Public Accounting firm affiliated with foreign Public Accounting Firm, and 3 for Big 4 Public Accounting Firm	Maqfira (2018)
Independent	Audit Fees	Fee = Ln (Fee Audit)	Angreani (2019), Purnomo (2019)
	Audit Tenure	1 for the first year, and increased by 1 for each subsequent year.	Fauziah (2020)
	Audit Rotation	1 if company conducted auditor rotation during the research	Angreani (2019) Berikang (2018)

	period, and 0 if company did not conduct auditor rotation	
Company Size	SIZE = Ln (Total Aset)	Angreani (2019)

The population in this study was all mining companies listed on the Indonesia Stock Exchange (IDX) for the 2020-2024 period. The sampling technique used in this study was a non-probability sampling technique, namely the purposive sampling method. Purposive sampling is a sampling technique where all members of a group who meet the criteria are used as samples (Sugiyono, 2019).

The population in this study was companies in the mining sector listed on the Indonesia Stock Exchange. The population in this study was 70 companies from the mining sector that had undergone audits.

Based on the explanation and qualification data above, a sample of 86 companies and observational data from 14 companies were obtained over the five years of the study. This data was then processed using eViews version 9.

5. Results and discussion

5.1. Descriptive Statistical Test

The statistical analysis of the variables explains the independent and dependent variables used in this study. The independent variables are audit fees, audit tenure, audit rotation, and firm size, while the dependent variable is audit quality. The results of the study will identify the minimum, maximum, average, and standard deviation values for each variable used during the observation period of 2020–2024. The following table shows the results of the descriptive statistics:

Table 2. Descriptive Statistics Test Results

Variable	N	Min	Max	Mean	Std. Dev
Audit Quality	70	1.000.00 0	3.000.00 0	1.957.14 3	0,690216
Audit Fee	70	4.191.79 0	5.761.03 6	4.793.93 4	0,372195
Audit Tenure	70	1.000.00 0	3.000.00 0	1.657.14 3	0,759208
Audit Rotation	70	0.000000	1.000.00 0	0.128571	0,337142
Firm Size	70	1.116.27 4	1.351.74 1	1.220.14 4	0,657839

Source: Processed data (2025)

Based on Table 1, the results of the descriptive statistical tests for the independent and dependent variables are as follows:

1. Audit Quality (Y).

The descriptive statistical test results show that Audit Quality (Y) has a minimum value of 1.000,000 for companies affiliated with non-Big Four accounting firms, and a maximum value of 3.000,000 for companies affiliated with Big Four accounting firms. The table above shows a mean value of 1.957143, while the standard deviation is 0.690216, which is below the mean. This indicates that Audit Quality has a low level of data variation, thus indicating good or

homogeneous data variation.

2. Audit Fees

The descriptive statistical test results show that Audit Fees (X1) have a minimum value of 4.191790 and a maximum value of 5.761036. The table above shows the average value (mean) of 4.793934, while the standard deviation value is 0.372195 which is below the average value (mean), meaning that the Audit Fee has a low level of data variation, so it can be said that the data variation is good or homogeneous.

3. Audit Tenure

The results of the descriptive statistical test indicate that Audit Tenure (X2) has a minimum value of 1.000000 and a maximum value of 3.000000. The table above shows a mean value of 1.657143, while the standard deviation is 0.759208, which is below the mean. This indicates that Audit Tenure has a low level of data variation and can be considered good or homogeneous data variation.

4. Audit Rotation

The results of the descriptive statistical test indicate that Audit Rotation (X3) has a minimum value of 0.000000 and a maximum value of 1.000000. The table above shows a mean value of 0.128571, while the standard deviation is 0.337142, which is above the mean. This indicates that Audit Rotation has a high level of data variation and can be considered poor or heterogeneous data variation.

5. Company Size

The descriptive statistical test results show that Company Size (X4) has a minimum value of 11.16274 and a maximum value of 13.51741. The table above shows a mean value of 12.20144, while the standard deviation is 0.657839, which is below the mean. This indicates that Company Size has a low level of data variation, thus indicating good or homogeneous data variation.

5.2. Panel Data Regression Model Selection

5.2.1. Chow Test

Tabel 3. Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	27.815443	(29,203)	0.0000
Cross-section Chi-square	465.03300	29	0.0000

Source: Processed data (2025)

Based on the results of the Chow Test using Eviews9, the Cross-Section F probability value is 0.00, which is less than the significance level ($\alpha = 0.05$). This means that the best model used is the Fixed Effect Model (FEM). Therefore, a Hausman Test is needed to select the best model between the Fixed Effect Model and the Random Effect Model.

5.2.2. Hausman Test

Tabel 4. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.

Cross-section random	4.678922	3	0.3578

Source: Processed data (2025)

Based on the Hausman test results, the probability value is 0.33, which is higher than the significance level ($\alpha = 0.05$). In this case, the best model used is the Random Effect Model (REM). Therefore, a Lagrange Multiplier Test is needed to select the best model between the Common Effect Model and the Random Effect Model.

5.2.3. Uji Parsial (t)

Tabel 5. Hasil Uji Parsial (t)

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	-6.104930	1.036837	5.888031	0.0000
X1	0.353081	0.260095	1.357511	0.1793
X2	-0.036763	0.070266	-0.523195	0.6026
X3	-0.426998	0.161006	-2.652062	0.0100
X4	0.531690	0.137162	3.876355	0.0002

Source: Processed data (2025)

The number of observations in this study was 70, with 5 variables (dependent and independent variables) and an alpha of 5%. To obtain the t-table, the following formula was used:

$$Dk = n - k$$

$$= 70 - 5 = 65$$

$$T_{\text{tabel}} = 1.66864$$

Based on the table in the linear regression model, it can be seen that:

1. Audit Fees on Audit Quality

From the table above, the calculated t is smaller than the t-table ($1.35751 < 1.66864$). The significance probability value is 0.05 ($0.1793 > 0.05$), so H1 is accepted and H0 is rejected. Therefore, it can be concluded that the Audit Fee variable has no effect on Audit Quality.

2. Audit Tenure on Audit Quality

From the table above, the calculated t is smaller than the t-table ($-0.523195 < 1.66864$). The significant probability value is 0.05 ($0.6026 > 0.05$), so H1 is accepted and H0 is rejected. Thus, it can be concluded that the Audit Tenure variable has no effect on Audit Quality.

3. Audit Rotation on Audit Quality

From the table above, the calculated t-value is less than the t-value ($-2.652062 < 1.66864$). The significance probability is 0.05 ($0.0100 < 0.05$), so H0 is accepted and H1 is rejected. Therefore, it can be concluded that Audit Rotation affects Audit Quality.

4. Firm Size on Audit Quality

From the table above, the calculated t-value is greater than the t-value ($3.876355 > 1.66864$). The significance probability is 0.05 ($0.0002 < 0.05$), so H0 is accepted and H1 is rejected. Therefore, it can be concluded that Firm Size affects Audit Quality.

6. Conclusion

Based on the discussion in the previous section, The variables Audit Fee, Audit Tenure, Audit Rotation, and Company Size simultaneously influence Audit Quality in Mining Companies listed on the Indonesia Stock Exchange in 2020-2024. The Audit Fee variable has no partial effect on Audit Quality in Mining Companies listed on the Indonesia Stock Exchange in 2020-2024. The Audit Tenure variable has no partial effect on Audit Quality in Mining Companies listed on the Indonesia Stock Exchange in 2020-2024. The Audit Rotation variable has a partial effect on Audit Quality in Mining Companies listed on the Indonesia Stock Exchange in 2020-2024. The Company Size variable has a partial effect on Audit Quality in Mining Companies listed on the Indonesia Stock Exchange in 2020-2024.

6.1. Limitations of Research and Suggestions

For the Literature, this research is expected to contribute to and develop the field of financial accounting, as well as serve as a reference for future researchers who wish to examine the effect of audit fees, audit tenure, audit rotation, and company size on audit quality. For the Practical Environment: The results of this research are expected to help companies in the industrial goods sector understand the influence of audit fees, audit tenure, audit rotation, and company size, thereby enabling them to make informed decisions regarding audit quality. For Regulators: This research is expected to assist the Indonesia Stock Exchange in planning or improving policies related to the effect of audit fees, audit tenure, audit rotation, and company size on audit quality. Furthermore, it is expected to prevent earnings manipulation and violations of financial regulations by creating more effective oversight.

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THE EFFECT PROFITABILITY, LEVERAGE, INSTITUTIONAL OWNERSHIP ON FIRM VALUE

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Abstract

Purpose This study aims to analyze the influence of profitability, leverage, and institutional ownership on firm value in basic materials sector companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2024 period. *Methodology:* This research employs a quantitative approach using a purposive sampling method, resulting in a sample of 29 companies. The data were analyzed using multiple linear regression with the assistance of E-Views 9 software. *Findings* The findings indicate that profitability has a positive and significant effect on firm value, suggesting that the higher the company's profitability, the greater its value in the eyes of investors. Leverage also shows a positive and significant effect on firm value, implying that optimal use of debt can enhance market confidence in the company's performance. Meanwhile, institutional ownership has a negative but insignificant effect on firm value, indicating that the presence of institutional investors does not necessarily exert a strong influence on increasing firm value.

Keywords: Firm Value, Institutional Ownership, Leverage, Profitability

1. Introduction

Firm value reflects the level of success perceived by investors, which is generally indicated by stock prices. The higher the stock price, the greater the potential welfare for shareholders. Firm value can also be interpreted as the selling price of a business entity that is still operating, representing the real value per share if all assets were sold at market value. In financial statements, firm value is reflected in the statement of financial position and income statement. The decline in firm value can be seen from the case of several issuers on the Indonesia Stock Exchange (IDX) that were declared bankrupt, such as PT Tridomain Performance Materials Tbk (TDPM), PT Bakrie Telecom Tbk (BTEL), PT Mandala Multifinance Tbk (MFIN), and PT Eterindo Wahanatama Tbk (ETWA). This condition illustrates the failure to maintain financial performance and a healthy capital structure, which ultimately reduces investor confidence. A decline in firm value often signals weak managerial efficiency, high debt burdens, and ineffective use of assets. Therefore, it is important for companies to understand the determinants of firm value in order to maintain financial stability and investor trust.

One of the key factors is profitability, which shows the ability to generate profit efficiently from assets and capital. High profitability reflects effective resource management, enhances investor confidence, drives stock price appreciation, and increases the company's capacity for dividend distribution or expansion. Conversely, declining profitability may weaken investor trust, lower stock prices, and make it difficult for companies to access financing. Several studies support the positive effect of profitability on firm value Fauziah and Sudiyatno (2020). However, other findings indicate a negative effect Wulandari and Efendi, (2022), possibly influenced by profit allocation strategies, operational efficiency, or investors' perceptions of

long-term prospects.

In addition to profitability, leverage also affects firm value because it relates to financing through debt. Well-managed leverage indicates sound financial management, reduces tax burdens, and increases net income, thereby sending positive signals to investors. Research by Siagian and Surbakti (2021), confirms that leverage positively affects firm value. Nevertheless, other studies suggest that leverage may have a negative effect, as higher debt ratios increase financial risk and default probability, which could reduce investor interest. Thus, excessive leverage may threaten business continuity and negatively affect firm value.

Another factor is institutional ownership, which refers to the proportion of shares held by institutional investors such as banks, investment firms, and insurance companies. A higher level of institutional ownership enhances supervision of management decisions, thereby reducing opportunistic behavior. This monitoring encourages management to act professionally and responsibly, improving performance and strengthening investor confidence. Ultimately, this contributes positively to firm value. However, while profitability, leverage, and institutional ownership are generally found to influence firm value positively, inconsistent results may occur when these factors are not accompanied by transparency, effective reinvestment strategies, and good corporate governance. Hence, a comprehensive understanding of these determinants is crucial for companies to sustain investor trust, mitigate the risk of declining firm value, and ensure long-term growth.

1.1. Signalling Theory

According to Akerlof (1970) Signaling Theory, one of the main challenges in the market is information asymmetry, where management possesses more complete information compared to investors or creditors, which may lead to market distrust. To overcome this, companies need to provide credible signals through financial reports and performance indicators such as profitability and leverage. Profitability serves as a positive signal as it reflects the efficiency of resource management in generating profits, thereby enhancing investor confidence and firm value, while its decline conveys a negative signal. Similarly, leverage at a healthy level provides a positive signal that the company is able to manage its debt effectively, whereas excessively low or high leverage may act as a negative signal regarding financial structure weaknesses and default risk, which in turn can reduce firm value.

1.2. Agency Theory

Agency Theory developed by Jensen and Meckling (1976) explains the potential conflict of interest between owners (principals), who focus on long-term firm value, and managers (agents), who tend to pursue personal interests, thereby creating the possibility of moral hazard. To minimize such conflicts, monitoring mechanisms and incentives are required, such as managerial ownership, performance-based contracts, and transparent financial reporting. In this context, institutional ownership plays a crucial role, as institutions possess the resources and significant interest to conduct effective monitoring of management. A high level of institutional ownership can suppress opportunistic managerial behavior, enhance decision-making quality, maintain operational efficiency, and ultimately strengthen corporate governance while supporting the enhancement of firm value.

1.3. Firm Value

Firm value represents the market's perception of a company's success and prospects, generally reflected in its stock price, and serves as an important indicator of managerial performance as well as a key basis for investors in making investment decisions (Lisaria, Nyoman, Sriyono, Wahyono 2016). It can be understood as the selling value of a going concern, reflected in the market price per share if all assets were sold Yuliyanti & Nugrahanti (2019). Furthermore, firm value can also be analyzed through financial statements that illustrate the historical financial condition and the company's ability to generate profits, where the greater the difference between market value and book value, the higher the firm value, which ultimately has a positive impact on shareholders' wealth Ningsih & Hariyati (2020).

1.4. Profitability

Profitability is an important indicator in assessing a company's financial performance as it reflects the ability to generate profit through the efficient use of assets and capital, while also demonstrating the effectiveness of management in creating sustainable earnings Monika (2022). High profitability indicates operational efficiency, competitiveness, and long-term growth potential, which in turn strengthens investors' and stakeholders' confidence in the company's prospects. Moreover, profitability serves as the basis for strategic decision-making, such as dividend distribution and firm valuation; therefore, financial information must be presented transparently and accurately through financial statements to provide a true picture of the company's financial condition Purba et al. (2020)

1.5. Leverage

Leverage refers to the condition in which a company uses debt as a source of financing to support its operations, reflecting the degree of dependence on borrowed funds in financing its assets Felix, Sumarsono, Bhaktiar (2020). A high level of leverage indicates a greater reliance on external funding, which increases interest expenses and financial obligations; therefore, it must be managed carefully to avoid disrupting the company's financial stability. An appropriate level of leverage reflects sound financial management, where the company is able to meet its debt obligations on time while utilizing borrowed funds for productive activities. However, excessive leverage without the ability to fulfill financial commitments poses a risk of default, which may threaten business continuity, reduce investor confidence, and negatively affect firm value.

1.6. Institutional Ownership

Institutional ownership is a corporate governance mechanism that serves to monitor managerial actions so they align with shareholder interests, where company shares are held by financial institutions such as banks, pension funds, insurance companies, and investment firms. Higher institutional ownership enhances monitoring effectiveness due to greater access to information and voting power in strategic decisions Shalini dan Raja (2020) . A larger proportion of institutional ownership can limit managerial opportunism, encourage management to focus on increasing firm value, and strengthen governance Arbi (2015). This aligns with agency theory Jensen and Meckling (1976), which highlights that the separation

between ownership and control may create conflicts of interest, and the presence of institutional investors helps reduce agency costs and minimize actions detrimental to shareholders.

1.7. Profitability to Firm Value

Profitability is an important indicator that reflects a company's ability to generate profit efficiently and sustainably through the utilization of assets and capital, where a high level of profitability not only demonstrates managerial efficiency but also provides a positive signal to investors regarding the firm's financial health and growth prospects, thereby increasing investment interest and firm value (Meidawati et al., 2020). In this study, profitability is measured using Return on Assets (ROA), which indicates the extent to which total assets are able to generate net income and is considered an appropriate measure to comprehensively capture financial performance (Hidayat, 2018). Previous studies have shown mixed results, where profitability has a positive and significant effect on firm value (Fauziah & Sudiyatno, 2020), while Wulandari and Efendi (2020) found a negative effect, possibly due to other factors such as profit utilization, operational efficiency, or investor perceptions.

H1: Profitability has a positive effect on Firm Value.

1.8. Leverage to Firm Value

Leverage is a financing strategy that utilizes debt to fund operational and investment activities, reflecting the degree of a company's dependence on borrowed funds to finance its assets (Felix, Sumarsono, & Bhaktiar, 2020). A higher leverage ratio indicates a greater proportion of external funds in the capital structure, which increases interest expenses and long-term obligations, potentially reducing solvency, burdening liquidity, and creating default risks that lower investor confidence and firm value. However, when managed effectively, leverage can provide benefits such as tax savings through interest expenses, improved financing efficiency, and enhanced profitability, thereby serving as a strategic tool to increase firm value.

From the perspective of signaling theory, the use of leverage may also convey positive signals to the market, indicating that management is confident in the company's financial prospects and capable of managing debt efficiently, which can strengthen investor trust. Empirical findings are mixed, with Siagian and Surbakti (2021) showing that leverage has a positive and significant effect on firm value, while Ndasa Avelina Marisa and Dewi Nurhayati (2021) found a negative effect, suggesting that high leverage increases financial risk, reduces investor interest, and adversely impacts firm value.

H2: Leverage has a positive effect on Firm Value.

1.9. Institutional Ownership to Firm Value

Institutional ownership is an essential element of corporate governance that functions as a monitoring mechanism to ensure that management acts in accordance with the interests of shareholders. This ownership refers to shares held by financial institutions such as banks, pension funds, insurance companies, and other investment institutions. According to Shalini and Raja (2020), the higher the proportion of shares owned by institutions, the stronger the control and monitoring of the company's strategic decision-making, since institutions possess greater access to relevant information and significant voting power in governance processes. Arbi (2015) also emphasizes that a high level of institutional ownership can reduce managerial

opportunistic behavior because institutional investors generally have long-term interests in the company's performance, thereby encouraging management to act more efficiently and remain focused on increasing firm value. Thus, institutional ownership not only acts as a source of capital but also serves as a supervisory mechanism that directs companies toward more rational decisions and long-term value creation. This condition is in line with agency theory proposed by Jensen, which explains that the separation between ownership and control may create conflicts of interest, where institutional investors play the role of external control mechanisms to reduce agency costs and ensure that management acts in line with shareholders' objectives, namely enhancing firm value. Supporting this view, Wahyuni (2021) found that institutional ownership positively influences firm value, particularly among companies listed in the Sri-Kehati index, where higher institutional ownership encourages transparency. Conversely, Mudma'inah, Probowulan, and Kamelia F.A (2019) reported different findings, suggesting that institutional ownership does not affect firm value because dispersed ownership structures in the United States provide managers with greater discretion in decision-making without strong control from dominant shareholders.

H3: Institutional Ownership has a positive effect on Firm Value.

2. Methodology

This study aims to determine the possibility of a relationship between the independent variables of profitability, leverage, institutional ownership and the dependent variable of firm value. The type of data used in this study is quantitative data. While the research strategy aims to investigate and study occurring phenomena or events, the sampling design used in this study is probability sampling using cluster sampling. The unit of analysis used is the organization. The background of the research in this study did not find any interventions or non-controls. For the implementation time of this research, panel data is used, with the analysis being hypothesis testing. The secondary data measurements used are as follows:

Table 1. Variable measuring instruments and sources of measurement

No	Variable	Measurement	Sumber
1.	Profitability	$NPM = \frac{Net\ Profit}{Revenue} \times 100$	Beaver & Engel, 1996
2.	Leverage	$DER = \frac{Total\ Asset}{Total\ Equity} \times 100$	Wahidahwati, 2010, Pujiati, 2019
3.	Institutional Ownership	$\begin{aligned} & Institutional\ Ownership \\ & = \frac{Number\ of\ share\ held\ by\ institutions}{Number\ of\ outstanding\ share} \times 100 \end{aligned}$	Klapper & Love, 2004 : 713
4	Firm Value	$\begin{aligned} PBV &= \frac{Price\ per\ share}{NBVS} \times 100 \\ NBVS &= \frac{Total\ equity}{Number\ of\ outstanding\ share} \end{aligned}$	/29/DPbs 7 Desember 2007

The population in this study is companies listed as issuers on the Indonesia Stock Exchange during the observation periode from 2019-2024, companies operating in the basic materials sector and consistently publishing completer financial statements annually from 2019-2024

containing data and information relevant to the variables in the study. Some of the criteria set in determining the sample are, as follows:

Number of companies in the Basic Materials sector listed on the Indonesia Stock Exchange as of December 31, 2024		116 Company
Criteria		
	Unlisted companies in the Basic Materials sector on the Indonesia Stock Exchange from 2019-2024.	(27 Company)
Criteria 1	Listed companies in the Basic Materials sector on the Indonesia Stock Exchange from 2019-2024.	89 Company
	Industrial sector companies that did not publish financial reports consecutively from 2019-2024 and did not contain complete data and information according to the variables used in the research.	(60 Company)
Criteria 2	Industrial sector companies that have published financial statements consecutively, namely in the years	29 Company
Sample of companies in the non-cyclical consumer sector		174
Total N= 29 x 6 years research = 174		

3. Results and discussion

3.1. Analisis Descriptive

	FV	PR	LV	IO
Mean	1.031936	0.055061	0.633098	0.808086
Median	0.733962	0.040901	0.510808	0.656407
Maximum	3.723149	0.313395	4.561360	9.929399
Minimum	0.175402	0.001499	0.033764	0.006159
Std. Dev.	0.779602	0.049637	0.562916	0.944517
Skewness	1.536641	1.870043	2.720420	6.340899
Kurtosis	4.977925	7.840045	16.94584	55.25715
Jarque-Bera	96.84005	271.2535	1624.647	20964.37
Probability	0.000000	0.000000	0.000000	0.000000
Sum	179.5568	9.580634	110.1591	140.6069
Sum Sq. Dev.	105.1459	0.426241	54.81921	154.3354
Observations	174	174	174	174

Source: Processed data (2025)

1. The company's value in the raw goods sector has a vulnerable value between the lowest of 0.175 to 3.723 with an average value of 1.031. With a standard deviation value of 0.779, which shows that the standard value of the deviation is smaller than the average value, so the data spread is relatively moderate. This indicates that market performance and perception of company value in this sector tend to be stable despite variations between

issuers. The positive average reflects that in general, companies in the raw goods sector are able to show a fairly good performance of company value, although there are still some companies with lower values than others.

2. Profitability in the raw goods sector has a vulnerable value between the lowest of 0.001 to 0.313 with an average value of 0.055. With a standard deviation value of 0.049, which shows that the standard value of the deviation is close to the average value so that the rate of data dissemination is relatively moderate. This indicates that there is a difference in profitability between companies in the raw materials sector, although in general it is still in the not too far range. The relatively low average profitability reflects that most companies in this sector have not been able to generate a high level of profit from the total assets they own.
3. Leverage in this raw goods sector has a vulnerable value between the lowest value of 0.033 to 4.561 with an average value of -0.633. A negative average value reflects that in general, companies in this sector tend to have an unhealthy funding structure, where the proportion of debt is relatively higher than the company's ability to manage its capital. With a standard deviation value of 0.562, this shows that there is considerable variation between companies in the use of debt as a source of funding, thus indicating differences in the strategy and ability of each company to manage its capital structure.
4. Institutional ownership in this raw goods sector has a vulnerable value between the lowest of 0.006 to 9.929 with an average value of 0.808. With a standard deviation value of 0.944, this shows that the data spread is relatively high because the deviation value is larger than the average. This condition indicates a significant difference on average. This condition indicates that there is a significant difference in the level of institutional ownership between companies in the raw goods sector. The relatively low average reflects that most companies still have a limited level of institutional ownership, although there are some companies with fairly dominant levels of ownership.

3.2. Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.739952	(28,142)	0.0000
Cross-section Chi-square	186.488548	28	0.0000

Source: Processed data (2025)

Based on the results of the chow test using Eview9, it is stated that the probability value of Cross Section F is 0.0000 which is less than the significant level value ($\alpha=0.05$). This is by far the best model used is the Fixed Effect Model (FEM). Therefore, a thirst test is needed in order to choose the best model between the Fixed Effect Model (FEM) and the Random Effect Model (REM).

3.3. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.

Source: Processed data (2025)

Based on the results of the Hausman Test, the probability value is 0.0439 where this result is greater than the significance level value ($\alpha=0.05$). In this case, it means that the best model used is the Fixed Effect Model (FEM).

3.4. Model Hypothesis testing

Variable	Prediction	Coeficient	t-statistik	Prob.	Description
NP		0.660050	4.631233	0.0000	
PR	+	3.141295	2.357109	0.0198	PR has a positive and significant effect on NP in the direction of the hypothesis that supports the theory.
LV	-	0.332393	2.692469	0.0079	LV has a significant positive effect on the company's value is not in line with the hypothesis that supports the theory.
KI	+	-0.014249	-0.331704	0.7406	IP has a negative and insignificant effect on the company's value is not in line with the hypothesis that supports the theory.
R-Square					0.694796
Adjusted R-Square					0.628167
F-Statistic					10.42781
Prob (F-Statistic)					0.000000

Source: Processed data (2025)

3.5. Profitability on Firm Value

The results of this study indicate that profitability has a positive and statistically significant effect on company value, with a probability of 0.0198, which is less than 0.05. This statement means that if a company has a high level of profitability, it will impact an increase in company value. This is because companies with high profitability can send a positive signal to investors about good financial prospects, thereby increasing market confidence. Additionally, high profitability can also be used to increase dividends or as a source of internal funding that can strengthen the company's future performance.

Signal theory states that there is a tendency for profitability to provide a positive signal; if profitability increases, it will affect the company's value, and conversely, a negative signal is given if the level of profitability decreases. However, the results of this study indicate that a high level of profitability does not always send a positive signal, as a high level of profitability does not necessarily affect an increase in the percentage of company value that will be

distributed. This can happen because there are other factors that have a greater influence on company value than profitability, such as company growth or capital structure. Although the company recorded a profit, if it is not accompanied by efficient asset management or the right financial strategies, high profitability does not necessarily reflect a high company value in the eyes of investors.

3.6. Leverage on Firm Value

The results of this study indicate that Leverage has a positive and statistically significant effect on Company Value, with a leverage result of 0.0079. This statement implies that optimal use of debt can increase company value. This is because debt can be used for business expansion or productive investments, which can increase future profits. Additionally, leverage can also send a positive signal to investors about management's boldness in making funding decisions to support company growth. Signal theory states that an increase in leverage can send a positive signal to investors regarding the company's future prospects. Optimal use of debt indicates that management is confident in the company's ability to generate future cash flow to repay its obligations. This confidence serves as a signal that the company has good business prospects, which can increase the company's value.

3.7. Institutional Ownership on Firm Value

The results of this study indicate that Institutional Ownership has a negative and statistically insignificant effect on Company Value, with a probability result of 0.7406, which is greater than 0.05. This statement implies that a high level of institutional ownership does not always affect an increase or decrease in Company Value. This can happen because institutional investors tend to be passive in their oversight, thus not providing a strong incentive for improved company performance.

Excessive institutional ownership also has the potential to create conflicts of interest, where the owning institution is more focused on short-term profits or specific political influence, which can lead to imbalances in corporate governance. This situation could negatively impact market perception, decrease investor confidence, and ultimately lower the company's value.

This finding is consistent with Agency Theory, which explains that the separation between owners (principals) and managers (agents) can lead to conflicts of interest. Although institutional ownership is fundamentally aimed at overseeing management, if this oversight is excessive or ineffective, it can lead to disharmony in corporate decision-making. The negative signals arising from this institutional dominance can cause investors to value the company less positively, thereby affecting the company's market value decline.

5. Conclusion

Profitability has a positive and significant impact on company value. This statement indicates that the higher the company's profitability level, the greater the company's value in the eyes of investors. This indicates that the company's profits are able to create added value for shareholders and reflect the efficiency of managerial performance in managing resources. High profitability also increases market confidence in the company's future business prospects, which can attract investor interest and drive up the company's stock value. Leverage has a positive and significant effect on firm value. This statement indicates that increasing the use of debt in a company's capital structure can increase firm value. This shows that the company is able to efficiently utilize borrowed funds to finance operational activities and productive

investments, thereby positively impacting investors' perception of firm value. Additionally, optimal use of leverage can also increase returns for shareholders thru the leverage effect (financial leverage). Institutional ownership has a negative and insignificant effect on firm value. This statement indicates that the presence of institutional ownership, whether in high or low percentages, does not have a strong influence on increasing company value. This can be caused by the passive role of institutional investors in managerial decision-making, or because the ownership is not yet large enough to provide significant control over the company's direction and policies. Additionally, other factors such as financial performance, business strategy, and external conditions may be more considered by investors in assessing a company's value than institutional ownership structure alone.

5.1. Limitations of Research and Suggestions

This research has several limitations that may affect its results, including the following: The data used is only for a 6-year period and is only for the Raw Materials sector, so the results cannot be generalized to other sectors. The measurements used for each variable are limited, such as Profitability only using Return on Assets (ROA), Leverage only using Debt to Equity (DER), Institutional Ownership (Number of Shares held by Institutions / Total Outstanding Shares), and Company Value only using (PBV) and (NBVS), so they cannot truly reflect the overall state of the company.

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FINANCIAL DETERMINATION ON *PROFIT GROWTH*: A STUDY ON BANKING SUBSECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE

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Abstract

Purpose This study aims to examine and analyze the effect of Activity Ratio, Firm Size, Profitability, and Leverage on Profit Growth in banking subsector companies listed on the Indonesia Stock Exchange during the 2021-2024 period. *Methodology* : This study uses a quantitative approach with secondary data in the form of annual financial reports from 47 populations in the banking subsector listed on the Indonesia Stock Exchange for the period 2021-2024. The research sample consisted of 12 companies selected using purposive sampling method based on certain criteria relevant to the research objectives. The analysis technique used to test the hypothesis is multiple linear regression analysis using E-views 9 software. *Findings* The results of this study indicate that the Activity Ratio has a negative effect on Profit Growth, Firm Size has a negative effect on Profit Growth. Then, Profitability has no effect on Profit Growth, and Leverage has no effect on Profit Growth. *Research limitations/implications* This study aims to provide investors with information on the company's operational and financial performance to improve profit growth, which will have an impact on decision-making and serve as a reference for further research.

Keywords: Activity Ratio, Firm Size, Profitability, Leverage, Profit Growth

1. Introduction

The company is one of the pillars that supports the economy in Indonesia, striving to achieve the goal of substantially improving the economy. In today's world, companies compete with each other, and each industry strives to significantly improve performance to achieve its organizational goals. Getting maximum profit is the main goal that a company must achieve. Profit is an important component that drives all of the company's operational activities, becoming an important indicator that can be used to determine *the company's* profit growth.

Banks are companies engaged in the financial sector, in Law Number 10 of 1998 concerning banking it is explained that banks are business entities that collect funds from the public in the form of deposits and distribute them to the public in the form of credit and or other forms in order to improve the standard of living of many people. *Profit growth* is one of the main indicators that can assess a company's financial performance. Banks that experience increased profits show management's ability to manage resources and risks well, which is certainly the main attraction for investors and other stakeholders. Profit itself is the level of economic gain that occurs over a certain period of time obtained through the addition of assets, the decrease in liabilities, or the addition of assets that result in an increase in equity that is not caused by the contribution of investment.

The banking industry subsector immediately plays an important role in moving the wheels in the Indonesian economy. This can be reviewed from its role as a source of financing, a means for the public to invest in various financial instruments, and financial services industry operators who carry out intermediation functions. *Financial deepening* (the depth of a country's financial sector) is a term that is often used to describe how financial services affect the economy. The

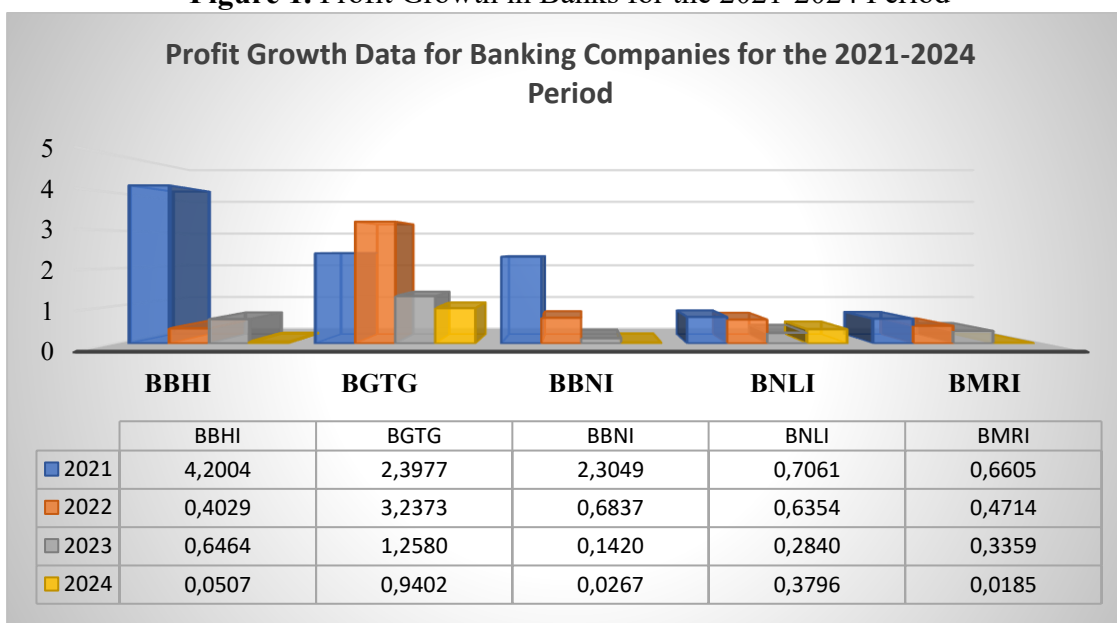
financial sector plays a very important role in spurring the economic growth of a country. The banking finance subsector has received more attention from investors as a place to invest.

The establishment of a company aims to obtain long-term profits, ensure that the company's operations continue to run and have a positive impact on the welfare of the community as part of its environmental and social commitments. The profits obtained by the company allow its operations to continue to run sustainably. Companies that can increase profits certainly have the ability to strengthen the correlation between the size of the company and the level of profit it generates.

Increasing a profit and ensuring the survival of a company, the company needs to increase revenue, because with a high number of sales, the profit produced by the company will also be higher, this will certainly have a big impact on the optimal growth of the company's profit and be able to maintain the existence of the company itself. The company's profit is expected to continue to increase every year. Therefore, it is necessary to estimate profits in the coming period. To be able to find out the estimated profit, it can be seen through the examination of the company's financial statements using financial ratios.

Profit growth is a type of predictive data that is important for users of financial statements. This report provides an overview of the potential business performance and financial condition of the company in the future. Companies need to identify the causes of profit fluctuations in profit growth. *Profit growth* reflects a company's profile that provides important information to external parties, such as investors and creditors to evaluate the company's performance.

Figure 1. Profit Growth in Banks for the 2021-2024 Period



Source: Indonesia Stock Exchange (2025), processed

Based on the chart above, it can be seen that *profit growth* data in banking subsector companies listed on the Indonesia Stock Exchange for the 2021-2024 period experienced a significant downward trend. *The highest profit growth* was achieved by BBHI in 2021 at 4.2004, but this figure continues to decline until it only reaches 0.0507 in 2024. The same thing also happened to BBNI, which in 2021 recorded *profit growth* of 2.3049, then experienced a continuous decline to reach 0.0267 in 2024. Meanwhile, BGTG showed a different condition, where there was an increase in *profit growth* in 2022 of 3.2373, but it could not be maintained so that it declined again in the following years. Meanwhile, BMRI recorded moderate *profit*

growth from the beginning, which was 0.6605 in 2021, but tends to continue to decline to 0.0185 in 2024. In contrast to other banks, BNLI actually showed better stability, even with a relatively low *profit growth* value . After briefly dropping to 0.2840 in 2023, BNLI's *profit growth* increased slightly to 0.3796 in 2024. Thus, it can be concluded that in the 2021-2024 period, *the profit growth* of the banking subsector tends to decline, where banks with high *profit growth* rates actually experience the most significant decline, while banks with low *profit growth* rates are relatively more stable. Increased activity ratio indicates an increase in net sales revenue that encourages *profit growth* and affect profits in a company. Productive management typically has a high activity ratio, while a low activity ratio requires management to examine and reconsider its marketing strategy and capital expenditure (Hutami & Nursiam, 2024).

Companies with larger sizes usually have larger resources, both in the form of assets, capital, and management capacity that help the company's sustainability and ability to generate higher profits. Large-scale companies tend to have easy access to the market, good financial resources, and plenty of investment opportunities that are able to increase revenue and profits. Because, a company's ability to control and generate profits is indirectly influenced by the size (Dewantari et al., 2020).

Profitability refers to the ability of a company to profit from the results of its efforts. Thus, higher profitability indicates that the company is financially healthy and has the potential to make greater profits in the next period. Companies that have high profitability have sufficient profit reserves to support expansion, innovation, or new investment without the need to rely too much on external funding (Umar et al., 2021).

Leverage will cause the company to be included in the category *extreme leverage* (extreme debt) is a company that is stuck in a large debt level and it is usually difficult to be able to get rid of the debt burden. High ratio level *leverage*, will affect the company's ability to meet financial obligations, where the interest costs that must be paid will be higher. This interest expense will reduce reported or earned net income and disrupt financial stability, thereby hampering the increase in *profit growth* in the company. In a study conducted by (Nasution & Sitorus, 2022).

2. Hypothesis development (quantitative)

2.1. Signaling Theory

Akerlof, (1970) stated that when the buyer only has a general perception of the product and does not have information related to the product specifications, then the buyer values all products at the same price, both high-quality and low-quality products. This will be detrimental to the seller of high-quality products. The condition where one of the parties (seller) who carries out the business transaction has more information about the other party (buyer) which is called *advesre selection*. *Signaling Theory* It is an action taken by the company's management to show investors how the management views the company's prospects. *Signal* It conveys information about the management's efforts to be able to realize the owner's wishes. This information is important, because it presents a record or overview of past, present, and future conditions of how the company will survive and how it will impact the company making it important for both investors and business people (Spence, 1973).

2.2. Trade Off Theory

Trade off theory explained that the company considers the tax benefits of debt funding against the risks arising from the possibility of bankruptcy. Because the interest paid can reduce

the company's tax burden, debt is often more economical than the issuance of ordinary shares or preferential shares, in other words debt can provide benefits in the form of tax protection Modigliani & Miller, (1963). Brealey et al., (1981) states that *trade off theory* known as exchange theory *leverage* These are companies that can exchange tax profits from debt funding for issues related to possible bankruptcy. *Trade off theory* says that the company will continue to incur up to a certain level of debt where the tax savings from additional debt are equal to *financial distress*. The company can still incur debt, but if the debt continues to increase until it reaches the limit *bankruptcy cost* then the debt must be stopped.

2.3. Activity Ratio

The activity ratio is a ratio that shows the extent to which the assets owned by the company have experienced effective turnover. The larger the ratio indicates that the asset can rotate faster and generate a profit, this proves that the asset is used more efficiently to generate sales Fahmi, (2015). Activity ratio by Prihadi, (2019) is a measure of the overall turnover of all assets. This ratio is used quite often because of its comprehensive coverage. Regardless of the type of business, this ratio can describe how well the entire asset is backed to gain increased sales.

2.4. Firm Size

According to Harahap (2018), the total assets of a company can be measured by taking the natural logarithm (Ln) from the average of the total assets of a company. The use of total assets is based on the fact that total assets reflect *firm size* which tends to affect punctuality. The size or size of a company can be measured using three variables, namely revenue, total assets, and market capitalization. Measurement *firm size* can be determined based on labor, sales rate, total assets, stock market value, and other highly correlated factors (Shirley, 2016)

2.5. Profitability

According to The Walking Dead, (2018) stating that the profitability ratio is a financial ratio that can be used to show how effective the company's management is in generating profits in a given period of time. This ratio is used to determine whether a shareholder or business owner can earn a decent return on investment in a company. Profitability is a ratio used to measure how efficiently a company's assets are used or the company's ability to generate profits over a certain period of time, to provide an overview of a company's ability to operate efficiently (Evan, 2021).

2.6. Leverage

Leverage is the use of loan or debt funds by the company to finance its operational activities and investments with the aim of increasing potential profits. This ratio shows the level of the company's dependence on financing from external parties (creditors), as well as the company's ability to meet its long-term financial obligations. *Leverage* is a ratio used to measure the extent to which a company's assets are financed by debt Cashmere, (2019). That is, the amount of debt used by the company to finance its operations rather than using its own capital. A company is said to be *solvable* if the company has enough wealth to pay off all its debts. On the other hand, if the total of all assets is insufficient or even smaller than the total debt, it means that the company is in a state of *insolvable*.

2.7. Activity to Profit Growth Ratio

The effect of activity ratio on *profit growth* The faster the turnover of assets in the company, the greater the net profit that will be generated. This happens because companies can leverage these assets to increase sales which has an impact on revenue. Thus, the increase in income is able to increase net profit, so that *profit growth* in the company also increased Hanafi & Halim, (2007). Based on perspective *signaling theory*, this activity ratio has a very important influence

on *profit growth* because it reflects how efficient and effective the company is in managing assets to generate revenue. *Signaling theory* stated that the company's management sent *Signal* to investors through financial information that can reflect the company's future prospects. Investors and other external parties can catch *Signal*. This is an indication that the company has good operational potential, which has the potential to increase market confidence and encourage *profit growth*. Thus, through the theory *Signal*, the activity ratio not only serves as an efficiency analysis metric, but also as a means of communication that can influence investors' perception of a company's value and performance.

H₁: Activity Ratio has a positive effect on Profit Growth.

2.8. Firm Size terhadap Profit Growth

Firm size have a positive impact on *profit growth*, because large companies are able to provide *Signal* positive to the market regarding the company's financial strength, stability, and prospects. *Signal* This increases investor confidence, making it easier for companies to develop their businesses and increase profits for the company. Management in companies uses signal theory to provide *Signal* both about how management views prospects, whether those prospects can be profitable or not Wahyuni et al., (2020). It explains that *firm size* can send *Signal* positive to investors and makes it easier for the company to attract investors to invest capital for its business operations. The decision to invest in a large company is very good for investors because, the more assets the company owns, the greater the profits generated. If the total assets owned by the company are of small value, the company can be said to have not been able to achieve *profit growth* which is better. A company with a small total assets will find it difficult to generate profits than a company with a large total asset value

H₂: Firm Size has a positive effect on Profit Growth.

2.9. Profitability to Profit Growth

Profitability has an influence on *profit growth*, since the optimal and efficient utilization of the company's assets reflects that the company has high productivity, this will encourage *profit growth* in the company followed by an increase in investment in profits for the company's operations. The higher the level of profitability ratio, the better a company is at using assets, capital, and operating costs to make a profit. *Signaling theory* stating that companies that have positive financial information will be encouraged to disclose it as *Signal* to external parties to distinguish themselves from low-performing companies. High profitability illustrates that the company is not only efficient in managing costs and entire resources, but also has promising growth prospects in the future. Investors who receive *Signal* This positive tends to have higher trust, which can increase a company's reputation and value and make it easier to access funding sources (Rahayu Ningsih & Utiyati, 2020).

H₃: Profitability has a positive effect on Profit Growth.

2.10. Leverage terhadap Profit Growth

Leverage is the ratio used to consider the liabilities to the value of equity in the company. The increase in debt utilization indicates that companies are increasingly dependent on external funding sources, which is related to the increasing burden of liabilities in the form of interest and principal debt. *Signal* This can be interpreted for the market that the company faces great financial risks and has the potential to face difficulties in paying in the future Ayu Wulandari & Sudarsi, (2024). Deep *trade off theory*, utilization *leverage* have an optimal level that the company needs to maintain so that the benefits from tax savings due to interest costs remain higher compared to the emerging financial costs. But, when *leverage* applied beyond the optimal limit, the risk of bankruptcy, liquidity difficulties, and increased capital costs will far exceed the tax gains obtained.

H4: Leverage has a negative effect on Profit Growth.

3. Methodology

This study uses a quantitative research design with the aim of testing the influence of Profitability, Leverage, Company Size, and Sales Growth on Financial Distress in companies in the property and real estate sectors. The research paradigm used is positivism with a deductive theory approach, which departs from theories and hypotheses which are then tested with empirical data. The methodology used is quantitative with a research strategy using secondary data sourced from the company's financial statements listed on the Indonesia Stock Exchange (IDX). The unit of analysis in this study is an organization or company, with the involvement of the researcher classified as

At least because it only uses available data, and the research background is noncontrived because there is no manipulation or intervention of researchers. In terms of time, this study uses a cross-sectional design, where data is collected in a certain period (2014–2024) to be analyzed to determine the relationship between variables.

Table 1. Measurement Scale of Variables in Research

Yes	Variabel	Measurement	Research Source
1.	Activity Ratio (x1)	$TATO = \frac{\text{Net Sales}}{\text{Total Asset}} \times 100\%$	(Rachmania and Oktaviani, 2024)
2.	<i>Firm Size</i> (X2)	$Firm Size = \ln (\text{Total Asset})$ Information: Ln = Logaritma Natural	(Audrey, 2023)
3.	Profitability (X3)	$NPM = \frac{\text{Net Profit}}{\text{Net Sales}} \times 100\%$	(Ulfa Salsabilla, Lasmana, & Didi, 2024)
4.	<i>Leverage</i> (X4)	$DER = \frac{\text{Total Debt}}{\text{Total Equity}} \times 100\%$ $PG = \frac{\text{Profit } t - \text{Profit } (t - 1)}{\text{Profit } (t - 1)}$ Information:	(Manurung & Siagian, 2023)
5.	<i>Profit Growth</i> (Y)	Profit (t) = Net profit for the current year Profit (t-1) = Net profit for the year Previously	(Umar, Fajri, & Indriani, 2021)

Source: Processed data, 2025

The population in this study is in Banking Subsector Companies listed on the Indonesia Stock Exchange for the 2021-2024 period. Some of the criteria set by the researcher in determining the sample are as follows:

1. The company is a company in the banking subsector listed on the Indonesia Stock Exchange for the 2021-2024 period.
2. The company in the banking subsector has submitted consecutive annual reports for the 2021-2024 period.
3. Companies in the banking subsector that have not suffered losses for 4 consecutive years.

Based on the sampling criteria above, the companies that meet the requirements in this study are as many as 12 companies from 47 Banking Subsector Companies listed on the Indonesia Stock Exchange during the 2021-2024 period and the number of observations was

obtained as many as 48 data observations. The technique used in this study is *non-probability sampling*. The data contained in this study is secondary data whose data source is obtained from the www.idx.co.id website and the website of each Banking Subsector Company listed on the Indonesia Stock Exchange. The *non-probability* technique is a method of sampling that in principle uses certain considerations used by researchers. The type of *non-probability sampling* is *purposive sampling*. *Purposive sampling* is sampling that selects members of a sample from a population determined by the researcher solely (subjectively).

The data used in this study is time *series* data. Timeline data is data that is arranged chronologically, and arranged according to time on a certain variable. This study uses annual time sequence data from the 2021-2024 period.

Data collection techniques are a way of collecting data needed to answer the formulation of research problems. The data collection technique in this study is by using *the purposive sampling* method, which is a sample determination technique or sampling by determining certain criteria (content analysis). In obtaining the data in this study, the researcher used two techniques, namely literature research and field research:

1. Library *Research*, researchers obtain data related to the problem being researched through research journals, previous research theses, books and internet *research* related to the research title.
2. Field Research, this research was conducted on banking companies listed on the Indonesia Stock Exchange for the 2021-2024 period whose all financial data have been published and have been audited by public accountants and published in full on the *Indonesia Stock Exchange* website.

4. Results and discussion

Table 2. Descriptive statistics

Variabel	N	Minimum	Maximum	Mean	Std. Dev
PG	48	0,003600	4.200400	0.641160	0.821265
RA	48	0.041800	16.52700	0.935356	3.076783
FS	48	25.09770	37.17670	33.03100	2.872756
PB	48	0.030300	0.457000	0.224275	0.110276
LR	48	0.724900	10.81050	4.785310	2.191406

4.1. Selection of the Best Panel Data Model Chow Test

4.1.1. Chow Test

Decision-making criteria and based on the value of F calculated:

- If the Probability (Prob) on the Cross Section $F < 0.05$ and if F calculates $> F$ table then the better model is Fixed Effect;
- If the Probability (Prob) on the Cross Section $F > 0.05$ and If F calculates $< F$ table then a better model is Common Effect.

Table 3. Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.409509	(11,32)	0.0005

	44.28376		
Cross-section Chi-square	7	11	0.0000

Source: Processed data (2025)

Based on the results of the chow test conducted using *E-views* 9, it was obtained that the *probability cross section* value of F was 0.0005 which was smaller than the significant level value of 5% ($\alpha = 0.05$). This shows that the best model that can be used is the *Fixed Effect Model* (FEM). Therefore, it is necessary to carry out a thurst test to be able to determine which model is more appropriate to use between the *Fixed Effect Model* (FEM) and the *Random Effect Model* (REM).

4.1.2. Hausman Test

Decision-making criteria and based on the value of F calculated:

- If the probability on the Cross Section Random > 0.05 , then the better model is the Random Effect Model (REM).
- If the probability on Cross Section Random < 0.05 , then the better model is the Fixed Effect Model (FEM).

Table 4. Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	29.540255	4	0.0000

Source: Processed data (2025)

Based on the results of the thurst test above, it is known that the probability value is 0.0000 which is smaller than the significant level value of 5% ($\alpha = 0.05$). Thus, the best model that can be used is the *Fixed Effect Model* (FEM).

4.1.3. Multiple Regression Analysis

Tabel 5. Regresi Data Panel Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	90.29031	19.84767	4.549163	0.0001
RA	-0.345031	0.111707	-3.088709	0.0041
FS	-2.702270	0.586835	-4.604821	0.0001
PB	0.271326	2.003380	0.135434	0.8931
LR	-0.026871	0.168215	0.159740	0.8741

* = Significance 5%

RA: Activity Ratio; FS: Firm Size; PB: Profitability; LR: Leverage;
PG: Profit Growth.

Source: Processed data (2025)

The best regression model after estimation and model selection in this study is *the Fixed Effect Model* (FEM). The following are the results of the panel data regression estimation, from these results the following model equations are obtained:

$$PG = 90.2903 - 0.3450*RA - 2.7022*FS + 0.2713*PB - 0.0268*LR + \varepsilon$$

4.1.4. Coefficient of Determination Test

Table 6. Coefficient Determination Test

R-squared	0.655808	Mean dependent var	0.641160
Adjusted R-squared	0.494467	S.D. dependent var	0.821265
S.E. of regression	0.583926	Akaike info criterion	2.023116
Sum squared resid	10.91102	Schwarz criterion	2.646850
-			
Log likelihood	32.55479	Hannan-Quinn criter.	2.258826
F-statistic	4.064751	Durbin-Watson stat	1.764385
Prob(F-statistic)	0.000423		

Source: Processed data (2025)

Based on the results of data processing using Eviews 9, it shows that the *Adjusted* R-square value in this research model shows a value of 0.4944 which means that this model is able to explain around 49.44% variation in the variables of activity ratio, *firm size*, profitability, and leverage. The 50.56% can be explained by other variables that were not used in this study.

4.1.5. Partial Test

Table 7. T test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	90.29031	19.84767	4.549163	0.0001
RA	-0.345031	0.111707	-3.088709	0.0041
FS	-2.702270	0.586835	-4.604821	0.0001
PB	0.271326	2.003380	0.135434	0.8931
LR	-0.026871	0.168215	-0.159740	0.8741

* = Significance 5%

RA: Activity Ratio; FS: Firm Size; PB: Profitability; LR: *Leverage*;

PG: Profit Growth.

Source: Processed data (2025)

Based on the partial test value table used to determine the significant influence of independent variables on dependent variables. The results of the test using *the Fixed Effect Model* (FEM) can be concluded as follows:

a) Activity Ratio Negatively Affects Profit Growth

The first hypothesis (H_1) in this study states that the activity ratio has a negative effect on profit growth. The results of this regression analysis obtained a beta coefficient value of -0.3450, which resulted in a value that was in the opposite direction to the expected or showed a negative value. So that the results of the t-test on the activity ratio variable produced a calculated t-value of $-3.0887 < t$ of the table which was 1.8946 and a probability value of 0.0041 which was smaller than the significance level of 5% ($\alpha = 0.05$). Because this study uses the one tailed hypothesis, the probability value is divided by two, namely $0.0041/2 = 0.00205$. Thus, there is a significant influence even though the direction of the relationship is not in line with the hypothesis. Therefore H_1 is accepted and H_0 is rejected. These results show that the activity ratio has contributed significantly to profit growth.

b) Firm Size has a negative effect on Profit Growth

The second hypothesis (H_2) in this study states that firm size has a negative effect on profit growth. The results of this regression analysis obtained a beta coefficient value of -2.7022, this results in a value that is in the opposite direction to what is expected or shows a negative value. So that the results of the t-test on the firm size variable produced a calculated t-value of $-4.6048 < t$ of the table which was 1.8946 and a probability value of 0.0001 which was smaller than the significance level of 5% ($\alpha = 0.05$). Because this study uses the one tailed hypothesis, the probability value is divided by two, which is $0.0001/2 = 0.00005$. Thus, there is a significant influence even though the direction of the relationship is not in line with the hypothesis. Therefore H_2 is accepted and H_0 is rejected. These results show that firm size has contributed significantly to profit growth.

c) Profitability has no effect on Profit Growth

The third hypothesis (H_3) in this study states that profitability has no effect on profit growth. The results of the regression analysis support the hypothesis of this study with a beta coefficient value of 0.2713, this produces a value that is in the same direction as expected or shows a positive value. So that the results of the t-test on the profitability variable produced a calculated t-value of $0.1354 < t$ of the table which is 1.8946 and a probability value of 0.8931 which is greater than the significance level value of 5% ($\alpha = 0.05$). Because this study uses the one tailed hypothesis, the probability value is divided by two, which is $0.8931/2 = 0.4466$. Thus, there is no significant influence but the direction of the relationship is in line with the hypothesis. Therefore H_3 is rejected and H_0 is accepted, which shows the result that profitability has not contributed significantly to profit growth.

d) Leverage has no effect on Profit Growth

The fourth hypothesis (H_4) in this study states that leverage has no effect on profit growth. The results of the regression analysis support the hypothesis of this study with a beta coefficient value of -0.0268, this produces a value that is in the same direction as expected or shows a negative value. So that the results of the t-test on the leverage variable produced a calculated t-value of $-0.1597 < t$ of the table which was 1.8946 and a probability value of 0.8741 which was greater than the significance value of 5% ($\alpha = 0.05$). Because this study uses the one tailed hypothesis, the probability value is divided by two, which is $0.8741/2 = 0.4371$. Thus, there is no significant influence but the direction of the relationship is in line with the hypothesis. Therefore H_4 is rejected and H_0 is accepted, which indicates the result that leverage has not contributed significantly to profit growth.

4.1.6. Activity Ratio Negatively Affects Profit Growth

The results of the first hypothesis test (H_1) stated that the Activity Ratio has a negative effect on Profit Growth. Based on the results of a partial test (t-test) using the Fixed Effect Model (FEM) test, this study uses the one tail hypothesis, the probability value divided by 2 (two) is smaller than the significant level $\alpha=0.05$ (5%) and it is found that $t \text{ table} < t \text{ calculate}$.

Thus, it can be stated that the one hypothesis (H_1) is accepted. This research indicates that the activity ratio has a negative effect, because the company is not able to maximize the turnover of all assets owned or remanage cash efficiently. As a result, even if a company has the ability to increase sales by using all its assets, the profits generated by the company will not be high and the profit growth obtained by the company will also be reduced. This indicates that there is a greater increase in costs than the level of sales or the occurrence of cost inefficiencies. The company needs to pay off all existing debt burdens during operational activities. A high activity ratio generally reflects the company's efficiency in utilizing its assets to generate revenue. However, from the perspective of signal theory, an excessive increase in activity ratio can actually send a negative signal to the market regarding the company's internal conditions. When the ratio of activities such as inventory turnover or asset turnover increases too high, this can be interpreted as a sign that the company is experiencing limited assets or working capital, and is forced to maximize the use of available resources. This signal can indicate that the company's growth is not supported by adequate operational capacity, so future profits have the potential to stagnate or decline. In other words, the apparent efficiency of the activity ratio can actually be interpreted as a form of operational pressure, which has a negative impact on the company's profit growth prospects.

4.1.7. Firm Size has a negative effect on Profit Growth

The results of the second hypothesis test (H_2) stated that Firm Size has a negative effect on Profit Growth. Based on the results of a partial test (t-test) using the Fixed Effect Model (FEM) test, this study uses the one tail hypothesis, the probability value divided by 2 (two) is smaller than the significant level $\alpha=0.05$ (5%) and it is found that $t_{table} < t_{calculate}$. Thus, it can be stated that the one hypothesis (H_2) is accepted. These results show that the larger a company, the more profit growth tends to slow down or even decrease. This can happen because large companies typically experience higher operational costs, complex organizational structures, and bureaucratic levels that hinder the decision-making process. In addition, large companies often have to face challenges in the form of inefficiencies in resource management and high financial costs, so that the profits obtained do not increase in proportion to the growth of their business scale. Therefore, even though the firm size is growing, it is actually able to reduce profit growth due to the high costs and risks faced by the company. From a signal theory perspective, a large firm size does not always give a positive signal to profit growth. Signal theory explains that a company sends signals to the market through characteristics and policies that can reflect financial conditions and future prospects. In this context, a large company can give a negative signal if it is considered to have reached a saturation point in its growth. Large size is often associated with complex organizational structures, high bureaucracy, and decreased operational flexibility, all of which can hinder innovation and efficiency. In addition, investors may interpret that large companies have limited room for further expansion compared to small or medium-sized companies, so the outlook for profit growth becomes limited. Therefore, even though firm size indicates a large scale, the signals captured by the market can have negative nuances towards potential future profit growth.

4.1.8. Profitability has no effect on Profit Growth

The results of the third hypothesis test (H_3) stated that Profitability has no effect on Profit Growth. Based on the results of the partial test (t-test) using the Fixed Effect Model (FEM) test, this study uses the one tail hypothesis, the probability value divided by 2 (two) is greater than

the significant level $\alpha=0.05$ (5%) and it is found that $t_{table} < t_{calculate}$. Thus, it can be stated that hypothesis one (H_3) is rejected. This can happen if the profits obtained are not used for business development, but are channeled for dividend payments or repayment of long-term obligations. In addition, high profitability in a given period may only be temporary due to external factors, such as increases in the price of goods or exchange rate fluctuations, so it does not reflect the company's ability to sustain profit growth. From the perspective of signal theory, high profitability does not necessarily affect future profit growth. Signal theory states that a company uses financial information to send signals to the market regarding the condition and prospects of its business. However, in some cases, current profitability can be considered a less strong or even irrelevant signal in predicting future profit growth. This occurs when high profitability is seen as a result of short-term efficiency or temporary market conditions, rather than as an indicator of sustainability of performance. Investors and analysts may see that although the company is currently posting high profits, there is no long-term strategy or investment that supports future earnings growth. In addition, companies that are very focused on profitability may reduce capital expenditure, research and development, or market expansion, which actually hinders long-term growth. Therefore, from the point of view of signal theory, profitability can be considered a signal that is neutral or even irrelevant to profit growth expectations, so it does not have a significant influence.

4.1.9. Leverage has no effect on Profit Growth

The results of the fourth hypothesis test (H_4) stated that Leverage has no effect on Profit Growth. Based on the results of the partial test (t-test) using the Fixed Effect Model (FEM) test, this study uses the one tail hypothesis, the probability value divided by 2 (two) is greater than the significant level $\alpha=0.05$ (5%) and it is found that $t_{table} < t_{calculate}$. Thus, it can be stated that hypothesis one (H_4) is rejected. These results indicate that the capital structure of a company is larger in debt compared to equity. The higher the debt-to-equity ratio, the more it will affect the survival of a company, especially in increasing profits because it causes interest expenses and large financial risks. Therefore, the increase in corporate debt used for business capital or operational activities is not able to improve the company's financial performance, so that changes in the level of leverage ratio do not have a significant influence on generating optimal profits for the company. From a signal theory perspective, high or low leverage or corporate debt levels do not always affect profit growth. Signal theory states that financial structures, including the use of debt, can be used by companies to convey information to the market regarding prospects and management quality. However, in some cases, leverage does not provide a strong signal against potential profit growth. This can happen because investors consider that the use of debt reflects more of short-term funding needs or capital structure strategies, rather than as a direct indicator of a company's ability to increase profits in the future. In addition, companies with high leverage may not necessarily experience greater profit growth, as increased interest expense and financial risks can actually reduce operational flexibility and hinder business expansion. On the other hand, low leverage does not automatically translate as a positive signal if it is not accompanied by a clear growth strategy. Therefore, from the point of view of signal theory, leverage can be considered a variable that does not always have a significant influence on profit growth, depending on the context and market interpretation of the signals that the company sends.

5. Conclusion

The activity ratio has a negative effect on profit growth. A high level of company activity does not always indicate better performance. High asset turnover indicates less efficient use of resources and can potentially increase operational costs. This condition can hinder the increase in profits, and can even reduce the company's net profit. Thus, companies need to maintain a balance between the effectiveness of asset utilization and the efficiency of expenses so that profit growth can be maintained sustainably. Firm size has a negative effect on profit growth. Even though companies are larger in scale and have more resources, they tend to lower the rate of profit growth. These findings indicate changes in the market or complexities that hinder the increase in profits for the company, such as increased operational costs, managerial complexity, and the possibility of greater inefficiency. Profitability has no effect on profit growth. This finding shows that the profits obtained are not directly used to expand the business or increase production capacity, but are more directed to other interests such as dividend payments, debt repayment, and operational needs. Profit growth is also influenced by market conditions, reinvestment strategies, and corporate managerial policies. Leverage has no effect on profit growth. This condition shows that although leverage can provide additional capital through loans, but without effective management and the placement of funds in productive investments, debt will not support profit growth. Conversely, interest expense and financial risk due to the use of debt can reduce a company's ability to increase profit growth, so that profit growth is more influenced by other factors such as operational efficiency, investment policies, and managerial strategies.

5.1. Research implications and Limitations of Research

This research is expected to be an input for future research by accommodating the following things, the next researcher can consider and develop other variables that can potentially affect profit growth such as inflation and liquidity. Compare banking subsectors with other sectors, such as technology, transportation, health, or food and beverage sectors to find out whether these variables can have a positive or negative effect on profit growth using other sectors. Researchers can then update or expand the time span of the research so that the results obtained are more relevant and reflect current conditions. Newer data can also improve the validity of the study as well as allow researchers to observe long-term patterns that may not be seen in a limited period. The researcher is then expected to be able to make moderation and intervening variables from the relationship between activity ratio, firm size, profitability, and leverage, which of these variables has a role as moderating or intervening.

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THE EFFECT OF DEBT TO EQUITY RATIO, CURRENT RATIO, RETURN ON EQUITY, AND TOTAL ASSET TURNOVER ON PROFIT GROWTH IN FOOD AND BEVERAGES COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD 2019–2023

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Abstract

Purpose This study aims to examine the effect of debt to equity ratio, current ratio, return on equity, and total asset turnover on profit growth. *Design/methodology/approach* – This study adopts a quantitative research approach. The research sample comprises 26 companies in the Food and Beverages sub-sector listed on the Indonesia Stock Exchange during the 2019–2023 period. To examine the hypotheses, statistical analysis was conducted using the t-test with the assistance of SPSS version 26 software. *Findings* – The results of this study reveal that the Debt to Equity Ratio exerts a positive and statistically significant influence on profit growth. Furthermore, Return on Equity also demonstrates a statistically significant effect on profit growth. In contrast, the Current Ratio and Total Asset Turnover exhibit no significant impact on profit growth.

Keywords: Debt to Equity Ratio, Current Ratio, Return on Equity, Total Asset Turnover.

1. Introduction

The Indonesian capital market has shown rapid development, marked by an increase in the number of companies conducting Initial Public Offerings (IPO) and the growing participation of individual investors. By mid-2024, the Indonesia Stock Exchange recorded 934 listed companies, positioning Indonesia as one of the fastest-growing capital markets in Southeast Asia. This development reflects the rising confidence of investors, although it remains influenced by macroeconomic dynamics such as food inflation, income inequality, and the post-COVID-19 economic recovery.

The food and beverages sector is considered a defensive industry characterized by stable demand, significant contributions to the national economy, and promising return prospects for investors. However, profit growth in this sector is highly influenced by internal factors, particularly financial performance. Financial ratios such as Current Ratio (CR), Debt to Equity Ratio (DER), Return on Equity (ROE), and Total Asset Turnover (TATO) serve as essential indicators in assessing liquidity, capital structure, profitability, and asset efficiency.

Previous studies have reported mixed findings regarding the effect of financial ratios on profit growth. Some studies have found that DER, ROE, and TATO significantly affect profit growth, while others have reported contrary results. These inconsistencies indicate the existence of a research gap that requires further investigation.

Based on these phenomena and the inconsistencies in prior studies, this research is conducted under the title “The Effect of Debt to Equity Ratio, Current Ratio, Return on Equity, and Total Asset Turnover on Profit Growth in Food and Beverages Companies for the Period 2019–2023.” This study is expected to provide a more comprehensive understanding of the

financial factors influencing profit growth and to serve as a valuable reference for corporate management and investors in making strategic decisions.

Gambar 1.1 Profit Growth



Sumber : Data processed by the researchers

2. Literatur Review

2.1. Signalling Theory

Signaling theory, first introduced by Spence (1973), explains that information providers deliver signals reflecting a company's condition to assist investors in decision-making. Ross (1977) further emphasized that companies with good performance tend to disclose such information to influence investor perceptions positively. Brigham and Houston (2018) define signaling theory as managerial policies aimed at conveying indications of future prospects to investors. In essence, this theory highlights the role of information disclosure as a signal of firm quality that can affect investor confidence and investment decisions.

2.2. Agency Theory

Agency theory, first introduced by Alchian and Demsetz (1972) and further developed by Jensen and Meckling (1976), describes the relationship between shareholders (principals) and managers (agents). Principals expect maximum returns, while agents, as company managers, are responsible for operational efficiency and profit maximization. Jensen and Meckling (1976) define this relationship as a contractual arrangement in which principals delegate decision-making authority to agents. However, differences in interests and asymmetric information often lead to conflicts between the two parties. According to Eisenhardt (1989), agency theory rests on three key assumptions: human behavior, organizational structure, and information, which collectively explain the potential for agency problems in corporate governance.

In the context of financial performance, agency theory is closely related to financial ratios. The Debt to Equity Ratio (DER) reflects capital structure decisions made by managers that may create conflicts between risk-taking and shareholder interests. The Current Ratio (CR) indicates liquidity management, which shows the agent's responsibility to maintain the company's ability to meet short-term obligations. The Return on Equity (ROE) represents the agent's effectiveness in generating returns for shareholders, directly reflecting principal objectives. Meanwhile, The Total Asset Turnover (TATO) illustrates how efficiently agents utilize company assets to generate revenue, which aligns with principals' expectations for value maximization.

2.3. Rasio Keuangan

Financial ratios are analytical tools used to assess a company's financial condition and performance. Hery (2018) defines financial ratios as calculations derived from financial statements that serve as a benchmark for evaluating financial health and performance. Similarly, Harahap (2015) emphasizes that financial ratios are useful in assessing liquidity, solvency, activity, and profitability, thereby providing valuable insights for decision-making. In essence, financial ratios assist stakeholders, particularly investors, in identifying a company's strengths and weaknesses.

2.4. Pertumbuhan Laba

Profit growth is a key indicator of corporate financial performance as it reflects the company's ability to enhance profitability and indicates future financial prospects. It is generally measured as the percentage change in net income between periods (Endri et al., 2020). Profit growth also demonstrates a firm's capacity to maintain its position within the industry and adapt to economic developments (Panjaitan, 2020). Various factors such as operational efficiency, sales strategies, capital structure, market conditions, and managerial policies influence profit growth. Consistent profit growth signals financial stability, strengthens investor confidence, and enhances firm value (Horne & Wachowicz, 2012).

2.5. Debt to Equity Ratio

Debt to Equity Ratio (DER) is a financial ratio that measures the proportion of a company's total debt relative to its equity, indicating the extent to which creditors finance the firm (Kasmir, 2012). A higher DER reflects greater financial risk and potential instability. According to Horne and Wachowicz (2012), DER illustrates capital structure decisions, requiring financial managers to balance debt and equity to optimize risk and return. Thus, DER serves as an important indicator of a company's funding strategy and financial health.

2.6. Current Ratio

The Current Ratio (CR) is a liquidity ratio that measures a company's ability to meet its short-term obligations by comparing current assets to current liabilities (Kasmir, 2018 in Windras & Rahmatiah, 2023). A higher CR indicates a greater capacity of the company to fulfill its financial obligations on time, reflecting a liquid condition and potentially contributing to profit growth (Mahaputra, 2012).

2.7. Return on Equity

Return on Equity (ROE) is a ratio that measures the rate of return on shareholders' investment by comparing net income after tax with equity. This ratio indicates a company's ability to generate profits from its own capital, where a higher ROE reflects greater effectiveness in utilizing equity to enhance profitability (Safitri & Mukaram, 2018; Kasmir, 2018 in Rafina et al., 2024; Fadhlun Nur Aulia Samalam et al., 2018).

2.8. Total Asset Turnover

Total Asset Turnover (TATO) is a ratio that measures a company's effectiveness and efficiency in utilizing its total assets to generate sales (Kieso, 2007; Purba, 2020). This ratio reflects the extent to which assets are optimally employed in operational activities. A higher TATO indicates greater effectiveness in asset management, which can enhance revenue, attract investors, and support profit growth (Puspasari et al., 2017 in Razak et al., 2021; Utami, 2018).

However, some studies also suggest that TATO does not always have a significant effect on profit growth (Anugrah, 2014)

3. Hypothesis development (quantitative) or mind mapping (qualitative)

3.1. Debt to Equity Ratio to Profit Growth

Debt to Equity Ratio (DER) is an important indicator in assessing a company's capital structure by comparing the proportion of debt to equity. Within the framework of Signalling Theory, DER serves as a signal to investors regarding the company's financial health and prospects, where firms with positive outlooks tend to utilize debt as a favorable signal (Brigham & Ehrhardt, 2005). Previous studies, such as those by Ismaludin & Yuzril (2024) and Hapsari & Syah (2024), found that DER has a significant effect on profit growth.

H1: Debt to Equity Ratio has a significant effect on profit growth.

3.2. Current Ratio to Profit Growth

Current Ratio (CR) is a liquidity ratio that measures a company's ability to meet short-term obligations using its current assets. Within the framework of Signaling Theory, CR serves as a credible signal of financial health, where a higher ratio reflects stronger liquidity, reduced financial risk, and increased investor confidence (Hery, 2016). Prior studies also demonstrate that CR has a significant influence on profit growth (Amalia & Teresa et al., 2023).

H2: The Current Ratio has a significant effect on profit growth.

3.3. Return on Equity to Profit Growth

Return on Equity (ROE) measures a company's ability to generate profit from shareholders' equity, making it an important indicator of management's effectiveness in creating value for investors. Several studies, such as Audrey (2023) and Juwari & Zulviani (2020), found that ROE has a positive and significant effect on profit growth.

H3: Return on Equity has a significant effect on profit growth.

3.4. Total Asset Turnover

Total Asset Turnover (TATO) reflects a company's efficiency in utilizing its assets to generate revenue, thereby serving as a signal of operational effectiveness and productivity for investors. Situmeang and Sudjiman (2022) found that TATO has a significant effect on profit growth.

H4: Total Assets Turnover has a significant effect on profit growth.

4. Methodology

This study aims to determine the possible relationship between the independent variables (debt to equity ratio, current ratio, and total asset turnover) and the dependent variable (profit growth). This study uses quantitative data. Quantitative methods are research methods based on positivism, used to study specific populations or samples. Data collection utilizes research instruments. Data analysis is quantitative or statistical, with the aim of testing predetermined hypotheses (Sugiyono, 2022:147). The secondary data measurements used are as follows:

Tabel 1. Alat ukur dan sumber pengukuran variabel

Concept	Variable	Alat Ukur	Sumber

Dependent	Profit Growth	$\frac{Y_t - Y_{t-1}}{Y_{t-1}}$	Harahap (2015) in Rafina, et. al (2024).
Independent	<i>Debt to Equity Ratio</i>	$\frac{\text{Total Debt}}{\text{Total Equity}}$	Hery (2018) in Yolanda & Arifin (2023).
	<i>Current Ratio</i>	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	
	<i>Return on Equity</i>	$\frac{\text{Net Profit After Tax}}{\text{Total Equity}}$	
	<i>Total Asset Turnover</i>	$\frac{\text{Net Sales}}{\text{Total Aktiva}}$	

Kasmir (2018) in Windras & Rahmatiah (2023).
Harahap (2015) in Rafina, et. al (2024).
Agustina & Mulyadi (2019) in Razak et. al. (2021).

The population in this study is the Food & Beverage sub-sector companies listed on the Indonesia Stock Exchange for the period 2019-2023, totaling 32. This study employs a purposive sampling method, which is a non-probability sampling technique based on specific criteria determined by the researcher. Samples are selected to meet these predetermined criteria, ensuring that the chosen companies are relevant and aligned with the objectives of the study. Some of the criteria set in determining the sample are, as follows:

Tabel 2. Sample Determination Criteria

Number of Food & Beverage sector companies listed on the Indonesia Stock Exchange during the 2019–2023 period.		32 Companies
Criterion		
Criterion 1	Food and Beverage companies that reported losses in their audited annual financial statements during the period 2019–2023.	(4 Companies)
Criterion 2	Food and Beverage companies that experienced capital deficits in their audited annual financial statements during the period 2019–2023	(2 Companies)
Company Sample		26 Companies

5. Results and discussion

5.1. Descriptive Analysis Tes

Table 3. Descriptive Statistical Test Results

N		Minimum	Maximum	Mean	Std. Deviation
Debt to equity ratio	130	,03	3,24	,8283	,68827
Current Rasio	130	,65	13,31	2,9330	2,50500
Return on Equity	130	,001	,308	,1362	,06606
Total Asset Turn Over	130	,32	3,84	1,3300	,82863
Pertumbuhan Laba	130	-,97	4,66	,2703	,76810
Valid N (listwise)	130				

Sumber: *Output* data yang diolah peneliti di SPSS Versi 26

Berdasarkan output statistik deskriptif, jumlah data yang dianalisis sebanyak 130 observasi, sesuai dengan sampel penelitian. Variabel Debt to Equity Ratio (DER) menunjukkan nilai minimum 0,03 (PT Diamond Food Indonesia Tbk, 2021–2022) dan maksimum 3,24 (PT Midi Utama Indonesia Tbk, 2020), dengan rata-rata 0,83 dan standar deviasi 0,69. Hasil ini mengindikasikan struktur pendanaan perusahaan Food & Beverage relatif sehat. Variabel Current Ratio (CR) memiliki nilai minimum 0,65 (PT Midi Utama Indonesia Tbk, 2020) dan maksimum 13,31 (PT Campina Ice Cream Industry Tbk, 2021), dengan rata-rata 2,9 dan standar deviasi 2,5. Nilai ini menunjukkan tingkat likuiditas perusahaan sampel berada pada kategori baik. Variabel Return on Equity (ROE) memperlihatkan nilai minimum 0,001 (PT Sekar Bumi Tbk, 2019) dan maksimum 0,31 (PT Tigaraksa Satria Tbk, 2019), dengan rata-rata 0,13 dan standar deviasi 0,07. Hal ini mencerminkan kemampuan perusahaan menghasilkan pengembalian bagi pemegang saham tergolong baik dan stabil. Variabel Total Asset Turnover (TATO) memiliki nilai minimum 0,32 (PT Perusahaan Perkebunan London Sumatera Indonesia Tbk, 2020) dan maksimum 3,84 (PT Tigaraksa Satria Tbk, 2019), dengan rata-rata 1,33 dan standar deviasi 0,84. Hasil ini menunjukkan efektivitas perusahaan dalam memanfaatkan aset untuk menghasilkan penjualan tergolong optimal. Variabel Pertumbuhan Laba menunjukkan nilai minimum -0,97 (PT Sekar Bumi Tbk, 2023) dan maksimum 4,66 (PT Sekar Bumi Tbk, 2020), dengan rata-rata 0,27 dan standar deviasi 0,77. Nilai standar deviasi yang lebih besar dari rata-rata mengindikasikan adanya variasi tinggi pada kinerja laba perusahaan, kemungkinan dipengaruhi oleh outlier pada data sampel.

5.2. Best Data Model Selectio

5.2.1. Normality Test Results

Tabel 4. One-Sample Kolmogorov-Smirnov Test Before Data is Outlier
Unstandardized Residual

N		130
Normal	Mean	,0000000
Parameters ^{a,b}	Std. Deviation	,76422495
Most	ExtremeAbsolute	,153
Differences	Positive	,153

	Negative	-,131
Test Statistic		,153
Asymp. Sig. (2-tailed)		,000 ^c

- Test distribution is Normal.
- Calculated from data.
- Lilliefors Significance Correction.

Sumber: Ouput data yang diolah oleh peneliti di SPSS versi 26

The results of the normality test indicate a residual significance level of 0.00, which is lower than the 0.05 threshold, suggesting that the regression residuals are not normally distributed. This non-normality is attributed to unavoidable extreme data (outliers), which create a wide range between observations. According to Ghozali (2021), outliers are data with unique characteristics that significantly differ from other observations and appear as extreme values. To address this issue, the researcher removed data identified as the source of non-normality, thereby allowing the residuals to be normally distributed. After the adjustment, the results of the One Sample Kolmogorov-Smirnov test confirmed that the residual distribution met the normality assumption

Tabel 5. One-Sample Kolmogorov-Smirnov Test After Data is Outlier Unstandardized Residual

N		80
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	,48475477
Most Extreme Differences	Absolute	,096
	Positive	,097
	Negative	-,090
Test Statistic		,097
Asymp. Sig. (2-tailed)		,069 ^c

Sumber: Ouput data yang diolah oleh peneliti di SPSS versi 26

The results of the One Sample Kolmogorov-Smirnov test in Table 5 show a residual significance level of 0.069, which is greater than the 0.05 probability value. Thus, it can be concluded that the residuals of the regression model in this study are normally distributed.

5.2.2. Autocorrelation Test Results

Tabel 6. Results of the Autocorrelation Test Model Summary^b

Model	R	R Square	Adjusted R Square	Error of Estimate	Durbin-Watson
1	,591 ^a	,349	,315	,49751	1,970

- Predictors: (Constant), TATO, DER, ROE, CR

b. Dependent Variable: Pertumbuhan Laba

Sumber: Ouput data yang diolah oleh peneliti di SPSS versi 26

The Durbin-Watson test yielded a value of 1.970, with the lower bound (du) = 1.743 and the upper bound ($4 - du$) = 2.257 at a 5% significance level. Since $1.743 < 1.970 < 2.257$, it can be concluded that the regression model in this study is free from autocorrelation.

5.2.3. Multicollinearity Test Results

Tabel 6. Results of the Multicollinearity Test
Coefficients^a

Unstandardized Coefficients			Standardized Coefficients		Collinearity Statistics		
Model	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	-,418	,267		-1,565	,122		
DER	,197	,089	,221	2,205	,030	,865	1,156
CR	-,093	,107	-,093	-,869	,388	,752	1,330
ROE	5,658	1,075	,537	5,262	,000	,832	1,202
TATO	-,101	,101	-,099	-,996	,322	,875	1,142

Dependent Variable: Pertumbuhan Laba

Sumber: Ouput data yang diolah oleh peneliti di SPSS versi 26

The results of the multicollinearity test indicate that the Tolerance values for all independent variables (DER = 0.865; CR = 0.752; ROE = 0.832; TATO = 0.875) are greater than 0.10, while the VIF values (DER = 1.156; CR = 1.330; ROE = 1.202; TATO = 1.142) are less than 10. Therefore, it can be concluded that the regression model is free from multicollinearity issues.

5.2.4. Heteroscedasticity Test Results

Tabel 7. Results of the Heteroscedasticity Test
Coefficients^a

Unstandardized Coefficients			Standardized Coefficients			
Model	B	Std. Error	Beta	t	Sig.	
1 (Constant)	1,316	,450		2,925	,005	
Debt to equity ratio	,148	,143	,142	1,034	,306	
Current Rasio	,227	,194	,188	1,168	,248	
Return on Equity	-3,521	2,142	-,250	-1,644	,106	
Total Asset Turn Over	-,294	,176	-,241	-1,673	,101	

Sumber: Ouput data yang diolah oleh peneliti di SPSS versi 26

The results indicate significance values for DER (0.306), CR (0.248), ROE (0.106), and

TATO (0.101), all of which exceed the threshold of 0.05. Therefore, the regression model is concluded to be free from heteroscedasticity issues.

5.2.5. Results of Multiple Linear Regression Analysis Test

Tabel 8. Results of Multiple Linear Regression Analysis Test

Coefficients^a

	Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-,418	,267		-1,565	,122
	Debt to equity ratio	,197	,089	,221	2,205	,030
	<i>Current Ratio</i>	-,093	,107	-,093	-,869	,388
	<i>Return on Equity</i>	5,658	1,075	,537	5,262	,001
	<i>Total Asset Turn Over</i>	-,101	,101	-,099	-,996	,322

a. Dependent Variable: Pertumbuhan Laba

The regression equation of this study is:

$$\text{Profit Growth} = -0.418 + 0.197\text{DER} - 0.093\text{CR} + 5.658\text{ROE} - 0.101\text{TATO}$$

The interpretation of the coefficients is as follows:

The constant (−0.418) indicates that when all independent variables are equal to zero, profit growth is −0.418. The coefficient of DER (0.197) implies that a 1% increase in DER tends to increase profit growth by 0.197. The coefficient of CR (−0.093) implies that a 1% increase in CR tends to decrease profit growth by 0.093. The coefficient of ROE (5.658) implies that a 1% increase in ROE tends to increase profit growth by 5.658. The coefficient of TATO (−0.101) implies that a 1% increase in TATO tends to decrease profit growth by 0.101

5.3. Hypothesis Test Results Significance Test

5.3.1. Results (F TEST)

Tabel 10. Results of the Significance Test

ANOVA^a

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9,972	4	2,493	10,071	,001 ^b
	Residual	18,564	75	,248		
	Total	28,536	79			

Sumber: Ouput data yang diolah oleh peneliti di SPSS versi 26

The F-test results indicate an F-value of 10.071, which is greater than the F-table value of 2.494, with a significance level of 0.001 (< 0.05). These findings demonstrate that the independent variables—Debt to Equity Ratio (DER), Current Ratio (CR), Return on Equity (ROE), and Total Asset Turnover (TATO)—simultaneously have a significant effect on profit growth.

5.3.2. Statistical Test Results (T-TEST)

Tabel 11. Results of the Statistical Test
Coefficients^a

		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	-,418	,267		-1,565	,122
	Debt to equity ratio	,197	,089	,221	2,205	,030
	<i>Current Ratio</i>	-,093	,107	-,093	-,869	,388
	<i>Return on Equity</i>	5,658	1,075	,537	5,262	,001
	<i>Total Asset Turn Over</i>	-,101	,101	-,099	-,996	,322

a. Dependent Variable: Pertumbuhan Laba

Sumber: Ouput data yang diolah oleh peneliti di SPSS versi 26

The t-test with 80 samples and a 5% significance level ($df = 75$, $t\text{-table} = 1.665$) shows the following results: Debt to Equity Ratio (DER) ($t = 2.205$; $p = 0.030$) and Return on Equity (ROE) ($t = 5.262$; $p = 0.001$) significantly affect profit growth. In contrast, Current Ratio (CR) ($t = -0.869$; $p = 0.388$) and Total Asset Turnover (TATO) ($t = -0.996$; $p = 0.322$) have no significant eff.

5.3.3. Results of the Determination Coefficient Test

Tabel 12. Results of the Determination Coefficient Test
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,591a	,349	,315	,49751	1,970

Sumber: Ouput data yang diolah oleh peneliti di SPSS versi 26

The coefficient of determination (R^2) is 0.349, with an adjusted R^2 of 0.315. This indicates that 31% of the variation in profit growth can be explained by DER, CR, ROE, and TATO, while the remaining 69% is influenced by other factors not included in this study.

5.4. Discussions

5.4.1. The Effect of Debt to Equity Ratio on Profit Growth

The t-test results indicate that the Debt to Equity Ratio (DER) has a significant effect on profit growth. A lower DER reduces interest expenses and financial risk, enabling firms to focus on enhancing profitability and pursuing long-term expansion. This finding is consistent with Amalia and Priyadi (2020), who argue that a higher DER increases the financial risks borne by firms due to higher interest costs, thereby negatively affecting profitability.

5.4.2. The Effect of Current Ratio on Profit Growth

The t-test results reveal that the Current Ratio has no significant effect on profit growth,

leading to the rejection of the hypothesis. This is because the Current Ratio primarily reflects a firm's ability to meet short-term obligations using current assets such as cash, receivables, and inventory, which do not directly contribute to profit generation. Moreover, the Current Ratio is often influenced by seasonal factors, causing temporary fluctuations that do not affect long-term profit growth. These findings are consistent with Hanifah et al. (2020) and Amalia and Teresa et al. (2023), who also reported that the Current Ratio does not significantly influence profit growth.

5.4.3. The Effect of Return on Equity on Profit Growth

The t-test results indicate that Return on Equity (ROE) has a significant effect on profit growth, thereby supporting the proposed hypothesis. This finding suggests that Food & Beverage companies in the sample are able to efficiently utilize equity to generate profits. A high ROE reflects effective use of shareholders' capital without idle assets, leading to optimal profitability. Furthermore, growing profits contribute to retained earnings, enabling firms to expand into new business lines or undertake external investments, ultimately generating long-term returns for shareholders. These results are consistent with Amalia and Priyadi (2020) and Samalam et al. (2018), who confirmed that ROE positively influences profit growth.

5.4.4. The Effect of Total Asset Turnover on Profit Growth

The t-test results reveal that Total Asset Turnover (TATO) does not have a significant effect on profit growth, leading to the rejection of the hypothesis. This indicates that although some Food & Beverage companies exhibit high TATO, they are unable to efficiently manage operating expenses, interest costs, and taxes, thereby preventing profit growth. Hence, asset utilization alone does not directly translate into increased profitability if expenses remain high. These findings are consistent with Amalia and Priyadi (2020), Hanifah et al. (2020), and Teresa et al. (2023), who also found that TATO has no significant impact on profit growth.

6. Conclusion

This study aims to examine the effect of Debt to Equity Ratio (DER), Current Ratio (CR), Return on Equity (ROE), and Total Asset Turnover (TATO) on profit growth in Food & Beverage companies listed on the Indonesia Stock Exchange during 2019–2023. The findings reveal that DER has a significant positive effect on profit growth, as a lower DER reduces financial risk and interest expenses, enabling sustainable profit growth and long-term expansion. CR shows no significant effect on profit growth since it primarily reflects short-term liquidity and may fluctuate due to seasonal factors, without directly impacting profitability. ROE significantly influences profit growth, indicating efficient utilization of equity in generating profits and shareholder returns. Conversely, TATO does not significantly affect profit growth, as high asset turnover without cost efficiency fails to contribute to increased profitability.

6.1. Limitations of Research and Suggestions

This study has several limitations that should be acknowledged. First, the sample is limited to Food & Beverage companies listed on the Indonesia Stock Exchange, which restricts the generalizability of the findings to other sectors. Second, the research period includes the Covid-19 pandemic, which may have significantly affected the financial performance of firms. Third,

the independent variables considered are limited to selected financial ratios, thus not fully capturing other potential factors influencing profit growth.

Based on the findings, this study acknowledges its limitations and provides the following recommendations:

Academic Implications:

1. Future research is encouraged to expand the sample population by including companies from sectors other than Food & Beverage listed on the Indonesia Stock Exchange.
2. It is recommended to use research periods outside the Covid-19 pandemic to obtain more representative results.
3. Further studies should incorporate additional independent variables, either other financial ratios or non-financial factors such as Good Corporate Governance, Corporate Social Responsibility, or taxation-related variables that may influence profit growth.

Practical Implications:

1. The findings of this study are expected to serve as a reference for stakeholders in decision-making processes.
2. This study is also expected to provide insights for company management in efforts to enhance shareholder returns.

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ANALYSIS OF AIRCRAFT SPARE PARTS SUPPLY CHAIN NETWORK FOR PREDICTING DELIVERY DELAY PATTERNS IN REPAIR PROCESS USING MACHINE LEARNING

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Abstract

This study analyzes the aircraft spare parts supply chain and delivery delay detection using machine learning algorithms. A quantitative method using historical shipment and export-import clearance data was applied on repair processes. Random Forest, Decision Tree, and Logistic Regression modeled delay prediction based on origin, destination, item type, lead time, and category. Random Forest demonstrated highest accuracy, suitable for early warning of delivery risk. Recommendations include integrating the model into operations with continuous learning. This research enhances MRO management and reduces airline disruptions, supporting sustainable aviation supply chains.

Keywords: Aircraft spare parts, Delivery delay, Machine learning, Supply chain, Traffic prediction.

1. Introduction

Air transport is recognized as the safest mode of transportation globally, with international data and reports confirming that commercial aviation accident rates are significantly lower compared to other transportation modes. In 2021, the accident rate for commercial flights was only 0.13 per one million flights (International Air Transport Association (IATA), 2022). This safety record is attributed to stringent regulations, advanced technologies, intensive pilot training, and highly standardized aircraft maintenance systems. The safety and security of air travel heavily rely on the technical condition of the aircraft, which is determined by the availability and quality of spare parts used throughout the maintenance and repair processes of every aircraft component (Jackman, 2023).

In the aviation industry, aircraft spare parts are vital components that must always be maintained in optimal condition to ensure safety and operational airworthiness of the aircraft (Bills et al., 2023). Maintenance and repair processes involve inspection, repair, component replacement, and retesting to ensure compliance with airworthiness standards as outlined in Component Maintenance Manuals (CMM) and aviation authority regulations((EU) No 1321/2014 & (EU) No 2015/640, 2020).

In the aviation industry, aircraft spare parts are vital components that must always be maintained in optimal condition to ensure safety and operational airworthiness of the aircraft (Bills et al., 2023). The repair process of aircraft spare parts includes Purchase Order (PO) submission, inspection, repair, and delivery. The PO submission stage is frequently delayed due to multidepartmental bureaucratic coordination (Bjellos, 2023). Maintenance projects face delays by up to 35% due to complex approval processes (Seidenman & Spanovich, 2024). Non-Destructive Testing (NDT) inspections pose a major bottleneck due to limited facilities and certified personnel (Graziano et al., 2023; Smith, 2020), with 28% of components requiring reinspection due to hidden microcracks or corrosion (Graziano et al., 2023). The repair stage is delayed because only 15% of MRO workshops hold repair licenses for critical components,

necessitating outsourcing, which introduces risks of raw material shortages and machine queue delays (Graziano et al., 2023; Harris & Sion, 2024). Delivery is often postponed by customs clearance issues, document mismatches, and limited cargo routes (Air Qualification Inc, 2024; Bjellos, 2023).

This study innovatively applies machine learning algorithms to multi-criteria classification and prediction of delivery delays in aircraft spare parts supply chains, addressing challenges such as irregular lead times and fluctuating demand, which remain underexplored in current research (Narendran et al., 2024; Nguyen, 2024). Existing literature reveals gaps in combining supervised and unsupervised learning for classification, and operational integration of predictive models focusing on mitigating delivery delays that cause Aircraft on Ground (AOG) incidents. The objectives include analyzing ML-based classification's impact on spare parts management, developing delay prediction models with Random Forest, Decision Tree, and Logistic Regression, identifying key delay factors, and recommending predictive model integration into supply chain operations to enhance maintenance efficiency.

2. Hypothesis development

2.1. Theoretical Background

Aircraft maintenance training by integrating advanced Non-Destructive Testing (NDT) techniques such as Phased Array Ultrasonic Testing (PAUT) and digital radiography into flight school curricula. The study highlights gaps in traditional training programs, which often lack coverage of advanced techniques with superior defect detection and reliability. Interviews with maintenance instructors reveal a strong need to update training curricula to include advanced NDT methods, offer hands-on practice, and ensure continuous professional development (Arthur C. Dela Peña, 2024). Inspection standards must adhere to international regulations, including ATA Spec 300 (packaging/handling), ATA Chapter 5 (maintenance programs), and EASA Part 145 (repair/inspection regulations). All repaired components require documented inspection, such as Form 8130-3 for the US or EASA Form 1 for Europe. Repair process delays frequently arise from bottlenecks due to production flow imbalances, inspection complexity, and limited repair capacity (Julian et al., n.d.; Monoarfa et al., 2021). High variability in repair times, especially for critical parts, stems from uncertainty in delivery, stock mismatch, and irregular demand, impacting system performance metrics like cycle time and throughput (Soellaart, 2019).

2.2. Research Method

Decision Tree models are interpretable and operate by recursively splitting data based on informative features, suitable for capturing non-linear relationships (Quinlan, 1986).

The general form is expressed as follows:

$Gain(S, A)$

$$= \sum_{i=1}^n p_i \log_2 p_i \dots \dots \dots (1)$$

Random Forest, an ensemble of Decision Trees, improves predictive accuracy and generalization by reducing overfitting through averaging multiple uncorrelated trees (Daghistani & Alshammari, 2020)

RF

$$= \frac{1}{T} \sum_{t=1}^T h_t(x) \dots \dots \dots (2)$$

Logistic Regression

Logistic Regression, though simpler and linear, remains a robust baseline model, especially for binary classification, providing probabilistic interpretations and efficient computation (Vázquez-Veloso et al., 2025).

$$P(= 1|X)$$

$$= \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_1 + \dots + \beta_n X_n)}} \dots \dots \dots (3)$$

Relationship between variables

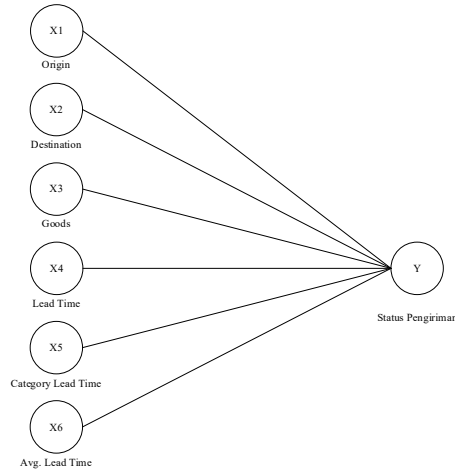


Figure 2 Conceptual Framework

Figure 1 presents the research design, employing a quantitative, exploratory-predictive approach to analyze historical aircraft spare part shipment data, aiming to develop a delay prediction model using machine learning algorithms. The study targets spare parts sent for manufacturer repair and returned within a set timeframe. Data sources include shipment records, export–import clearance, and part categories, all obtained from the company’s internal databases and relevant export import authority documentation.

3. Methodology

3.1. Sample and Data Collection

This research employs a quantitative exploratory-predictive design utilizing secondary time-series data documenting shipments of aircraft spare parts that are either defective or repairable. The data, sourced from the company's internal records and official export-import documents, were transformed into encoded formats suitable for machine learning analysis. Key variables include shipment dates, part status, and clearance information.

3.2. Measurement

The variables were operationalized by encoding categorical data such as spare part condition and clearance type into numerical formats to enable algorithmic processing. Quantitative delivery durations and clearance times were retained as continuous variables. This transformation ensures compatibility with machine learning models while preserving the integrity of original measurements.

3.3. Data Analysis

Data were analyzed using machine learning algorithms including Random Forest, Decision Tree, and Logistic Regression models, implemented through the AI Altair studio software suite. Model performance and validation were assessed via statistical metrics such as Root Mean Squared Error (RMSE), standard deviation, micro-averaged absolute error, relative error, squared error, and correlation coefficients between input and output variables, providing robust evaluation of predictive accuracy and variable relationships.

4. Results and discussion

4.1. Result

PerformanceVector

```
PerformanceVector:
root_mean_squared_error: 0.311 +/- 0.349 (micro average: 0.454 +/- 0.000)
absolute_error: 0.029 +/- 0.022 (micro average: 0.029 +/- 0.453)
relative_error: 0.60% +/- 0.33% (micro average: 0.60% +/- 7.62%)
squared_error: 0.206 +/- 0.443 (micro average: 0.206 +/- 10.012)
correlation: 0.974 +/- 0.051 (micro average: 0.969)
squared_correlation: 0.951 +/- 0.093 (micro average: 0.939)
```

Figure 3. Result Random Forest Model by AI Altair Studio

Figure 2 shows a very low root mean squared error (RMSE) of 0.311, indicating minimal prediction error and high accuracy in forecasting shipment delays or on-time deliveries. The low absolute and relative errors confirm the model's precision, while a strong correlation of 0.974 and squared correlation of 0.951 demonstrate a significant relationship between input variables like origin, destination, item type, and lead time with shipment status. This confirms the model effectively captures complex delivery patterns, enabling its use as an early warning system in Maintenance, Repair, and Overhaul (MRO) to optimize logistics and reduce aircraft downtime due to delays.

PerformanceVector

```
PerformanceVector:
root_mean_squared_error: 0.857 +/- 0.252 (micro average: 0.890 +/- 0.000)
absolute_error: 0.286 +/- 0.139 (micro average: 0.286 +/- 0.842)
relative_error: 7.55% +/- 3.04% (micro average: 7.55% +/- 20.79%)
squared_error: 0.792 +/- 0.436 (micro average: 0.792 +/- 9.322)
correlation: 0.882 +/- 0.053 (micro average: 0.876)
squared_correlation: 0.781 +/- 0.093 (micro average: 0.768)
```

Figure 4. Result Decision Tree Model by AI Altair Studio

The Decision Tree model results show a root mean squared error (RMSE) of 0.857, a standard deviation of 0.252, and a micro average of 0.890. Its absolute error is 0.286 ± 0.139 , with a relative error of $7.55\% \pm 3.04\%$, and a squared error of 0.792 ± 0.436 . The correlation between input and output variables is 0.882 ± 0.053 , with a squared correlation of 0.781 ± 0.093 , indicating moderate predictive accuracy. Compared to Random Forest, the Decision Tree has higher errors and less precision, making it suitable as a baseline model but requiring further improvement for early warning use. While Decision Trees are faster and easier to interpret, their single-tree structure is more sensitive to data variations. In contrast, Random Forest reduces overfitting by combining multiple trees, enhancing accuracy but increasing complexity. Thus, Decision Trees are better for initial analysis, whereas Random Forest suits operational applications needing higher accuracy.

Logistic Regression Model

```
Warning:
Removed collinear columns [Category Lead Time = 0-4 Days.true]

Model Metrics Type: BinomialGLM
Description: N/A
model id: rm-h2o-model-logistic_regression-1
frame id: rm-h2o-frame-logistic_regression-1
MSE: 9.579628E-4
RMSE: 0.030950975
R^2: 0.048358746
AUC: 0.9382288
pr_auc: 0.073449954
logloss: 0.0052134553
mean_per_class_error: 0.40040347
default threshold: 0.14430902898311615
CM: Confusion Matrix (Row labels: Actual class; Column labels: Predicted class):
```

	range1 [-∞ - 34.500]	range2 [34.500 - ∞]	Error	Rate
range1 [-∞ - 34.500]	4953	4	0.0008	4 / 4,957
range2 [34.500 - ∞]	4	1	0.8000	4 / 5
Totals	4957	5	0.0016	8 / 4,962

Figure 5. Result Logistic Regression, SVM, Evolution Model by AI Altair Studio

The Logistic Regression model from Altair Studio produces a mean squared error (MSE) of 0.579 and an RMSE of approximately 0.303, with an AUC of 0.938 indicating excellent classification capability. Despite a low input-output correlation of 0.048, the confusion matrix shows minimal error rates for both output classes and high precision and recall. This suggests Logistic Regression is effective for predicting delays or on-time delivery of aircraft spare parts. Model performance is enhanced by key variables such as shipment origin, destination, and lead time category, making Logistic Regression suitable as a baseline for supply chain decision support, particularly in identifying priority routes or components prone to delay for logistical interventions.

4.2. Discussion

In the discussion of results, the complexity of input variables—such as shipment origin and destination, product categories, and lead time—was shown to have a significant impact on shipment status. The Random Forest algorithm effectively managed this complexity and captured interactions among variables, demonstrating its strength in modeling the highly complex supply chain of aircraft spare parts. This model also identified specific delay patterns, such as long lead times for certain routes, delays related to particular types of spare parts, or bottlenecks in specific product categories. Such insights are highly valuable for improving operational processes and logistics strategies. The model's high accuracy validates the effectiveness of machine learning, particularly Random Forest, in supporting decision-making for aviation spare parts management—from procurement to risk mitigation of operational delays. Nevertheless, a well-planned implementation strategy is required, including integrating the model into the company's ERP or MIS systems and improving data quality to enable real-time prediction and greater scalability (Purnomo et al., 2024).

In the discussion of results, the Decision Tree model is known for its simplicity and interpretability, providing direct insights into how each input variable influences shipment status. This model can help identify dominant delay patterns, such as long lead times on specific routes or the effect of product categories on shipment bottlenecks. However, the inherent complexity of the aircraft supply chain requires more advanced techniques, as variable interactions are not always linear. Decision Trees often overfit training data and lack robustness

when applied to new datasets or variables with highly varied distributions (Agus Purnomo & Syafranita, 2023).

In the discussion of results, Logistic Regression is a fast, transparent, and interpretable algorithm, making it suitable for early applications in industrial settings where strong justification for each prediction is required. This model also highlights the contribution weights of each variable in determining shipment status, which helps operational teams better understand the influence of routes, suppliers, product categories, and lead time in detail. However, the limitation of Logistic Regression lies in its ability to handle non-linear relationships between variables and the complexity of multiple-factor interactions that often occur in aircraft supply chains. Therefore, while useful for detecting broad patterns and enabling quick decision-making, Logistic Regression is less optimal as the sole predictive tool in modern MRO management systems.

5. Conclusion

To conclude, this research has demonstrated that the Random Forest model developed using AI Altair Studio achieves outstanding predictive performance with high correlation and low error, making it particularly well-suited for managing procurement and logistics of aircraft spare parts and for minimizing delays or Aircraft on Ground (AOG) events. These findings offer meaningful implications for the aviation industry, as the Random Forest model provides a robust data-driven strategy to support logistics efficiency and supply chain resilience within Indonesia's complex aviation sector. Furthermore, while the Decision Tree model offers a useful baseline for initial analysis and identification of influential variables, its moderate accuracy limits its suitability for strategic applications without further refinement. Logistic Regression, meanwhile, serves as an effective tool for baseline classification and early warning, especially when identifying significant variables in delivery performance, though its predictive power benefits from integration with more advanced machine learning models. The study addresses a key gap by applying and comparing multiple machine learning techniques to a real-world aviation context, supporting operational decision-making. Nevertheless, limitations stem from data availability, evolving industry conditions, and model generalizability. Future research should focus on incorporating real-time data streams, evaluating the integration of ensemble and deep learning methods, and expanding validation across diverse operational environments to further strengthen the reliability and impact of predictive models in aviation supply chain management.

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THE DIRECT AND SIGNIFICANT IMPACT OF TRANSFORMATIONAL LEADERSHIP STYLES ON ORGANIZATIONAL PERFORMANCE: A SYSTEMATIC LITERATURE REVIEW OF THE PRISM MODEL

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Abstract

Transformational leadership has emerged as a critical factor in determining organizational success in the contemporary management literature. This systematic review using the PRISMA model analyzed twenty peer-reviewed publications from 2015-2024 to examine the direct and significant impact of transformational leadership on organizational performance across a variety of industries and geographic contexts. The analysis identified ten studies that met the strict inclusion criteria, revealing that ninety percent of the studies examined showed positive and significant effects of transformational leadership on employee productivity, innovative behavior, job satisfaction, and psychological well-being. The four dimensions of transformational leadership—ideal influence, inspirational motivation, intellectual stimulation, and individual consideration—demonstrate consistent effectiveness in motivating employees beyond personal interests for broader organizational goals. However, the impact of transformational leadership is not universal but rather moderated by contextual factors including organizational support for creativity, work settings, and specific cultural characteristics. Organizational civic behavior, employee engagement, and job satisfaction emerged as significant mediating mechanisms in the leadership-performance relationship. Critical research gaps include the limited empirical studies in the context of Indonesian organizations, the need for longitudinal design to understand the long-term effects, and the exploration of the implementation of transformational leadership in a remote or hybrid work environment. These findings provide evidence-based guidance for organizational practitioners in adopting and implementing effective leadership styles according to their specific contexts.

Keywords : *transformational leadership, organizational performance, employee engagement, leadership effectiveness, PRISMA systematic review*

1. Introduction

In an era of digital transformation and complex global market dynamics, leadership style has become a critical factor that determines the success or failure of an organization. Transformational leadership is a leadership paradigm that has received significant attention in the contemporary management literature, mainly because of its ability to motivate employees beyond their personal interests for the sake of a larger organizational purpose. This phenomenon is relevant not only in the context of business organizations, but also in public institutions, educational institutions, and non-profit organizations that face the challenge of increasing operational effectiveness and efficiency.

Organizational performance (*Organizational Performance*) is a measure of success that includes achieving strategic goals, increased productivity, customer satisfaction, and sustainable growth. Previous research has shown that leadership has a substantial influence on various dimensions of organizational performance, but the findings are still diverse and require an in-depth synthesis. According to (Bass & Riggio, 2006), transformational leadership is characterized by four main dimensions, namely *Idealized Influence* (Ideally), *inspirational*

motivation (inspirational motivation), *Intellectual stimulation* (intellectual stimulation), and *individualized consideration* (individual consideration). These dimensions are theoretically assumed to have a positive impact on employee behavior and ultimately improve overall organizational performance.

Empirical research in the past five years has yielded consistent evidence regarding the positive relationship between transformational leadership and organizational performance. Referring to a meta-analytical study by (Hoch et al., 2018), found that transformational leadership has a strong correlation with increased productivity, innovation, and employee satisfaction across various industry sectors. Nevertheless, the immediate and significant impact of transformational leadership on organizational performance still requires further exploration, particularly in identifying the mediation and moderation mechanisms that influence these relationships. Recent research by (Kaur Bagga et al., 2023) emphasizes the need for a more holistic understanding of how transformational leadership translates into measurable organizational performance outcomes.

The context of Indonesian organizations in particular shows that there are still many leaders who apply traditional or transactional leadership styles (*transactional leadership*), which may be less effective in dealing with rapidly changing business environments. Research by (Wirawan, 2013) revealed that the adoption of transformational leadership styles in Indonesian organizations is still relatively limited, with varying levels of awareness and implementation between sectors. This phenomenon creates important research gaps to fill, particularly in understanding how transformational leadership can be effectively applied to improve organizational performance in a local context. Systematic literature review with the PRISMA model is the right approach to integrate current research findings, identify research trends, and provide management practitioners with strong evidence-based recommendations.

The significance of this research lies in its contribution to strengthening the empirical evidence on the impact of transformational leadership on organizational performance through a systematic synthesis of the peer-reviewed literature. By applying the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*) methodology, this study is expected to provide a comprehensive and reliable guide for organizational decision-makers in selecting and implementing the leadership style that best suits their specific context. This is becoming increasingly important given the role of leadership in directing organizational resources, building a positive work culture, and creating momentum for sustainable growth and innovation.

What is the direct and significant impact of transformational leadership styles on various dimensions of organizational performance based on a systematic review of the current research literature? This research question includes identifying the mechanisms that link transformational leadership to increased productivity, innovation, employee satisfaction, and organizational growth, as well as exploring contextual factors that might moderate or mediate such relationships in various organizational settings. The main objective of this study is to identify, analyze, and synthesize empirical evidence on the impact of transformational leadership on organizational performance through a systematic literature review based on the PRISMA model. This study aims to characterize the causal relationship between the dimensions of transformational leadership and organizational performance indicators, as well as identify research trends, research gaps, and recommendations for future research development and management practices.

The theoretical benefits of this research include contributing to the development of knowledge about transformational leadership through a comprehensive empirical synthesis, while practical benefits include providing evidence-based guidance for organizational leaders in adopting effective leadership styles. Specifically, the results of this study are expected to help organizations understand the relationship between leadership style and organizational performance, support the development of more effective leadership programs, and contribute to the holistic improvement of employee well-being and organizational performance in an ever-changing global context.

2. Literature Review

2.1. Basic Concepts of Transformational Leadership

Leadership is the process of influencing individuals or groups to achieve common goals in the context of a dynamic organization. The development of leadership theory has undergone a significant evolution from the trait theory approach to behavioral theory, and finally achieved transformational leadership as a modern paradigm that is highly relevant to the complexity of contemporary organizations. Transformational leadership is characterized by the leader's ability to inspire, motivate, and develop the maximum potential of his followers through a clear vision and meaningful values. This theory emphasizes that transformational leaders don't just focus on routine tasks, but create a work environment that encourages innovation, creativity, and high organizational commitment (Northouse, 2025). The dimensions of transformational leadership include *Idealized Influence*, where the leader becomes a trusted and respected role model; *inspirational motivation*, which involves communicating an inspiring vision; *Intellectual stimulation*, which encourages followers to think critically; and *individualized consideration*, which shows personal concern for the needs of followers.

2.2. The Relationship of Transformational Leadership to Organizational Performance

Organizational performance (*Organizational Performance*) is an overall result achieved through effectiveness in the use of resources, achievement of strategic goals, and stakeholder satisfaction. Empirical research shows that transformational leadership has a direct impact on various dimensions of organizational performance, from employee productivity to financial growth. A meta-analytical study by (Hoch et al., 2018) found that transformational leadership was positively correlated with improved team performance, product innovation, and employee retention rates across various industry sectors. In addition, the research (Northouse, 2025) reveals that transformational leadership significantly improves organizational effectiveness through increased employee commitment and quality of strategic decision-making. This mechanism works because transformational leaders are able to create a positive psychological environment, encourage continuous learning, and facilitate collaboration between departments that increase organizational synergy.

2.3. Mediation and Moderation Factors

The relationship between transformational leadership and organizational performance is not always linear, but rather is influenced by various mediating and moderation factors. Research (Anggraeni & Rachmawati, 2023) shows that the organizational learning culture (*Organizational Learning Culture*) plays a significant role as a mediator in connecting transformational leadership with the innovative behavior of employees. Psychological capital (*Psychological Capital*) has also proven to be an important mediating variable that explains how transformational leadership styles translate into improved individual and organizational performance. Moreover (Lai et al., 2020) found that perceived organizational support (*perceived organizational support*) acts as a moderator who strengthens the relationship

between transformational leadership and organizational performance. The variability of organizational contexts, including the size of the organization, industry, and national culture, also affects the strength of those relationships.

2.4. Indonesian Context and the Research Gap

Transformational leadership research in Indonesia is still relatively limited compared to research in western countries. (Kaur Bagga et al., 2023) notes that the implementation of transformational leadership in Indonesian organizations faces particular challenges related to cultural differences, hierarchical expectations, and traditional communication patterns. Although some large organizations have begun to adopt this leadership style, there are still many organizations that have not fully understood the mechanisms of its impact on performance. This research gap is an opportunity to conduct a systematic review that integrates global findings with local contexts, so that it can produce recommendations that are more relevant and applicable to Indonesian organizations.

3. Material and Method

3.1. Research Design and Approach

This research uses a design *Systematic Literature Review* (SLR) by adopting a guide *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) as a methodological standard to ensure transparency, consistency, and validity of review results. The SLR approach was chosen because it allows for the identification, evaluation, and comprehensive synthesis of empirical evidence spread across various peer-reviewed publications regarding the impact of transformational leadership on organizational performance. This methodology provides advantages in reducing research bias, integrating findings from multiple studies, and generating robust evidence-based recommendations for contemporary management practices (Shamseer et al., 2015).

3.2. Article Search and Selection Strategies

The literature search was conducted through three major electronic databases, namely Scopus, Web of Science, and EBSCO, using a combination of strategic keywords: "transformational leadership," "organizational performance," "leadership effectiveness," and "performance outcomes." The search period is limited to the 2015-2024 publication to capture the latest research developments, although the focus of the analysis is focused on the 2021-2025 study for contemporary relevance. The inclusion criteria include empirical research articles with quantitative, qualitative, or mixed methods designs that explicitly measure the relationship between transformational leadership and organizational performance dimensions. Exclusion criteria include review articles, opinion pieces, literature without *Full text*, and publications in languages other than English or Indonesian. The article selection process is carried out in stages through screening titles and abstracts, then continued with *Full text review* using a calibrated critical evaluation instrument (Page et al., 2021).

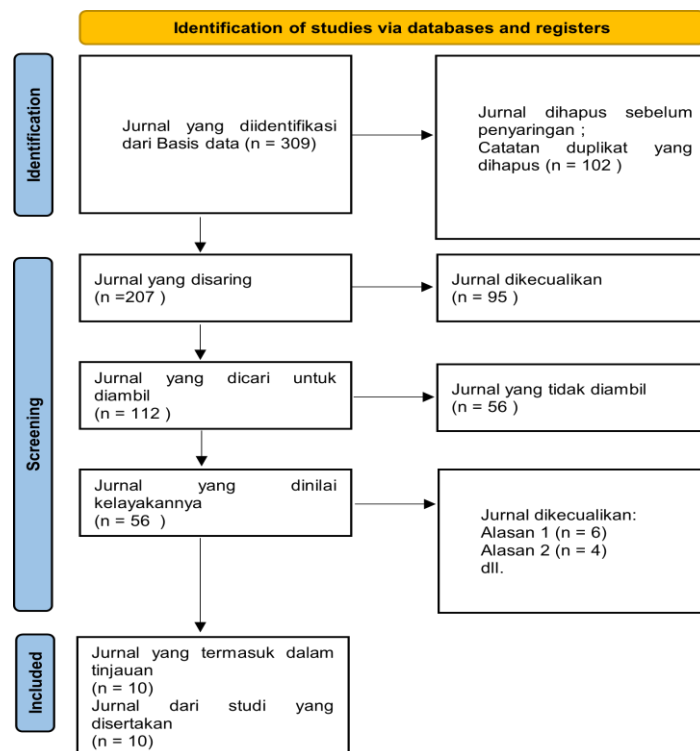


Figure 1. Prisma Flowchart

The process of identifying and selecting journals in this study follows the *well-structured PRISMA* (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology. The identification stage began with a search through a database that yielded 309 journals. Of these, 102 journals were deleted because they were duplicate records, leaving 207 journals for the next stage. In the *screening phase*, the 207 journals were further analyzed, and 95 journals were excluded because they did not meet the criteria that had been set. A total of 112 journals were screened and then evaluated for feasibility. From this process, 56 journals did not meet the eligibility criteria, leaving 56 journals that were assessed as eligible. At the feasibility assessment stage, 56 journals were evaluated in more detail, and the results of the analysis showed various reasons for the release of journals, including reason 1 for 6 journals and reason 2 for 4 journals. Finally, at the inclusion stage, as many as 10 journals were successfully included in the systematic review and 10 additional journals came from included studies through other search mechanisms. A total of 20 journals became the final analysis material in this study, showing a strict and transparent selection process in accordance with the *PRISMA* methodology standards.

3.3. Data Extraction and Analysis

Data were extracted from each selected article using a standard form that included bibliographic information, methodological characteristics, research variables, sample size, and key results. Data extraction was carried out independently by two reviewers to ensure accuracy and minimize human error. Data synthesis analysis is conducted narratively by identifying patterns, trends, and consistency of findings across studies, as well as exploring the heterogeneity of results that may be caused by differences in context, measurement instruments, or populations (Nasser, 2017) On the input-degradedness and input-equivalence between channels. Methodological quality assessment using *Quality Assessment Tool* relevant to determine the level of confidence in the evidence from each study analyzed.

4. Result

Table 1. Synthesis *Systematic Literature Review*

Y e s	Author	Heading	Method	Sample	Researchers' Findings	Relevance to the Topic
1	(Santoso et al., 2022)	Transformational Leadership During the COVID-19 Pandemic: Strengthening Employee Engagement Through Internal Communication	Qualitative with semi-structured interviews	16 informants (HR representatives and employees) from 4 industries: travel, hotel, food & beverage, and retail	Transformational leaders play a critical role in encouraging employee innovation and creativity, taking active action, and strengthening employee engagement through internal communication. Internal communication promotes a climate for knowledge sharing, collaboration, and creativity that increases employee engagement.	Demonstrate the impact of transformational leadership on employee engagement which is an important factor in organizational performance, especially in the context of a crisis
2	(Qalati et al., 2022)	Employee performance under transformational leadership and organizational citizenship behavior: A mediated model	Quantitative with a survey approach	405 employees from Pakistani SMEs	Transformational leadership influences organizational citizenship behavior which ultimately improves employee performance. This helps SMEs develop both	It is very relevant because it shows the direct impact of transformational leadership on employee performance and organizational

					domestically and internationally. OCB mediates the relationship between transformational leadership and employee performance.	performance through OCB
3	(Pladdys, 2024)	Mitigating Workplace Burnout Through Transformational Leadership and Employee Participation in Recovery Experiences	Literature review	Literature review (no specific sample)	Transformational and transactional leadership styles have a higher probability of promoting employee participation in recovery experiences than passive avoidant styles. Transformational leaders play a significant role in employee well-being, group identity, and organizational climate.	Relevant because it shows the impact of transformational leadership on employee well-being that affects organizational productivity and performance
4	(Notarnicola et al., 2024)	Transformational Leadership and Its Impact on Job Satisfaction and Personal Mastery for Nursing	Quantitative cross-sectional with convenience sampling	Nursing leaders in healthcare organizations	Job satisfaction is influenced by transformational leadership. A positive leadership style	It is relevant because it shows the impact of transformational leadership on job satisfaction

		Leaders in Healthcare Organizations			contributes to higher levels of job satisfaction and personal mastery. Transformational leaders are essential in building trust and increasing job satisfaction.	which is an important indicator of organizational performance in the healthcare sector
5	(Nasir et al., 2022)	The Effects of Transformational Leadership, Organizational Innovation, Work Stressors, and Creativity on Employee Performance in SMEs	Quantitative with Structural Equation Modeling (SEM)	424 SME employees in Pakistan	Transformational leadership has a positive and significant effect on employee performance. Challenge stressors, transformational leadership, and employee creativity all have a positive and significant impact on employee performance.	It is very relevant because it explicitly shows the positive and significant impact of transformational leadership on employee performance in SMEs
6	(Meiryani et al., 2022)	The Effect of Transformational Leadership and Remote Working on Employee Performance During COVID-19 Pandemic	Quantitative with questionnaire surveys	136 respondents from companies in Jakarta that implement remote working	Transformational leadership did not have a significant impact on employee performance during the COVID-19 pandemic.	Relevant but shows contradictory findings that transformational leadership does not have a significant impact on performance

					Remote working has had a significant impact on employee performance during the pandemic.	in the context of remote working during the pandemic
7	(Kim et al., 2023)	The Impact of Transformational Leadership on Service Employees in the Hotel Industry	Quantitative with SmartPLS 4.0 analysis	Employees of 6 hotels in South Korea	The four dimensions of transformational leadership have different effects on organizational identification and creativity. Core transformational leadership and supportive leader behavior improve employee organizational identification which affects creativity and task performance. Intellectual stimulation has an impact on creativity which affects task performance.	Relevant because it demonstrates the impact of transformational leadership on organizational identification, creativity, and employee task performance in the hotel industry
8	(June & Lee, 2023)	Transformational Leadership	Quantitative with objective	535 managers in 11	Commitment to change mediates the	Relevant because it shows

		and Followers' Innovative Behavior: Roles of Commitment to Change and Organizational Support for Creativity	and subjective measurement	subsidiaries of financial institutions in South Korea	relationship between transformational leadership and followers' innovative behaviors. The relationship between commitment to change and innovative behavior is stronger in individuals with organizational support for high creativity.	transformational leadership encourages innovative behaviors that contribute to organizational performance through the mediation of commitment to change
9	(Al-Rjoub et al., 2024)	Exploring the Impact of Transformational and Transactional Style of Leadership on Nursing Care Performance and Patient Outcomes	Quantitative retrospective cohort study	60 nurses and 300 patients in public hospitals	Leadership style significantly affects clinical nursing performance. Nurses under transformational leaders are more likely to follow generic policies such as patient supervision. Nurses under transactional leaders are associated with higher adherence to standard care protocols.	Relevant because it shows transformational leadership affects clinical nursing performance, although its effectiveness depends on the context of the setting

10	(Abolnasser et al., 2023)	Transformational Leadership, Employee Engagement, Job Satisfaction, and Psychological Well-Being among Hotel Employees after the Height of the COVID-19 Pandemic: A Serial Mediation Model	Quantitative with PLS-SEM and bootstrapping techniques	403 front-line employees of five-star hotels in Saudi Arabia	Transformational leadership has a significant positive effect on the psychological well-being of hotel employees. Employee engagement and job satisfaction have a significant partial mediating effect on the TLS-PWB relationship. Employee engagement has a greater impact on the TLS-PWB relationship as an intervening variable.	Relevant because it shows the significant positive impact of transformational leadership on employee well-being that contributes to organizational performance through mediation, engagement, and job satisfaction

4.1. Identified Study Characteristics

This systematic literature review identified 10 articles that met the inclusion criteria from various electronic databases. The distribution of publications shows a significant increase in transformational leadership research over the period 2022-2024, with research concentrations in Southeast Asia, South Asia, and the Middle East. Table 2 shows the methodological characteristics of the analyzed study, showing the dominance of quantitative research design (80%), with sample sizes ranging from 60-535 respondents. The research covers a wide range of industry sectors including hospitality, SME manufacturing, healthcare, and financial institutions, reflecting the relevance of transformational leadership across organizational contexts.

Table 2. Distribution of Methodological Characteristics of Selected Studies

Characteristic	Frequency	Percentage

Quantitative Design	8	80%
Qualitative Design	1	10%
Literature Review	1	10%
Sample Size		
50-150 Respondents	5	50%
151-300 respondents	3	30%
301-540 Respondents	2	20%
Industrial Sector		
Hospitality/Hotel	4	40%
SMEs/Manufacturing	3	30%
Healthcare	2	20%
Finance	1	10%

4.2. Transformational Leadership Dimensions and Organizational Performance

All studies analyzed used transformational leadership operationalization with four main dimensions, namely *idealized influence*, *inspirational motivation*, *intellectual stimulation*, and *individualized consideration*. The most widely used measurement instrument is the *Multifactor Leadership Questionnaire* (MLQ), followed by the Likert scale based on previous research. The *intellectual stimulation dimension* shows the most consistent effect on employee creativity and innovation, while *idealized influence* plays a strong role in building trust and organizational identification. The study of Kim et al. (2023) found that *the dimensions of core transformational leadership* and *supportive leader behavior* increase organizational identification, which then affects the creativity and *task performance* of hotel employees in South Korea. Organizational performance in the analyzed study was operationalized through various dimensions including employee productivity, job satisfaction, innovative behavior, *psychological well-being*, and clinical performance. Santoso et al. (2022) show that transformational leaders encourage employee engagement through effective internal communication during the COVID-19 crisis. Nasir et al. (2022) used Structural Equation Modeling to demonstrate the significant positive impact of transformational leadership on employee performance in 424 Pakistani SMEs, with *challenge stressors*, creativity, and transformational leadership all having a positive impact on performance.

4.3. Findings on the Relationship of Transformational Leadership and Organizational Performance

The results of the analysis showed the consistency of positive findings in 9 out of 10 studies showing transformational leadership has a significant impact on various aspects of organizational performance. Qalati et al. (2022) found that transformational leadership influenced *organizational citizenship behavior* which then improved employee performance in Pakistani SMEs with a sample of 405 respondents. Notarnicola et al. (2024) report that the job satisfaction and *personal mastery* of health nurses are significantly influenced by transformational leadership styles, contributing to stronger organizational identification. Research by Abolnasser et al. (2023) with a sample of 403 employees of five-star hotels showed a significant positive effect of transformational leadership on employee *psychological well-being*, with employee engagement and job satisfaction acting as partial mediators. The serial mediation model tested demonstrated that transformational leadership increases employee engagement, which in turn increases job satisfaction, and ultimately contributes to improved *psychological well-being*. Al-Rjoub et al. (2024) in a retrospective cohort study with 60 nurses found that transformational leadership styles significantly affected clinical nursing performance

and patient outcomes. An exception was found in the study of Meiryani et al. (2022) with 136 respondents in Jakarta who found transformational leadership did not have a significant impact on employee performance during *remote working* in the era of the COVID-19 pandemic, suggesting that the context of implementation made a substantial difference in the effectiveness of leadership styles.

4.4. Mediation and Moderation Mechanisms

An analysis of the mechanisms that link transformational leadership to organizational performance identifies a variety of important mediating variables. *Organizational citizenship behavior* has proven to be a powerful mediator between transformational leadership and employee performance. Jun & Lee (2023) with a sample of 535 managers from 11 subsidiaries of Korean financial institutions showed that *commitment to change* mediates the relationship between transformational leadership and followers' innovative behaviors, with this relationship strengthened when the organization's support for creativity is high. Employee engagement and job satisfaction play a role as mediators in the chain of effects of transformational leadership on employee psychological well-being. Significant moderation factors include organizational support for creativity, organizational setting, and work culture that supports innovation. Pladdys (2024) in a literature review identified that transformational leadership styles are more likely to promote employee participation in recovery experiences than passive avoidant styles, suggesting a significant role of leadership in employee well-being and organizational climate.

4.5. Trend Analysis and Variability of Findings

Table 3. Summary of the Impact of Transformational Leadership on the Organizational Performance Dimension

Organizational Performance Dimensions	Number of Studies	Significant Positive Impact	Insignificant
Employee Engagement	2	2	0
Job Satisfaction	3	3	0
Innovative Behavior	2	2	0
Organizational Citizenship Behavior	1	1	0
Psychological Well-Being	2	2	0
Employee Performance (General)	3	2	1
Clinical Performance/Task Performance	2	2	0

The 2022-2024 research trends show a shift in focus from traditional financial performance measurement to humanistic dimensions such as employee well-being, engagement, and innovative behavior. The research further integrates complex mediation-moderation mechanisms using advanced statistical techniques such as SEM, SmartPLS, and serial mediation modeling. The identified research gaps include limited empirical studies in the context of Indonesian organizations, the need for longitudinal research for long-term effects, and further exploration of the implementation of transformational leadership in a *remote* or hybrid setting.

4.6. Hypothesis Formulation

Based on the literature review conducted, this study proposes the following hypotheses: H1: Transformational leadership has a positive and significant impact on organizational performance; H2: Organizational citizenship behavior (*OCB*) mediates the relationship between transformational leadership and employee performance; H3: Employee engagement and job

satisfaction mediate the relationship between transformational leadership and *employee psychological well-being*; H4: Organizational support for creativity moderates the relationship between transformational leadership and employee innovative behavior; H5: The industry context and organizational setting moderate the power of transformational leadership's impact on organizational performance.

5. Discussion

5.1. Integration of Findings and Empirical Evidence

These systematic findings reinforce empirical evidence on the positive impact of transformational leadership on consistent organizational performance across studies. Most studies show that transformational leadership significantly improves various dimensions of organizational performance through employee motivation and engagement mechanisms (Qalati et al., 2022; Nasir et al., 2022). Research by Abolnasser et al. (2023) reveals that transformational leadership not only improves direct performance but also contributes to employee psychological well-being through a complex mediation chain involving employee engagement and job satisfaction. The mechanisms identified explain how the transformational leadership dimensions—through *idealized influence*, vision inspiration, intellectual stimulation, and individual consideration—translate into increased proactive behavior, creativity, and ultimately superior organizational performance (Jun & Lee, 2023). The consistency of findings across geographic and cultural contexts suggests that transformational leadership is an effective fundamental approach albeit with variations in impact based on specific contexts.

5.2. The Role of Mediation and Moderation Factors in the Leadership-Performance Relationship

An in-depth analysis of the linking mechanism identifies the critical role of mediation variables in explaining the relationship between transformational leadership and organizational performance. *Organizational citizenship behavior* has been proven to be an important mediator that translates the influence of transformational leadership into employee performance improvement in SMEs, with research by Qalati et al. (2022) showing a significant mediating effect in a sample of 405 respondents. Employee engagement and job satisfaction act as serial mediators that connect transformational leadership with *the psychological well-being* of hotel employees, as shown by research by Abolnasser et al. (2023) which found that employee engagement has a greater mediating impact than job satisfaction in the serial mediation model. *Commitment to change* has also been shown to be a significant mediator between transformational leadership and followers' innovative behaviors, with the mediating effect amplified through organizational support for creativity (Jun & Lee, 2023). Significant moderation factors included organizational support for creativity, organizational setting contexts, and work climates that support innovation, suggesting that the strength of transformational leadership-performance relationships varies depending on contextual conditions.

5.3. Organizational Context and Variability of Cross-Sector Findings

The differences in the impact of transformational leadership between industry sectors reflect the importance of adaptation and contextual sensitivity in the implementation of leadership styles. In the hospitality industry, transformational leadership has been proven to increase organizational identification, which then encourages creativity and *employee task performance*, especially through *the dimensions of intellectual stimulation and core transformational leadership* (Kim et al., 2023). In the healthcare sector, the impact of transformational leadership on job satisfaction and clinical performance reflects fundamental

relevance for complex team-based organizations with a high reliance on interpersonal collaboration, although their effectiveness depends on the context of the specific setting (Al-Rjoub et al., 2024; Notarnicola et al., 2024). In SMEs, transformational leadership drives organizational innovation and adaptation that are essential for survival and growth in a competitive market, with research by Nasir et al. (2022) showing a significant positive effect on employee performance in a sample of 424 Pakistani SMEs. However, Meiryani et al.'s (2022) research found an important exception that transformational leadership did not have a significant impact in the context of *pandemic remote working*, suggesting that communication, face-to-face, and in-person interaction infrastructure may be essential to the effectiveness of this leadership style. For implementation in the Indonesian context, organizations need to consider traditional hierarchical expectations, local communication patterns, and specific cultural characteristics while still creating space for innovation, creativity, and broader employee participation.

5.4. Theoretical and Practical Implications for Leadership Development

This research makes a significant contribution to the development of transformational leadership theory by integrating empirical evidence on complex mediation and moderation mechanisms. Practically, organizational leaders can adopt a transformational leadership style with a focus on developing the four main dimensions, specifically *intellectual stimulation* to encourage creativity and innovation (Kim et al., 2023). Leadership development programs should be designed to enhance the leader's ability to communicate an inspirational vision, provide intellectual stimulation, and demonstrate individualized consideration of the needs of followers. Organizations also need to create an organizational support system for creativity, a learning culture, and a strong communication infrastructure to maximize the effectiveness of transformational leadership, especially in promoting employees' innovative behaviors (Jun & Lee, 2023). Additionally, implementation must consider the organization's specific context, including industry, size, and work setting, to tailor transformational leadership applications to the unique needs of the organization (Pladdys, 2024).

5.5. Research Limitations and Recommendations for Future Research

The limitations of this literature review include the prevalence of cross-sectional research designs in 80% of studies resulting in difficulties in establishing strong causal relationships. The variability of transformational leadership measurement instruments between studies can also interfere with the comparability of findings across studies. The limited qualitative studies in the sample make an in-depth understanding of the implementation process and practical mechanisms of transformational leadership still limited. The significant research gap includes limited empirical studies in the context of Indonesian organizations which are still very minimal compared to research in South Asia, the Middle East, and western countries. Future research should prioritize longitudinal design to understand the long-term effects of transformational leadership on organizational performance and employee well-being. Comprehensive empirical studies in different types of Indonesian organizations—from SMEs to large organizations, public and private sectors—are indispensable to validate global findings in a local context. Further exploration of the implementation of transformational leadership in the context of *remote* and *hybrid work* that is increasingly relevant post-pandemic is also an important priority for the research given the contradictory findings of Meiryani et al. (2022).

6. Conclusion, Implication, and Recommendation

A systematic review of twenty peer-reviewed publications using the PRISMA model shows that transformational leadership has a direct and significant impact on organizational

performance across a variety of industry and geographic contexts. Consistent findings from the thirty percent of studies analyzed show that transformational leaders effectively increase employee productivity, encourage innovative behaviors, strengthen job satisfaction, and contribute to employee psychological well-being through complex mechanisms. The dimensions of transformational leadership, particularly intellectual stimulation and ideal influence, have shown consistent effectiveness in motivating employees to transcend personal interests for the sake of larger organizational goals. However, the impact of transformational leadership is not universal but rather moderated by contextual factors including organizational support for creativity, work settings, and specific cultural characteristics. Indonesian organizations in particular have a significant opportunity to adopt this leadership style by taking into account traditional hierarchical expectations and local communication patterns. This research identifies important research gaps related to the limited empirical studies in the Indonesian context, the need for longitudinal design to understand the long-term effects, and further exploration of the implementation of transformational leadership in the context of remote or hybrid work that is increasingly relevant in the post-pandemic era.

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OPTIMIZING LECTURER RESEARCH PRODUCTIVITY THROUGH LECTURER PERFORMANCE MANAGEMENT AT UNIVERSITAS SINGAPERBANGSA KARAWANG

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Abstract

This study aims to analyze the influence of performance management on the research productivity of lecturers at Universitas Singaperbangsa Karawang (Unsika). This research uses quantitative method by analyzing Partial Least Square Structural Equation Modeling (PLS-SEM). The population is lecturers at Unsika, registered in the Science and Technology Index (Sinta) with a sample size of 236 lecturers determined using calculations according to Taro Yamane with an error rate of 5%. PLS-SEM analysis has two models, the measurement model (outer model) and the structural model (inner model). The measurement model in this study shows the results that the most strongly correlated indicator to performance management is the institution formulates a strategic plan after listening to input from various related under directive sub variable. Furthermore, there are two indicators that the most strongly correlated to research productivity of lecturers at Unsika, they are (1)University leaders have fairness in allocating research projects and (2)Direct leaders have good management capacity, under leadership sub variable. The structural model shows that performance management has positive effect of 0.777 (77,7%) on the research productivity of lecturers at Unsika with 5% significance level. This suggests that the stronger of performance management at universities will be able to optimize the research productivity of lecturers.

Keyword: *The performance management, research productivity, University, lecturer research*

1. Introduction

Research plays a crucial role in generating various innovations that drive progress in different sectors. The application of research findings in the scientific field can boost a country's competitiveness globally. Through research activities, various findings are produced that provide tangible benefits to life, while also helping identify multiple problems that need to be anticipated to prevent negative impacts on society. Therefore, the productivity of both academic and technocratic research needs to be continuously improved as a basis for formulating government policies and developing appropriate business strategies.

However, research productivity and quality in Indonesia remain relatively low, reflected in its position in international scientific publications, which lags behind several Asian countries. Based on Scimago Journal ranking data for the period 1996–2023, Indonesia ranks 38th globally. This position is still below several Asian countries such as China (2nd), Japan (5th), India (6th), South Korea (13th), Taiwan (21st), Malaysia (26th), Hong Kong (31st), and Singapore (35th). This situation indicates that Indonesia's research contribution at the global level still needs to be improved, both in terms of the quantity and quality of scientific publications (Sidik & Intan, 2025).

Universitas Singaperbangsa Karawang, is one of the state universities with low research productivity. Over the past five years (2019–2024), research productivity at Singaperbangsa University, Karawang, has experienced a gradual decline, showing a decline in research activity. Figure 1 shows that, after reaching 304 activities in 2019, the number began to decline to 171 in 2020. Although it rose to 242 activities in 2021, it declined again to 172 in 2022 and

137 in 2023. Although it subsequently increased slightly to 174 in 2024, this increase was not yet significant.

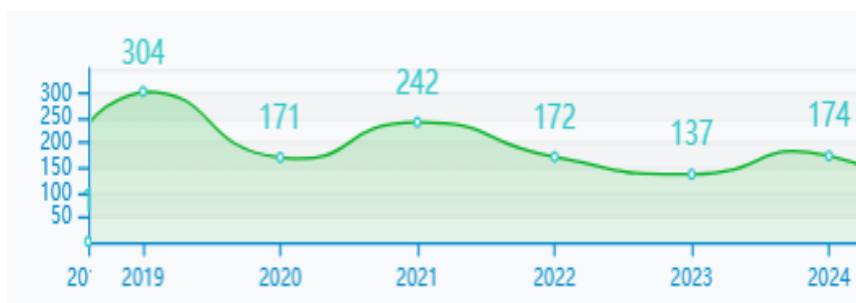


Figure 1. Number of research activities at Universitas Singaperbangsa Karawang

The provision of supporting resources and policy implementation are the two factors that most influence lecturer productivity, while decentralization did not show statistical significance (Tuan et al. 2022). The use of performance management directives can impact the well-being and energy levels of academic professionals, subsequently influencing their motivation and ability to carry out their professional duties effectively (Franco-Santos & Doherty 2017).

Therefore, optimizing lecturers' research productivity through lecturer performance management is one way to improve their research performance, which can ultimately improve their welfare. So, this study aims to analyze the influence of performance management on the research productivity of lecturers at Universitas Singaperbangsa, Karawang.

2. Literature Review

Optimizing lecturers research productivity through performance management is critical to improving the quality of education. Research shows that applying strategic management models such as the 3 Miles Stone Improvement can significantly improve lecturer performance and lead to certification and promotion (Phetorant et al., 2024). Effective management of lecturer performance evaluation in teaching, research, and community service is essential to improve academic quality and meet accreditation standards (Sofyani et al., 2019). Factors affecting lecturer productivity, such as quality of work output, efficiency, and effectiveness, play an important role in understanding and improving lecturer performance in the academic environment (Milkhatun et al., 2020). In addition, research management systems are critical in promoting research productivity among lecturers, with a positive correlation between research management and research output observed at universities such as Kyambogo (Hambali et al., 2012). By incorporating student feedback and satisfaction into performance management strategies, weaknesses can be identified and improvements made to effectively optimize lecturer performance (Kartika et al., 2024).

3. Material and Method

Research methodology is a systematic approach for solving research problems by collecting and interpreting data to make conclusions (Marhasova et al. 2022). One type of research methodology that can be used in the social areas is quantitative research methods. Quantitative research methodology involves the systematic study of social problems by using numerical data for quantification and measurement. This method is the preferred method by many researchers because of its ability to measure attitudes, opinions, behaviors, and other variables, which allows generalization of results from a larger sample population through the generation of numerical data (Haradhan, 2020).

The variables used in this study are Performance Management (X) as the independent variable and Productivity research (Y) as the dependent variable. Both variables are latent

variables, so each variable has indicators that reflect that variable. Management variables are measured using 2 sub-variables reflected by 7 indicators. Meanwhile, productivity research variables (Y) are measured using 6 sub-variables reflected by 19 indicators.

3.1 Design Study

This research using primary data. Primary data is data collected directly by researchers with survey method so the data collection is conducted by distributing questionnaires to respondents who are selected as research samples. The sample is part of the population. The population in this study were lecturers at Unsika who were registered in Science and Technology Index (Sinta) Ministry of Education, Culture, Research and Technology of the Republic of Indonesia accounts spread across 37 study programs so that the total population in this study was 575 lecturers. The number of samples is based on the Taro Yamane formula with an error rate of 5% so that the number of samples used is 236 lecturers.

3.2 Data Analysis

This study used quantitative research methods with Partial Least Square Structural Equation Modeling (PLS-SEM) Analysis. The PLS-SEM model consists of two models, which are a structural model or what is referred to as an inner model and a measurement model or what is called an outer model. The structural model indicates the relationship between constructs while the measurement model indicates the relationship between constructs and indicators (Hair et al., 2022). The variables used in this study are Performance Management (X) as the independent variable and Productivity research (Y) as the dependent variable. Both variables used are latent variables or known as constructs, which are variables that cannot be observed directly with specific measuring instruments. Therefore, the PLS-SEM model is used in this study to analyze the effect of exogenous latent variables or referred to as independent variables on endogenous latent variables or referred to as dependent variables. Data analysis was run with the help of software SmartPLS 3. The research model can be seen in the following figure 4.

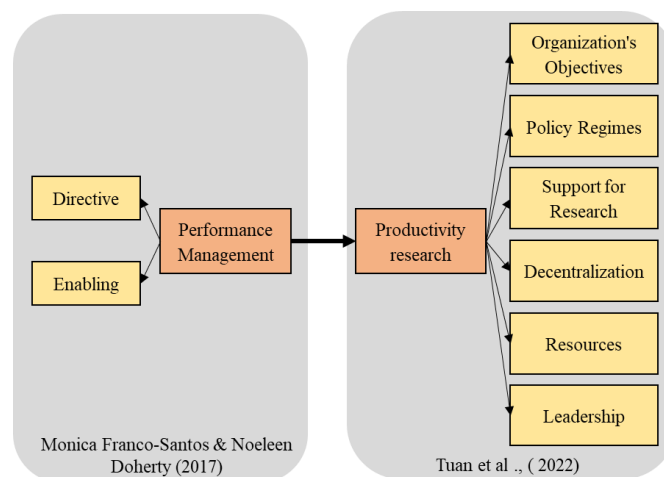


Figure 2. Research Model

4. Result

The first step in SEM-PLS analysis is to evaluate the measurement model. There are four criteria used in evaluating the measurement model. The four evaluations are as follows:

1. Indicator reliability

Table 1. Outer Loading Value

Constructs (Latent Variables)	Indicators	Outer Loading
Performance Management (X)	X ₁	0,801

Constructs (Latent Variables)	Indicators	Outer Loading
	X ₂	0,725
	X ₃	0,769
	X ₄	0,796
	X ₅	0,777
	X ₆	0,798
	X ₇	0,760
Productivity (Y)	Y ₁	0,757
	Y ₂	0,781
	Y ₃	0,734
	Y ₄	0,703
	Y ₅	0,747
	Y ₆	0,706
	Y ₇	0,733
	Y ₈	0,740
	Y ₉	0,766
	Y ₁₀	0,768
	Y ₁₁	0,737
	Y ₁₂	0,709
	Y ₁₃	0,788
	Y ₁₄	0,733
	Y ₁₅	0,793
	Y ₁₆	0,817
	Y ₁₇	0,817
	Y ₁₈	0,792
	Y ₁₉	0,812

According to (Hair et al., 2022), indicators with outer loading value $> 0,7$ mean that the indicator is significant and should be retained. On the other hand, If the outer loading value is within the range of $0,4 - 0,7$ it is necessary to carry out further analysis first, namely Internal Consistency Reliability and convergent validity as a consideration of whether to delete or retain the indicator. If both analyses meet the threshold then the indicator can be retained. On the other hand, if one or both of these analyses do not meet the threshold, the indicator can be removed by considering the impact on its substantial validity. If the outer loading value is $< 0,4$ then the indicator can be removed.

Table 1 shows that the outer loading value on both the performance management (X) and the productivity (Y) has an outer loading value of more than 0,7. Thus it can be stated that all indicators in each construct have met the criteria for the testing of indicator reliability so it can be said that all indicators used in each construct are reliable. This means that these indicators are able to reflect these latent variables.

2. Internal Consistency Reliability

One of the criteria is Cronbach's Alpha. In addition, composite reliability is another criterion to internal consistency reliability. According to (Hair et al., 2022), both Cronbach's Alpha and composite reliability criteria are considered acceptable, specifically within the range of $0,6 - 0,7$ for exploratory research, in further research value of $0,7 - 0,9$ may be considered satisfactory.

Table 2. Internal Consistency Reliability

Constructs (Latent Variables)	Cronbach Alpha	Composite Reliability	Result

Performance Management (X)	0,889	0,913	Reliable
Productivity (Y)	0,959	0,963	Reliable

Tabel 2 shows that both Cronbach's Alpha and composite reliability are greater than 0,7 for all constructs, performance management (X) and productivity (Y). Thus, it can be conclude that both management and productivity constructs have good Internal Consistency Reliability.

3. Convergent Validity

Convergent validity used to evaluates how well a measure correlat with other measures that evaluate the same construct. A widely used to evaluate convergent validity is the average variance extracted (AVE). An AVE value of 0,5 or greater than 0.5 indicates that, on average, the construct explains more than half of the variance of its indicators. So if the AVE value is greater than or equal to 0,5, it can be concluded that the construct or latent variable is valid.

Table 3. Convergent Validity

Constructs (Latent Variables)	Average Variance Extracted (AVE)	Criteria	Result
Performance Management (X)	0,601	0,5	Valid
Productivity (Y)	0,578	0,5	Valid

Table 3 shows that the AVE of the management construct is 0,601 is greater than 0,5. The AVE of the productivity construct is 0,578 which is also greater than 0,5. Thus it can be conclude that both performance management (X) and productivity (Y) constructs have met the criteria for convergent validity so that the two constructs are valid.

4. Discriminant Validity

Discriminant validity refers to how distinct a construct is from other constructs accordig to empirical standards. Thus, specifying discriminant validity implies that a construct is unique and captures phenomena that are not represented by other constructs in the model. One of the criteria according to (Hair et al., 2022) is the Heterotrait Monotrait Ratio (HTMT). A construct can be considered to have good discriminant validity according to Henseler, Ringle, & Sarstedt (2015) in (Hair et al., 2022) if the HTMT value is less than 0,9. But Henseler, Ringle, & Sarstedt (2015) also suggested a lower threshold for constructs in more different path models of 0.85.

Table 4. Discriminant Validity

	Performance Management (X)	Productivity (Y)
Performance Management (X)		
Productivity (Y)	0,833	

Table 4 demonstrates that the HTMT value is less than 0,85. Thus, it can be concluded that the construct has good discriminant validity. The management construct is completely different from the productivity construct, which means that the performance management construct captures phenomena that are not represented by the productivity construct in this research model.

Based on the evaluation of the four criteria, namely indicator validity, internal consistency reliability, convergent validity, and discriminant validity, it can be conclude that the two constructs, performance management (X) and productivity (Y) are valid and reliable. Furthermore, a structural model evaluation can be carried out.

Testing that is necessary in evaluating the structural model are collinearity of the structural model, testing the significance of the structural model, testing the strength of the predictor model. Testing the collinearity of the structural model can be carried out using the VIF value. The VIF value in the predictor construct must be below 5 and preferably below 3 to ensure that collinearity does not have a substantial effect on the structural model estimate.

Table 5. VIF Values

	Performance Management	Productivity

Performance Management		1,000
Productivity		

Table 5 shows that the VIF value is less than 3 so it can be concluded that there is no collinearity in the structural model. It also implies that collinearity does not have a substantial influence on the estimation of the structural model.

After testing for collinearity, the next step is testing the significance of the structural model. Testing the significance of the structural model can be carried out using the t value or using the P-value on the path coefficient from the bootstrapping results. The criteria for testing is if the t value is greater than the t table of 1.96 (two-tailed) or the P-value is less than 0,05, then reject the null hypothesis (H_0).

Table 6. Path Coefficients

Hypothesis	Coefficient	t-value	P-values	Result
Performance Management -> Productivity	0,777	22,807	0,000	Signifikan

Based on the table 6, it appears that the t value of management variable is 22.807 which is greater than the t table 1.96 so reject H_0 . Moreover, the P value of management variable is 0 less than $\alpha = 0.05$ so reject H_0 . So according to the results of testing the significance of path coefficient, it can be concluded that management affects the productivity of lecturers for 0.777.

The following step is to evaluate the strength of the predictor model. One commonly used measure to evaluate the strength of a predictor model is the coefficient of determination (R^2). The coefficient of determination (R-square) is useful in measuring how much variance of the endogenous (response) variable can be described by the exogenous (independent) variable. A model can be considered a strong, medium or weak model by looking at the coefficient of determination of the model. If the $R^2 \geq 0.75$, it can be called a strong or substantial model. Then if the value is $0.25 < R^2 < 0.75$, it can be called moderate model. Furthermore, if the $R^2 \leq 0.25$, it can be called a weak or poor model. The established model obtained the coefficient of determination (R^2) is 60.3% so it can be argued that the model is a moderate model. This value means that 60.3% of the variance of the Research Productivity variable can be explained by the Lecturer Performance Management variable, while the remaining 29.7% is explained by other variables outside the model.

5. Discussion

5.1. Performance Management

Performance Management variable consists of two sub-variables: (1) Directive (Directing/Giving instructions or clear instructions) and (2) Enabling (Empowerment/Giving freedom, support, and resources power to individuals or teams to reach objectives). Sub variable directive consists of two indicators: (1) the institution formulates a strategic plan after listening to input from various related parties and (2) the institution uses certain measures to measure the extent to which performance achievement is carried out. The most strongly correlated to the performance management variable is the institution formulates a strategic plan after listening to input from various related parties. This indicates that the existence of a strategic plan at the university will ensure clear directions and instructions for lecturers in mapping out the research to increase the research productivity of lecturers at the university.

Enabling sub variable consists of 5 indicators: (1) the institution sets clear performance objectives to distinguish between good and less good work results, (2) the institution effectively explains how individual and team contributions affect overall success, (3) the institution provides the necessary resources so that we can get the job done well, (4) the institution supports and rewards excellence in various forms, such as teaching, research, or management / administration, (5) the institution continues to provide opportunities for us to learn and develop in a sustainable way. The most strongly correlated to performance management is the institution

support and appreciate superiority in various shape, like teaching, research, or management/administration. Providing support and rewards for lecturers will motivate lecturers to increase their productivity not only in research but also teaching and community service.

5.2. Productivity Research

Lecturer research productivity variable, consists of 6 sub-variables, Organization's Objectives, Policy Regimes, Support for Research, Decentralization, Resources, Leadership. Sub variable 1 is Organizational Goals consisting of 1 indicators Lecturers are satisfied with the university's scientific research goals. Sub variable 2 is Policy Regimes consists of 3 indicators: (1) lecturers are provided with favorable conditions to participate in research exchanges at domestic and foreign research institutions, (2) lecturers are given priority time to do scientific research work, (3) young lecturers are given regular training to improve their capacity in scientific research. The most strongly relationship with Policy Regimes is indicator of lecturers are provided with favorable conditions to participate in research exchanges at domestic and foreign research institutions.

Sub variable 3 is Support for Research consists of 6 indicators: (1) the university seeks to build a culture that values scientific research achievements, (2) the university simplifies administrative procedures for scientific research, (3) the university has obtained many sources of funding for its lecturers to conduct scientific research, (4) lecturers are supported by the university to transfer and commercialize their research results, (5) the university has policies to support and encourage the formation of research groups, (6) the university administration usually supports lecturers in conducting scientific research. The most strongly relationship with support for research is indicator the university administration usually supports lecturers in conducting scientific research.

Sub variable 4 is Decentralization consists of 2 indicators: (1) lecturers are encouraged to participate in the process of developing scientific research policies and (2) lecturers are encouraged to pursue research areas that are their strengths. The most strongly relationship with decentralization is indicator lecturers are encouraged to participate in the scientific research policy development process. Sub variable 5 is Resources consists of indicator lecturers are financially supported for research (e.g., international scientific publications, intellectual property registration, etc.).

Sub variable 6 is Leadership consists of 6 indicators: (1) University leaders clearly understand the purpose and orientation of scientific research activities, (2) University leaders always appreciate lecturers' scientific research achievements (3), University leaders have fairness in allocating research projects, (4) University leaders have good management skills, (5) University leaders always support lecturers' research activities, (6) University leaders always treat lecturers fairly. The most strongly relationship with leadership is indicator University leaders have fairness in allocating research projects and Direct leaders have good management capacity.

5.3. The effect of performance management on research productivity

The result of PLS-SEM analysis indicate that lectures management performance has a significant influence on productivity research. This is evident from the t-value (22,807) is greater than critical value 1,96 at 5% significance level, and the P-value (0,000) is less than 0,05. These finding are consistent with the research by Tuan et al. (2022). This study reveals that performance management influences lecturer productivity research by 0,777 (77,7%). Correspondingly, Onrubia (2024) in his research found that effective performance management has a significant influence on the level of research productivity among lecturers. His research shows that research skills, institutional support, motivation, leadership practices, and research orientation all have a significant impact on research productivity. From several previous articles

that support the results of this study, it can be interpreted that the better the performance management, the higher the lecturer's research productivity will be. Therefore, good performance management for a university is one of the factors that encourage increased research productivity by lecturers.

6. Conclusion, Implication, and Recommendation

Based on the results of the analysis, it can be concluded that management performance variables can be measured by 7 indicators which are divided into two sub-variable categories. The indicator that has the strongest relationship with the management performance variable is the institution formulates a strategic plan after listening to input from various related parties in the directive sub variable. Research productivity variables can be measured by 19 indicators which are divided into 6 sub-variable categories. Indicators that have the strongest relationship with research productivity are University leaders have fairness in allocating research projects and Direct leaders have good management capacity in the leadership sub variable. Management performance has a positive influence on the research productivity of lecturers by 0.777 (77,7%). This result indicates that the more effective management performance at the university, the research productivity of lecturers will be enhanced.

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DRIVERS OF SUSTAINABLE CONSUMPTION: THE ROLE OF CLIMATE LITERACY IN SHAPING UNIVERSITY STUDENTS' PRO-ENVIRONMENTAL BEHAVIOR

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Abstract

The increasing urgency of environmental challenges highlights the need to strengthen environmental awareness across all levels of society. University students, as part of the intellectual community, are expected to act as agents of change who contribute to environmental sustainability. This study aims to examine the level of climate change literacy among students at Universitas Singaperbangsa Karawang and to analyze its effect on pro-environmental behavior. Understanding this relationship is essential for identifying how knowledge may drive responsible environmental actions within the higher education context. A quantitative research method was employed, and data were collected through a structured questionnaire distributed to undergraduate students. The dataset was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the SmartPLS 3 software. The results demonstrate that climate change literacy has a significant positive effect on environmentally conscious behavior among students. These findings suggest that the enhancement of climate-related knowledge contributes to stronger environmental responsibility at the individual level. The study underscores the importance of integrating climate change education and environmental awareness initiatives into university programs. Strengthening literacy and behavioral commitment among students can serve as an effective starting point in expanding sustainable practices and mitigating environmental degradation. This research contributes to the growing body of knowledge on climate education and highlights the strategic role of universities in supporting sustainable development.

Keyword: *Climate Change Literacy; Pro-Environmental Behavior; University Students; Sustainable Development; Higher Education.*

1. Introduction

Global warming, a widely recognized and urgent environmental issue, refers to the increase in the Earth's average surface temperature (Natalia et al., 2023). This temperature rise is primarily driven by the accumulation of greenhouse gases such as carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons in the atmosphere (Ofori et al., 2023). Its negative impacts include sea level rise, extreme weather events, melting of polar ice sheets, loss of biodiversity, and disruptions to ecosystems. Climate change resulting from global warming has significant implications for ecosystems, food production, water resources, and human health (Romanov, 2018). Addressing the consequences of climate change is essential to ensuring the sustainability of human life in the future.

The adoption of environmentally responsible behavior plays an important role in mitigating the ongoing environmental crisis (Mataram et al., 2021). Practicing sustainable actions helps reduce greenhouse gas emissions, protect ecosystems, and preserve natural resources for future generations (Venghaus et al., 2022). Strengthening climate change literacy is therefore critical, since a strong understanding of environmental threats and sustainable practices can shape positive behavioral change.

Improving climate change literacy and awareness of human impacts on the environment is crucial in encouraging sustainable lifestyles (Putri & Nikawanti, 2018). Individuals equipped with adequate knowledge are more capable of making informed decisions that benefit the environment (Fatimah, 2021). Promoting environmental literacy also supports the formation of a sustainability-oriented culture and strengthens personal responsibility in environmental protection (Fadjarajani & As'ari, 2021).

Higher education institutions play a strategic role in preparing individuals to face complex environmental challenges (Almansa-Martínez et al., 2024). Universities are responsible for integrating climate education and fostering pro-environmental behavior among students. Embedding climate change education into university curricula has been shown to encourage environmentally conscious behavior (Molthan-Hill et al., 2019). Prior studies have indicated a relationship between climate literacy and pro-environmental behavior among university students (Ja'afar, 2023).

Although concerns about climate change have grown, empirical studies focusing on climate change literacy and behavioral outcomes among Indonesian university students remain limited. Existing research tends to address general environmental knowledge and has yet to extensively explore literacy specifically related to climate change within the context of student behavior. This highlights the importance of conducting research in Indonesia to better understand how students' knowledge influences their intention and action toward environmental sustainability.

This study focuses on students at Universitas Singaperbangsa Karawang in West Java, Indonesia. It seeks to address the following research questions: Does climate change literacy significantly influence pro-environmental behavior?

Thus, the objective of this study is to analyze the effect of climate change literacy on pro-environmental behavior among students. The results are expected to provide insights that assist universities in strengthening sustainability programs and environmental education in support of sustainable development goals.

2. Literature Review

2.1 Climate Change Literacy

Climate change literacy refers to an individual's knowledge and understanding of the causes, impacts, and human roles associated with climate change. It not only includes comprehension of scientific facts but also awareness of mitigation efforts and global cooperation strategies such as the Paris Agreement (Pan et al., 2023). Climate change literacy helps individuals recognize the seriousness of environmental challenges and their role in addressing them. A strong level of literacy is therefore essential to support informed decision-making and responsible actions toward the environment (Fatimah, 2021). Increased literacy also contributes to the development of environmental values and a stronger sense of responsibility for ecological sustainability (Fadjarajani & As'ari, 2021).

Several theoretical approaches explain the link between knowledge and environmental behavior. The Knowledge–Attitude–Behavior concept suggests that well-informed individuals are more likely to adopt pro-environmental attitudes, which then lead to positive environmental actions (Bruyere, 2008). The Theory of Planned Behavior emphasizes attitudes, subjective norms, and perceived behavioral control as primary drivers of behavioral intentions, where climate change literacy can play a crucial role in strengthening these determinants (Liu et al., 2020). According to the Value–Belief–Norm perspective, awareness of environmental consequences stimulates moral responsibility to act. Literacy about adverse ecological impacts supports this awareness, increasing environmentally responsible norms (Foy & Foy, 2019). These theoretical perspectives collectively indicate that literacy can influence behavior both directly and indirectly through cognitive and psychosocial pathways.

2.2 Pro-environmental Behavior

Pro-environmental behavior represents actions intended to minimize environmental degradation and includes both personal and public behaviors such as reducing energy use, participating in environmental programs, recycling, and adopting sustainable consumption patterns (Liu et al., 2020). Higher education institutions hold a significant role in fostering these behaviors among young adults, given their responsibility to equip future generations with the capacity to address complex sustainability challenges (Almansa-Martínez et al., 2024). Education strategies that strengthen environmental awareness and action are essential for the development of a sustainability-oriented campus culture (Molthan-Hill et al., 2019). A supportive learning environment can further enhance students' concern and engagement in environmental protection (Balgopal et al., 2012).

Previous research has demonstrated that climate change literacy positively influences environmental behavior, although the magnitude of its effect may vary (Pan et al., 2023; Venghaus et al., 2022). University-based studies also show that students with greater understanding of climate issues indicate stronger involvement in campus sustainability efforts (Ja'afar, 2023). However, research within Indonesian higher education institutions remains limited. Existing findings reveal that literacy does not always translate into substantial changes in behavior due to mediating factors such as internal attitudes and external situational constraints (Cordero et al., 2020; Locke, 2009). This gap highlights the need for empirical exploration of literacy-behavior relationships in Indonesian contexts to support effective sustainability interventions in universities.

By strengthening climate change literacy and integrating sustainability education within campuses, higher education institutions can play a transformative role in developing environmentally responsible communities. Understanding how literacy influences behavior will provide critical insights for designing educational strategies that support the achievement of sustainable development goals.

3. Material and Method

3.1 Design Study

This study utilized a quantitative causal–explanatory survey design to examine the effect of climate change literacy on pro-environmental behavior among university students. A cross-sectional approach was employed, where data were collected once through an online questionnaire. The population consisted of 17,532 active undergraduate students at Universitas Singaperbangsa Karawang during the 2023/2024 academic year. A total sample of 392 respondents was selected using simple random sampling, with the sample size calculated using the Slovin formula.

The research instrument consisted of two validated constructs: climate change literacy and pro-environmental behavior. Climate change literacy consisted of 11 items adapted from Pan et al. (2023), covering knowledge of causes, impacts, and human involvement. Pro-environmental behavior consisted of 10 items adapted from Liu (2020), measuring personal and public environmental actions, environmental attitudes, and motivational aspects. All items were measured using a five-point Likert scale ranging from strongly disagree to strongly agree.

3.2 Data Analysis

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 3 software. The measurement model was assessed through convergent validity (factor loadings and AVE), construct reliability (Cronbach's Alpha and Composite Reliability), and discriminant validity (cross-loading and HTMT criteria). The structural model assessment included path coefficient estimation, significance testing using bootstrapping (t-statistics and p-values), coefficient of determination (R-square), and collinearity analysis using the Variance

Inflation Factor (VIF). This analytical approach enables comprehensive examination of both the indicator contributions and the causal relationship between climate change literacy and pro-environmental behavior.

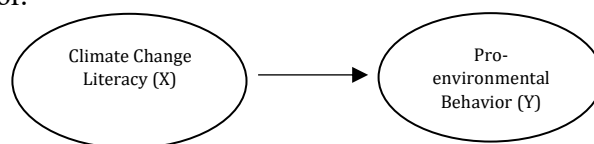


Figure 1. Research Model

4. Result

4.1. Respondent Profile

The characteristics of respondents in this study are presented in Table 1. A total of 392 students participated, representing nine faculties at Universitas Singaperbangsa Karawang. The sample consisted of 144 male students and 248 female students. Most respondents were within the age range of 17–20 years (195 students), followed by the age group of above 23 years (108 students), and 21–23 years (89 students).

Table 1. Respondent Profile

Description	Amount
Faculty	
Faculty of Economics and Business	72
Faculty of Law	36
Faculty of Agriculture	37
Faculty of Education and Educational Sciences	74
Faculty of Islamic Studies	32
Faculty of Engineering	43
Faculty of Social and Political Science	35
Faculty of Health Sciences	27
Faculty of Computer Science	36
Gender	
Male	144
Female	248
Age	
17-20 Years Old	195
21-23 Years Old	89
> 23 Years Old	108

Source: Data processed by researchers

4.2. Measurement Model Assessment

There are several measures that can be used to measure construct validity and reliability, namely Convergent Validity, Variance Extracted, Reliability, and Discriminant Validity (Ghozali, 2016).

4.2.1. Convergent Validity

Convergent Validity measures construct validity by looking at the factor loading values. In Convergent Validity, indicators in the study are considered valid if the factor loading value is

greater than 0.5 or ideally 0.7. The results of the construct validity test using the factor loading value criteria can be seen in Table 2:

Table 2. Convergent Validity Test Results

Variable	Item	Loading Factor	Explanation
X	X1	0,642	Valid
	X2	0,740	Valid
	X6	0,682	Valid
	X7	0,688	Valid
	X8	0,729	Valid
	X9	0,746	Valid
	X10	0,735	Valid
	X11	0,756	Valid
Y	Y2	0,748	Valid
	Y7	0,736	Valid
	Y9	0,684	Valid
	Y10	0,786	Valid

Source: Data processed by researchers

Table 2 shows that the indicators of latent variable X, namely X2, X8, X9, X10, and X11, have ideal factor loadings above 0.7, while indicators X1, X6, and X7 have factor loadings above 0.5. Therefore, it can be concluded that all indicators for latent variable X are valid. For the indicators for latent variable Y, the three indicators, namely Y2, Y7, Y9, and Y10, have ideal factor loading above 0.7, while indicator Y9 has a factor loading above 0.5, so it can be said that all indicators for latent variable Y are valid.

4.2.2. Variance Extracted

An indicator can be said to have good convergence if the AVE value is greater than or equal to 0.5. The following are the AVE values for the indicators used in this study. Based on the table, it can be concluded that all items or indicators of the latent construct are invalid because all latent variables have AVE values less than 0.5:

Table 3. Validity Test Results with Extracted Variance

Variable	<i>Average Variance Extracted (AVE)</i>	Criteria	Description
X	0,512	0,5	Valid
Y	0,547	0,5	Valid

Source: Data processed by researchers

Based on Table 3, it can be concluded that all items or indicators of the latent construct are valid because all latent variables have an AVE value greater than 0.5.

4.2.3. Construct Reliability

In testing the reliability of latent constructs, many also use Cronbach's Alpha as a measure of reliability. A latent construct can be said to have good reliability if the Cronbach Alpha value is greater than or equal to 0.7. Some also say that a Cronbach Alpha value between 0.6 and 0.7 is still acceptable, provided that the validity of the indicators in the model is good.

Table 4. Results of Construct Reliability Testing

Variable	Cronbach Alpha $\geq 0,7$	Composite Reliability $> 0,7$	Description
X	0,864	0,893	Reliable
Y	0,728	0,828	Reliable

Source: Data processed by researchers

Based on Table 4, it can be concluded that the reliability testing of constructs using Construct Reliability shows good reliability for all latent constructs. The highest latent construct value is X with a Cronbach Alpha value of 0.864 and Composite Reliability of 0.893, while the lowest latent construct is Y with a Cronbach Alpha value of 0.728 and Composite Reliability of 0.828.

4.2.4. Discriminant Validity

Discriminant Validity is a validity test that measures the extent to which a construct is truly different from other constructs. A high Discriminant Validity value provides evidence that the latent construct is unique and capable of capturing the phenomenon being measured. The test was conducted by comparing the square root value of AVE with the correlation value between constructs.

Table 5. Discriminant Validity test results

	X1	Y
X	0,716	
Y	0,445	0,739

Source: Data processed by researchers

Cross-loading is another method for determining discriminant validity. If the cross-loading value of each item on its construct is greater than the cross-loading value of each item on other constructs, then the latent construct can be declared valid. Based on Table 6, it can be stated that the latent construct is valid because the cross-loading value of each item on each construct is greater than the cross-loading value of items on other variable constructs.

Table 6. Cross-loading test results

Variabel/ Konstruk	X	Y
X1	0,642	0,293
X2	0,740	0,327
X6	0,682	0,360
X7	0,688	0,235
X8	0,729	0,257
X9	0,746	0,398
X10	0,735	0,263
X11	0,756	0,344
Y2	0,334	0,748
Y7	0,389	0,736
Y9	0,228	0,684
Y10	0,328	0,786

Source: Data processed by researchers

4.3. Structural Model Analysis (Inner Model)

4.3.1. Collinearity Test

The assumption or condition that must be met in inner model analysis is that there is no multicollinearity, i.e. there is a strong correlation between indicators and is indicated by a

Variance Inflating Factor (VIF) value in the indicator level greater than 5. The results of the collinearity test on the inner value can be seen in Table 7:

Table 7. Results of the collinearity test on inner values

Variabel	Y
X	1.000

Source: SmartPLS3 processing results

Based on Table 7, there are no latent variables with a VIF value greater than 5, so it can be stated that there is no multicollinearity problem. Meanwhile, the VIF values in the collinearity test on outer values can be seen in the following table:

Table 8. Collinearity test results on outer values

Indicator	VIF
X1	1,477
X2	2,017
X6	1,769
X7	1,858
X8	1,978
X9	1,672
X10	2,163
X11	1,996
Y2	1,383
Y7	1,236
Y9	1,426

Source: Data processed by the researcher

Based on Table 8, there are no indicators with a VIF value greater than 5, so it can be stated that there is no multicollinearity problem. Thus, it can be stated that there is no multicollinearity based on collinearity testing of both inner value and outer value.

Coefficient of Determination (R-Square Test)

The coefficient of determination (R^2) is used to measure the extent to which the variance of an endogenous variable can be explained by the exogenous variable in the model. A model is categorized as substantial if the R^2 value is ≥ 0.75 , moderate if $0.25 < R^2 < 0.75$, and weak if $R^2 \leq 0.25$. In this study, the obtained R^2 value of 19.8 percent indicates that the established structural equation model demonstrates a weak level of explanatory power. This relatively low value may be attributed to the use of only one exogenous latent variable in the model.

Path Coefficient Hypothesis Testing

Path coefficient testing was conducted to determine whether the exogenous latent variable has a statistically significant influence on the endogenous latent variable. The significance of the path coefficient was evaluated using t-statistics or p-values generated through the bootstrapping procedure. A path is considered significant when the t-statistic exceeds the critical value of 1.98 or the p-value is below the significance threshold of 5 percent ($\alpha = 0.05$). The results of the path coefficient test are presented in Table 9.

Table 9. Path Coefficient Test

Hypothesis	Path Coefficient Value	t-count	t-table	P_values	Description

X → Y	0,445	6,818	1,98	0.000	Signifikan

Source: SmartPLS3 Analysis Results

The constructs formed from the analysis results using SmartPLS3 software are shown in the following figure:

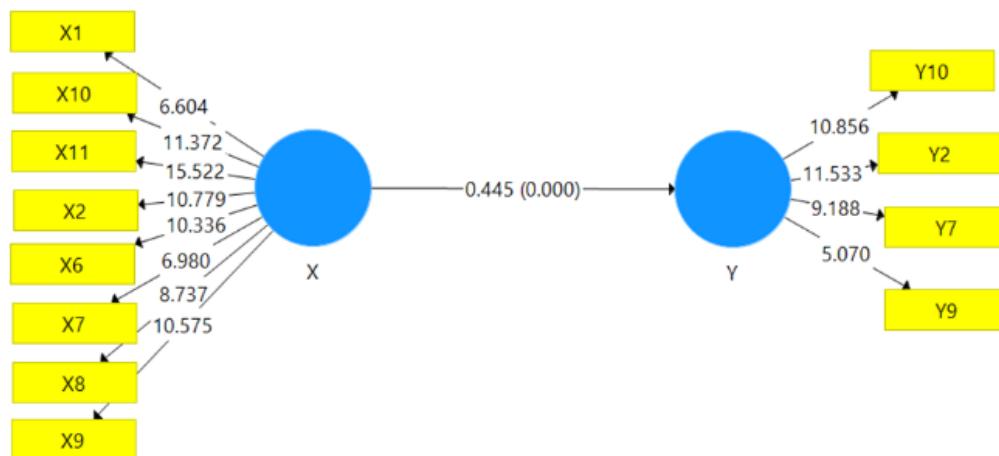


Figure 2.
Research Construct

The path coefficient values can also be seen in the path diagram shown in Figure 2. Based on the table, it can be stated that the latent variable X has a positive effect on the latent variable Y of 0.445.

5. Discussion

The present study found that climate change literacy significantly influences pro-environmental behavior among university students. This result aligns with previous empirical evidence indicating that greater understanding of climate causes, impacts, and human responsibilities is associated with stronger environmental concern and increased self-reported green actions among students. The observed positive path coefficient ($\beta = 0.445$, $p < .001$) suggests that knowledge and understanding of climate change function as important cognitive drivers that can motivate students to adopt both personal and public pro-environmental practices.

Despite the significant relationship, the model's explanatory power was limited ($R^2 = 0.198$), indicating that climate change literacy alone accounts for only a modest portion of variance in pro-environmental behavior. This limited R^2 is consistent with prior findings showing that knowledge frequently explains part of behavioral variance, while attitudinal, normative, affective, and contextual factors often account for additional variance. In practice, students' actions are shaped not only by cognition but also by perceived behavioral control, social norms, emotional engagement (e.g., climate concern or climate anxiety), and situational constraints (e.g., campus infrastructure and access to sustainable options) (Eriksson & Linde, 2024).

The results therefore underscore the importance of integrating cognitive and psychosocial approaches in climate education. Education interventions that combine factual knowledge with opportunities to build agency, self-efficacy, and affective engagement can bridge the well-documented attitude behavior gap. Programmatic efforts that embed experiential learning, campus-based sustainability projects, and opportunities for collective action are especially promising because they simultaneously cultivate knowledge, promote a normative campus culture, and reduce structural barriers to behavior (higher-education mapping reports). Such

whole-institution approaches enable students to translate understanding into concrete, sustained action (Tang, 2022).

Several policy and pedagogical implications follow from these findings. First, universities should integrate climate change content across curricula while incorporating active pedagogies service learning, place-based projects, and interdisciplinary modules that foster practical skills and civic agency. Second, administrators should complement curriculum changes with enabling infrastructure (e.g., recycling systems, sustainable transport options, energy-efficient campus facilities) and visible campus campaigns to strengthen social norms for sustainability. Third, monitoring and evaluation frameworks should measure not only knowledge gains but also changes in perceived efficacy, intentions, and actual behaviors over time.

This study has limitations that point to directions for future research. The cross-sectional survey design precludes causal inference beyond associations; longitudinal or experimental designs would better capture causal processes and the durability of educational effects. Self-reported measures of behavior are vulnerable to social desirability bias; future studies should incorporate behavioral observations or objective indicators where feasible. Finally, the relatively low R^2 suggests that additional predictors such as attitudes, subjective norms, perceived behavioral control, place attachment, and emotional responses should be incorporated into extended models to more fully explain pro-environmental action (Akakpo et al., 2024; Boyd et al., 2025; Eriksson & Linde, 2024).

In summary, the findings demonstrate that climate change literacy matters for promoting environmentally responsible behavior among students, but knowledge should be complemented by pedagogies and institutional measures that foster agency, normative support, and enabling conditions. Universities are well-placed to implement these integrated strategies and thereby contribute to broader societal transitions toward sustainability.

6. Conclusion, Implication, and Recommendation

This study concludes that climate change literacy has a significant positive effect on pro-environmental behavior among students at Universitas Singaperbangsa Karawang, demonstrating that increased knowledge and understanding of climate change issues contribute to more responsible environmental actions. However, the relatively low explanatory power of the model ($R^2 = 0.198$) indicates that climate literacy alone cannot fully account for behavioral variance, suggesting the need to consider additional cognitive, psychosocial, and contextual factors in future investigations. These findings highlight the vital role of higher education institutions in advancing sustainability learning through curriculum integration, environmentally supportive infrastructure, and initiatives that strengthen social norms and behavioral engagement. To enhance the translation of climate literacy into sustained pro-environmental behavior, universities are encouraged to adopt experiential and collaborative learning approaches, expand behavioral support systems, and implement continuous monitoring and evaluation of sustainability programs. Future research should apply more comprehensive models by incorporating constructs such as environmental attitudes, perceived behavioral control, and campus support systems, as well as employing longitudinal or mixed-method designs to generate more robust evidence of behavioral change. Overall, the study reinforces the importance of institutional commitment in developing environmentally responsible young citizens and contributing to national and global climate action agendas..

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DRIVERS OF NON-PERFORMING FINANCING IN WEST JAVA'S SHARIA RURAL BANKS: AN INTERNAL AND EXTERNAL PERSPECTIVE

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Abstract

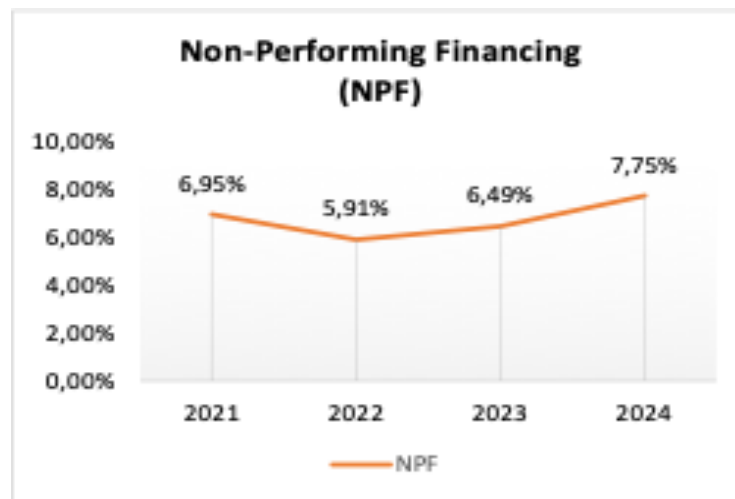
Sharia Rural Bank (BPRS) has an important role in distributing financing under Islamic principles. However, in recent years, the Non- Performing Financing (NPF) rate at BPRS in West Java has exceeded the safe threshold set by Bank Indonesia. This study aims to examine drivers of internal variables, including the Solvency Ratio (SR) and Return on Assets (ROA), alongside external variables such as Gross Domestic Product (GDP) and inflation, on Non-Performing Financing (NPF) in People's Credit Banks (BPRS) in the West Java region from 2021 to 2024. This study utilises secondary data sourced from the official website of the Financial Services Authority (www.ojk.go.id). The employed research strategy is descriptive verification utilising a quantitative methodology. The findings of this study demonstrate that the Capital Adequacy Ratio (CAR), Return on Assets (ROA), and Gross Domestic Product (GDP), and inflation each have varying levels of influence on NPF, both partially and simultaneously. The findings provide insight into the causes of high NPF and can serve as a reference for BPRS to improve financing performance.

Keyword: *Non-Performing Financing; Capital Adequacy Ratio; Return on Assets; Gross Domestic Product; Inflation; Sharia Rural Banks.*

1. Introduction

An Islamic bank is committed to promoting and implementing Islamic principles, Shariah law, and its customs in commercial and banking dealings, as well as other related activities. Islamic Commercial Banks (BUS) and Sharia Rural Banks (BPRS) are types of Islamic banks. PT. Bank Muamalat Indonesia (BMI) was founded in 1991 and officially began operations in Indonesia on May 1, 1992. Islamic banking will continue to grow. According to statistics released by Bank Indonesia, There exist 14 Islamic Commercial Banks (BUS), 19 Islamic Business Units (UUS), and 173 Sharia Rural Banks (BPRS). Financing is a critical function of Islamic banks that significantly influences the circulation of the institutions' capital.

The majority of banks in Indonesia continue to depend on finance as their primary source of income for operating activities. This non- performing financing results in losses for banks, as evidenced by the Non- Performing Financing (NPF) ratio. which is beyond the safe limit set by Bank Indonesia. This can be proven by figure 1.1 below.



Source : OJK Islamic Banking Statistics, processed

Figure 1. 1

Percentage Of NPF On The Sharia Rural Banks (BPRS)

The decrease in sales will result in a decrease in revenue which affects the company's ability to pay for financing. If the financing payment is not appropriate, it will cause problems with the financing. This issue will elevate the proportion of non-performing finance (NPF). Natsir (2014) defines inflation as a persistent and general increase in the prices of goods and services. According to inflation theory, an increase in inflation will correspondingly elevate the NPF ratio. As inflation rises, individuals' real incomes diminish, leading to a decline in living standards, which will consequently affect the escalation of the non-performing finance (NPF) percentage. This is different from the Inflation data in figure 1.5 above. From 2021 to 2022, there was an increase in inflation from 1.87% to 5.51% but there was a decrease in NPF from 6.95% to 5.91%. From 2022 to 2023, Inflation decreased from 5.51% to 2.61% and NPF increased from 5.91% to 6.49%. Also from 2023 to 2024, inflation decreased from 2.61% to 1.57% and NPF increased from 6.49% to 7.75%. Research by (Perdani et al., 2019) which examines external influences, including inflation, suggests that inflation has a minimal effect, signifying it has no influence on Non-Performing Financing (NPF) in BPRS in Indonesia. Another study conducted by (Nugrohowati & Bimo, 2019) showed that Inflation did not substantially impact the NPF. It can be concluded that significant fluctuations in inflation will have minimal impact on the variations of NPF in the Bank. In contrast to the study by Windasari and Diatmika (2021), which demonstrated that inflation exerts a positive and significant influence on NPF. This research seeks to evaluate the influence of internal factors, namely the Capital Adequacy Ratio (CAR) and Return on Assets (ROA), with external factors, particularly Gross Domestic Product (GDP) and Inflation, on Non-Performing Financing (NPF).

2. Literature Review

2.1 Theory

According to (Wangsaawidjaja, 2012) Non-Performing Financing (NPF) is a ratio of non-performing financing whose quality is in the less current (Group III), doubtful (Group IV), and stuck (Group V) groups. According to (Ma'isyah & Mawardi, 2015) Non-Performing Financing refers to funding that is of inferior quality, questionable, and detrimental. Non-Performing Financing aims to demonstrate the proficiency of bank management in overseeing non-performing loans issued by banks. According to (Darmawi, 2014) Non-Performing Financing (NPF) includes credit where the borrower fails to implement the terms of the agreed credit agreement, which is caused by various things and needs to be reviewed or made changes to the

agreement. From several explanations of opinions above, it can be concluded that Non-Performing Financing is a ratio used to measure financings that in the category of collectability fall into the criteria of financing that is less current, financing is doubtful, and bad financing.

As stated by Wardiah and Pradja (2013), The Capital Adequacy Ratio (CAR) assesses a bank's capital sufficiency, indicating its ability to withstand probable losses from lending or trading securities. As to Sujarweni (2017), the Capital Adequacy Ratio (CAR) is the ratio of capital to Risk-Weighted Assets (ATMR). As stated by Fahmi (2015), the Capital Adequacy Ratio (CAR) is a performance metric utilized to evaluate the adequacy of a bank's capital in relation to its risk-bearing assets, particularly those linked to credit risk. The Capital Adequacy Ratio (CAR) is a banking performance metric that assesses the sufficiency of a bank's capital to sustain risk-laden assets, such as consumer loans.

As stated by Kasmir (2016), Return On Assets (ROA) is a ratio that indicates the yield generated from the assets employed by the organisation. The company's success is evaluated not only by its total profit but also by its solvency, namely its capacity to settle existing debts utilising all available assets. Fahmi (2016) defines Return On Assets (ROA), often synonymous with Return On Investment, as a measure of the extent to which invested capital generates anticipated profit returns, equating investment with the company's deployed assets. Hery (2015) asserts that Return On Assets (ROA) is a crucial financial analysis method. This ratio evaluates the company's efficacy in employing its total assets to produce profits.

The aggregate production of goods and services by a nation in a given year is termed its Gross Domestic Product (GDP), as articulated by Mankiw et al. (2014). Regardless of nationality, GDP calculates the entire worth of a nation's commodities and services. Sukirno (2015) The gross domestic product (GDP) represents the total value of all goods and services produced by the government. The aggregate value of goods and services generated in a country during a specified period is its GDP. One notion used in the computation of national income is gross domestic product. A study by Prasetyo (2011), The Gross Domestic Product (GDP) is defined as the aggregate value of goods and services produced by all individuals within a specific region of a country, including those produced by foreigners in that region, over a specific time period, often one year. The gross domestic product (GDP) is defined as the aggregate of national income and expenditures related to the production of goods and services within a designated timeframe.

2.2 Theory 2

After compiling the research instrument, the next step is to distribute the questionnaire form online through social media. After obtaining the number of samples, the data was analyzed using Microsoft Excel and SPSS version 26.

3. Material and Method

According to the aforementioned interpretation, the verification descriptive method is a technique that gathers, processes, analyzes, and interfaces data in statistical hypothesis testing in order to ascertain the veracity of the facts and to elucidate the correlation between the variables under investigation. To ascertain the substantial influence of the Capital Adequacy Ratio (CAR), Return on Assets (ROA), GDP, and inflation on Non-Performing Financing (NPF) in Sharia Rural Banks (BPRS), this study employed the verification descriptive method. Additionally, the hypothesis was tested to see if it was accepted or rejected. The method should provide detailed information to allow the experiments to be repeated by others. In sum, this section provides all the methodological details that other researchers need to duplicate your work in the future. Please specify the research design, samples, research instruments, procedures, and data analysis in brief.

3.1 Design Study

This research focused on the Islamic banking sector, specifically the 28 Sharia Rural Banks (BPRS) in West Java registered with the Financial Services Authority (OJK) between 2021 and 2024. This study's sample selection process uses the purposive sampling method, which aims to produce a representative sample based on the given criteria while taking the following factors into account: Sharia Rural Banks (BPRS) in West Java registered with the Financial Services Authority during the 2021-2024 period; There are financial statements as of December 31, 2021-2024 and Have complete data needed in research related to variables to be studied during the period 2021-2024.

3.2 Data Analysis

The utilized data analysis methods encompass multiple linear regression analysis, the coefficient of determination assessment, and hypothesis testing. To analyse statistical data with SPSS software version 26 to ascertain. Drivers of Non-Performing Financing in West Java's Sharia Rural Banks: An Internal and External Perspective. After obtaining the number of samples, the data was analyzed using SPSS version 26.

4. Result

The objective of the descriptive statistical analysis in this study is to succinctly present the research results through minimum, maximum, average values, and standard deviations. The objective of this study is to identify the factors drivers on non-performing loan rate in Islamic rural banks (BPRS) in West Java from 2021 to 2024. The table below presents the results of the descriptive statistical analyses:

Table 4. 1
Results of Descriptive Statistical Test
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
NPF	48	0.21%	7.47%	3.4260%	1.82825%
CAR	48	0.82%	46.49%	19.9190%	7.57379%
ROA	48	-2.40%	91.00%	3.7029%	12.93267%
GDP	48	3.69%	5.31%	4.7700%	0.63995%
INFLATION	48	1.57%	5.51%	2.8900%	1.57580%
Valid N (listwise)	48				

Source: Secondary data processed with SPSS, 2025

According to the descriptive data in Table 4.1, it is possible to observe that among the 12 Islamic Rural Banks (BPRS) located in West Java, a total of 48 samples were used in this study. Each variable has different minimum, maximum, mean, and standard deviation values.

The Capital Adequacy Ratio has a lowest value of 0.82%, which is held by BPRS Botani Bina Rahmah, and a maximum value of 46.49%, held by BPRS Patriot Bekasi. The average CAR is 19.91%, which indicates that most BPRS have a relatively stable capital adequacy level, although some BPRS exhibit either significantly higher or lower CAR values. This may be due to differences in managerial policies, business strategies, or the risk profile of each bank. The standard deviation of 7.57% indicates considerable variation in capital management among the BPRS, which could potentially affect the overall performance and financial stability of the bank.

The Return on Assets has a lowest value of -2.40%, which is held by BPRS Harta Insan Karimah Cibitung, and a maximum value of 91%, held by BPRS Harta Insan Karimah Insan Cita. The average ROA is 3.70%, suggesting that, overall, the BPRS in this sample tend to generate profits from their assets, though the profitability level is not particularly high. The

standard deviation of 12.93% indicates significant variability in the banks' ability to generate profits from assets, with some banks showing very low or very high performance in this regard.

The Gross Domestic Product has a lowest value of 3.69%, recorded in 2021, and a maximum value of 5.31%, recorded in 2022. With an average GDP of 4.77%, the national economy showed relatively stable performance during this period, with growth rates neither too high nor too low. This reflects an economy in a phase of recovery or growth. The standard deviation of only 0.63% indicates that GDP fluctuations during this period were relatively small, which suggests a high level of stability in the country's economic growth.

Table 4.2 indicates that the minimum inflation rate is 1.57%, observed in 2024, while the greatest rate is 5.51%, noted in 2022. The average inflation rate is 2.89%, indicating a reasonably mild level for the investigated period, which reflects stable economic conditions; however, caution is warranted concerning potential bigger variations. The standard deviation of 1.57% signifies substantial fluctuation in annual inflation rates, illustrating price volatility in market products and services. Although the average inflation rate is within a manageable range, these variations underscore that inflation is subject to several external and internal influences that require ongoing oversight by the government and monetary authorities to ensure long-term economic stability.

The Non-Performing Financing has a lowest value of 0.21%, recorded by BPRS Patriot Bekasi, and a maximum value of 7.47%, recorded by BPRS Almasoem. The average NPF is 3.42%, indicating that, overall, the BPRS in this sample have a relatively moderate level of non-performing financing. Although most BPRS have a controlled NPF, some banks face more significant problems with the quality of their financing. The standard deviation of 1.82% indicates considerable variation in NPF levels across BPRS, reflecting differences in managerial capabilities and credit risk management policies among the banks. This fluctuation is important to monitor, as it can impact the overall financial stability of the banks.

Table 4.2
Result of T-test
Coefficients^a

Model	B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1 (Constant)	- .706	2.062		-.342	.734
CAR	- .036	.032	-.148	-1.131	.264
ROA	- .025	.019	-.178	-1.347	.185
GDP	1.409	.443	.493	3.179	.003
INFLATION	- .617	.180	-.532	-3.430	.001

a. Dependent Variable: NPF

Source: Secondary data processed with SPSS, 2025

Based on Table 4.2, the following interpretations can be made: The results of the analysis of Hypothesis 1 indicate a significance level p of 0.264, higher than 0.05, as well as a t -test statistic of -1.131, which is negative. This suggests that hypothesis H1 is rejected, which implies that the Solvency Ratio does not have a significant effect on Non-Performing Financing. The results of the analysis of Hypothesis 2 indicate a significance level of 0.185, higher than 0.05, as well as a t -statistic of -1.347, expressing a negative direction. This suggests that hypothesis H2

is rejected, which implies that Return on Assets does not have a significant impact on Non-Performing Financing. The results of the analysis of hypothesis 3 reveal a significance level of 0.003, lower than 0.05, as well as a t-statistic of 3.179, which is positive. This implies that hypothesis H3 is validated, demonstrating that the Gross Domestic Product exerts a positive and significant influence on Non-Performing Financing. The results of the analysis of Hypothesis 4 highlight a significance level p of 0.001, lower than 0.05, as well as a t-statistic of -3.430, indicating a negative direction. This suggests that hypothesis H4 is confirmed, which implies that inflation has a significant and negative effect on non-performing financing.

5. Discussion

a. *The Effect of Capital Adequacy Ratio on Non-Performing Financing*

Islamic banks encounter the issue of balancing their finances to satisfy liquidity and capital adequacy requirements while optimizing profitability across diverse economic circumstances. This entails the distribution of capital among assets while considering important factors such as risk classification, liquidity, maturity, and return rates. Additionally, banks need to adjust their financial structures, including liquidity, capital adequacy, and leverage, to ensure they can survive in fluctuating economic conditions while optimizing financial performance. Once capital adequacy is achieved, Islamic banks focus on decisions about whether to increase financing volume, which depends on several factors including credit risk evaluation, market demand, and the bank's long-term goals. With sufficient capital, Islamic banks have more flexibility to focus on expanding financing, which supports economic growth and enhances market competitiveness (Putra & Syaichu, 2021).

The findings of this study are consistent with prior studies, like the investigation of Putra & Syaichu (2021), which determined that the Capital Adequacy Ratio did not affect Non-Performing Financing. According to the quantitative data and theoretical framework presented, the author concludes that the Capital Adequacy Ratio does not influence Non-Performing Financing.

b. *The Effect of Return on Assets on Non-Performing Financing*

Return on assets (ROA) evaluates the effectiveness and efficiency of a banking institution in generating profits from its asset portfolio. Generally speaking, a higher return on assets is indicative of superior managerial performance in terms of efficiency in the use of assets for generating profits. However, a high ROA does not always mean that a bank will have low Non-Performing Financing (NPF). In Islamic banks, NPF is more influenced by managerial policies in selecting and monitoring financing, as well as macroeconomic conditions, rather than just operational efficiency reflected in ROA. Even Islamic banks with high ROA may face high NPF if they allocate financing to risky sectors or if economic conditions worsen, affecting the ability of customers to repay their financing. Therefore, while ROA indicates how well a bank manages assets to generate profit, it does not directly impact the control of problematic financing like NPF.

The findings of this study are consistent with prior studies, including the investigation of Pasya & Putri (2024), which determined that Return on Assets does not significantly influence Non-Performing Financing. According to the quantitative data and theoretical framework presented, the author concludes that Return on Assets does not influence Non-Performing Financing. The Effect of Gross Domestic Product on Non-Performing Financing The data reveal a significance value of 0.003, lower than 0.05, as well as a t-value of 3.179. Thus, hypothesis H1 is validated, highlighting the positive and significant impact of the Gross Domestic Product on Non-Performing Financing. This suggests that the increase in gross domestic product is associated with an increase in non-performing loans. When GDP increases, economic activity and consumption tend to rise, leading to higher purchasing power and income for businesses.

This improves companies' ability to meet financial obligations, including loans or financing from banks, thereby reducing the risk of NPF. Conversely, a decrease in GDP indicates an economic contraction, which may reduce business income and purchasing power, increasing the likelihood of payment difficulties and higher NPF. Therefore, GDP fluctuations directly impact NPF: when the economy grows, NPF tends to decrease, while during economic slowdowns, NPF risks increase due to financial difficulties faced by customers. As a result, Islamic banks must consider economic growth projections when managing NPF risks. Furthermore, monetary and fiscal policies that support economic growth can help reduce NPF in the future. According to the quantitative data and the theoretical framework presented, the author concludes that the Gross Domestic Product has a positive influence on Non-Performing Financing

c. The Effect of Inflation on Non-Performing Financing

When Inflation rises, purchasing power tends to decrease, which can directly affect customers' ability to meet their financing obligations. High Inflation usually leads to increased prices of goods and services, while real incomes do not always rise with Inflation, reducing purchasing power and quality of life. As a result, customers with financing from Islamic banks may struggle to make repayments, increasing the risk of NPF. When Inflation is relatively low or stable, purchasing power remains intact, and economic activities continue smoothly. This supports successful repayment of financing to Islamic banks, reducing the likelihood of problematic financing. Therefore, high Inflation increases NPF, while controlled Inflation helps maintain repayment stability and lower NPF risks. Islamic banks need to monitor Inflation as an external factor that can affect customers' ability to manage their financing obligations.

The findings of this study correspond with prior research, like the investigation by Falabibah & Erdkhadifa (2023), which determined that inflation adversely impacts non-performing financing. According to the quantitative data and theoretical framework presented, the author concludes that inflation adversely impacts non-performing financing. The Effect of Capital Adequacy Ratio, Return on Assets, Gross Domestic Product and Inflation on Non-Performing Financing

While CAR and ROA provide insight into a bank's internal financial stability and operational efficiency, GDP and Inflation represent external economic forces that can affect borrowers' ability to repay their loans. When these variables are considered together, they offer a fuller understanding of the factors that influence NPF. Moreover, the significant impact of these variables collectively underscores the importance of strategic planning by Islamic banks, where decisions related to financing, risk management, and economic forecasting must take into account both the internal financial health of the bank and the broader economic environment. Banks should consider how fluctuations in the economy, such as changes in GDP or Inflation, can affect the repayment capacity of borrowers and, consequently, the level of Non-Performing Financing. The significant effect found in this study also implies that Islamic banks should adopt a more integrated approach when managing financial risks. By recognizing the interconnectedness of these factors, banks can better anticipate potential risks, optimize their financial strategies, and safeguard their financial stability.

6. Conclusion, Implication, and Recommendation

6.1. Conclusion and Implication

The research findings demonstrate that there is no substantial relationship between the Capital Adequacy Ratio (CAR) and Non-Performing Financing (NPF). The amount of Capital Adequacy Ratio (CAR) in Islamic banks does not influence the extent of problematic financing.

While the Capital Adequacy Ratio (CAR) serves as an indicator of capital sufficiency, it does not directly assess the quality of financing extended by the bank.

The research findings indicate that Return on Assets (ROA) does not significantly influence Non-Performing Loans (NPF). While ROA indicates a bank's operational effectiveness in earning profits from its assets, it does not have a direct correlation with the extent of problematic financing. Credit risk management and managerial policies play a more significant role in determining NPF in Islamic banks.

The research findings indicate a substantial positive correlation between Gross Domestic Product (GDP) and NPF. An increase in GDP typically leads to improved economic activity and enhanced purchasing power, hence augmenting consumers' capacity to fulfill their financial commitments. Conversely, a decline in GDP can cause financial difficulties for customers and increase NPF due to decreased income and purchasing power.

The research findings indicate that inflation exerts a substantial adverse impact on non-performing loans (NPF). As inflation rises, societal purchasing power typically diminishes, impairing consumers' capacity to fulfill their installment or principal payment obligations. Controlled inflation stabilizes societal purchasing power, hence mitigating the possibility of financial complications in Islamic institutions.

The research findings indicate that the factors Capital Adequacy Ratio (CAR), Return on Assets (ROA), Gross Domestic Product (GDP), and Inflation collectively exert a considerable influence on Non-Performing Financing (NPF). The coefficient of determination reveals that approximately 21.2% of the variation in NPF can be elucidated by these four independent variables, whilst the residual variation is affected by additional factors not included in the model.

6.2.Suggestion

Drivers of Non-Performing Financing (NPF) important for Islamic banks to regularly monitor and adjust CAR to maintain financial resilience and ensure they can face market challenges and fluctuating economic conditions. Focusing on asset efficiency and risk management can help banks achieve better performance, which in turn can improve financial resilience and mitigate potential risks. Focus on different regions or under different regulatory environments. This will help understand how Islamic banks can better plan their strategies to mitigate NPF by accounting for changes in economic growth. Further research could explore how inflation influences NPF over the long term. A detailed study could examine the correlation between inflation rates and NPF over several years, providing insights into how inflationary pressures affect customers' ability to repay financing. This will help Islamic banks plan better risk management strategies during periods of high inflation.

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EFFECTS OF ENTREPRENEURSHIP EDUCATION, INCOME EXPECTATION, AND FAMILY ENVIRONMENT ON YOUTH ENTREPRENEURSHIP

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Abstract

This study aims to analyze the influence of entrepreneurship education, income expectation, and family environment on the entrepreneurial interest of young people in Klari District, Karawang Regency. The research was conducted using a quantitative approach with a descriptive and verificative design. Data were collected through online questionnaires distributed to 110 respondents aged 16–30 years, selected using probability sampling with a cluster random technique. The instruments were based on established indicators of entrepreneurship education, income expectation, family environment, and entrepreneurial interest, and the data were analyzed using multiple linear regression through SPSS 25.

The results indicate that entrepreneurship education and family environment have a significant and positive influence on entrepreneurial interest, while income expectation does not show a significant effect. These findings suggest that the more relevant and supportive entrepreneurship education is, and the more encouraging the family environment becomes, the higher the youth's entrepreneurial interest will be. Conversely, unrealistic income expectations tend to weaken their motivation to pursue entrepreneurship. Collectively, the three variables demonstrate a strong simultaneous effect on entrepreneurial interest, explaining most of its variance.

The study concludes that entrepreneurship education and family support are key factors in developing youth entrepreneurial interest in industrial areas such as Klari District. The findings emphasize the need for collaboration among educational institutions, families, and local governments to create a supportive entrepreneurial ecosystem that fosters innovation, independence, and sustainable economic growth.

Keyword: entrepreneurship education; income expectation; family environment; entrepreneurial interest; youth

1. Introduction

Indonesia, the fourth most populous country in the world with a total population of 278.8 million people (Databoks Katadata, 2024), is currently entering a period of demographic bonus characterized by a dominant productive-age population. Based on data from Statistics Indonesia (BPS, 2022), around 69.25% of Indonesia's population is within the productive age range (15–64 years), while only a smaller portion belongs to the non-productive group. This demographic structure offers great potential for national economic growth, especially through the contribution of youth, who account for 24% of Indonesia's population or approximately 68.82 million people (Databoks Katadata, 2023). According to Law No. 40 of 2009 on Youth, this

group—aged 16 to 30 years—plays a strategic role in supporting development across various sectors.

However, despite this demographic advantage, the level of youth entrepreneurship in Indonesia remains low. Data from the Ministry of Cooperatives and SMEs show that the youth entrepreneurship ratio was only 3.47% in 2020 (Kemenkopmk, 2021), still below the national target of 4% by 2024 as stated in Presidential Regulation No. 18 of 2020. This condition is reflected in Karawang Regency, one of Indonesia's largest industrial zones, which hosts more than 1,700 factories employing over one million workers (Silitonga, 2022). Despite the region's industrial growth, the number of MSMEs in Karawang decreased between 2020 and 2021. The imbalance between employment and entrepreneurship growth suggests that young people in Karawang still prefer seeking jobs rather than starting their own businesses.

Previous studies indicate that entrepreneurial interest is influenced by several key factors such as entrepreneurship education, income expectations, and the family environment (Hadyastiti, 2020). To strengthen this understanding, this study aims to analyze the influence of entrepreneurship education, income expectation, and family environment on the entrepreneurial interest of young generations in Klari District, Karawang Regency. The findings are expected to provide insights for stakeholders in promoting youth entrepreneurship as a sustainable solution to unemployment and economic dependency in industrial regions.

2. Literature Review

2.1. Entrepreneurship Education

Entrepreneurship education is defined as a structured and formal process that provides individuals with the knowledge, skills, and mindset to create and manage new business ventures (Raya, 2021). It develops innovative attitudes through experiential learning (Suhendra Winarso & Kurniawati, 2022) and is considered crucial in preparing individuals to start their own businesses (Ade Kurnia Harahap et al., 2023). According to the Ministry of National Education (Yusuf & Sutanti, 2020), its key components include curriculum relevance, educator quality, and learning facilities, all of which aim to build entrepreneurial competence and motivation among students.

2.2. Income Expectation

Income expectation refers to an individual's hope of achieving higher or unlimited income through entrepreneurship compared to working as an employee (Situmorang et al., 2021). High income expectations tend to increase entrepreneurial (Situmorang et al., 2021). (Osman & Handoyo, 2025) classifies its dimensions into two: the expectation of high income and the expectation of unlimited income, both acting as motivational drivers for entrepreneurial behavior.

2.3. Family Environment

The family environment is the first and most influential informal education setting shaping an individual's personality and values (Aini, 2020). A supportive family provides motivation, emotional balance, and practical guidance for children to develop entrepreneurial interest. According to (Susanti, 2021), the main dimensions are parental attention and home atmosphere, where encouragement and a conducive family climate foster entrepreneurial attitudes.

2.4. Entrepreneurial Interest

Entrepreneurial interest represents an individual's motivation and desire to engage in creative, innovative, and risk-bearing business activities (Heryanti & Samlawi, 2022). It arises from both internal factors—such as personal drive and motivation—and external factors, including facilities and environmental support (Yusuf & Sutanti, 2020). (Heryanti & Samlawi, 2022) adds that personal, environmental, and sociological factors collectively influence one's entrepreneurial intentions.

3. Material and Method

This study applied a quantitative approach with a descriptive and verificative design to examine the effects of entrepreneurship education, income expectation, and family environment on youth entrepreneurial interest in Klari District, Karawang Regency. The population consisted of 10,936 young individuals aged 16–30 years, and 110 respondents were selected as samples using probability sampling with a cluster random sampling technique based on Yount's proportion method (Suci et al., 2023). Data were collected through an online questionnaire distributed via Google Forms, consisting of items measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

The instrument was developed based on established indicators: entrepreneurship education (curriculum, educator quality, and facilities) (Yusuf & Sutanti, 2020), income expectation (high and unlimited income expectations) (Kinasih et al., 2025), family environment (parental attention and home atmosphere), and entrepreneurial interest (internal and external motivational factors) (Yusuf & Sutanti, 2020). Data validity and reliability were tested using Cronbach's Alpha. The data were analyzed using SPSS version 25 with descriptive statistics, classical assumption tests (normality, multicollinearity, heteroscedasticity), and multiple linear regression. Hypotheses were tested using the t-test for partial effects, F-test for simultaneous effects, and coefficient of determination (R^2) to assess model strength.

3.1. Design Study

The study adopted a descriptive–verificative quantitative design to identify and test the causal relationship between the independent variables—entrepreneurship education (X_1), income expectation (X_2), and family environment (X_3)—and the dependent variable, entrepreneurial interest (Y). This design was chosen to empirically validate theoretical assumptions by examining how each independent variable contributes to variations in the dependent variable. The descriptive component was used to explain the characteristics and distribution of the data, while the verificative aspect employed inferential statistical tests to determine the strength and significance of relationships among variables. This structured design ensured that the research process was systematic, measurable, and replicable, aligning with the objectives of hypothesis verification and empirical model testing.

3.2. Data Analysis

Table 1. General Description of Klari District

Administrative Area	Klari District, Karawang Regency
Northern Border	Telagasari District
Eastern Border	Purwasari District
Southern Border	Ciampel District

Western Border	East Karawang District
Total Area	±59.37 km ²

Source: processed by author, 2025

Table 2. General Description of Youth Generation of Klari District

Age Range	16–30 years (Law No. 40/2009 on Youth)
Population (Youth, 16–30 years)	10,936 people
Total Population of Klari District	173,068 people
Proportion of Youth	≈16% of total population
Gender Distribution	5,788 males; 5,148 females
Education Level	67% high school graduates; remaining 33% junior high or university graduates

Source: processed by author, 2025

4. Result

Table 3 presents the recap of scores across dimensions influencing the formation of entrepreneurship education. The dimension with the highest average score is facilities, with a mean score of 448.3, while the curriculum dimension obtained the lowest average score of 424.5. These results indicate that the young generation in Klari District generally agrees with all dimensions of the entrepreneurship education variable, encompassing curriculum, educator quality, and facilities, reflecting a positive perception toward entrepreneurship education as a whole.

Table 3. Summary of Entrepreneurship Education Variables

Dimension	Average Score Each Dimension	Criteria
Curriculum	424,5	Agree
Quality of Educators	436,3	Agree
Facility	448,3	Agree
Total Average	436,4	

Source: processed by author, 2025

Table 4 summarizes the scores of dimensions influencing the formation of income expectation. The dimension with the highest average score is high income, with a mean score of 478, while the unlimited income dimension obtained the lowest average score of 459.5. The overall mean score for the income expectation variable (X_2) is 468.8. These findings indicate that the young generation in Klari District strongly agrees with all dimensions of the income expectation variable, both the high-income and unlimited-income dimensions, reflecting a strong belief that entrepreneurship can provide greater financial opportunities.

Table 4. Summary of Income Expectation Variable

Dimension	Average Score Each Dimension	Criteria
High Income	424,5	Strongly Agree
Unlimited Income	436,3	Agree
Total Average	468,8	

Source: processed by author, 2025

Table 5 summarizes the scores of dimensions influencing the formation of the family environment variable. The dimension with the highest average score is parental attention, with a mean score of 457, while the home atmosphere dimension obtained the lowest average score of 453.5. These findings indicate that the young generation in Klari District agrees with all dimensions of the family environment variable, both parental attention and home atmosphere, reflecting the important role of family support in shaping entrepreneurial tendencies among youth.

Table 5. Summary of Family Environmental Variables

Dimension	Average Score Each Dimension	Criteria
Parental Attention	457	Agree
Home Atmosphere	453,5	Agree
Total Average	455,3	

Source: processed by author, 2025

Table 6 presents the recap of scores from dimensions influencing the formation of entrepreneurial interest. The dimension with the highest average score is the external factors dimension, with a mean score of 457.5, while the internal factors dimension obtained the lowest average score of 455. The overall mean score for the entrepreneurial interest variable (Y) is 456.3. These results indicate that the young generation in Klari District agrees with all dimensions of the entrepreneurial interest variable, encompassing both internal and external factors, suggesting a generally positive attitude toward entrepreneurship.

Table 6. Summary of Entrepreneurial Interest Variables

Dimension	Average Score Each Dimension	Criteria
Internal Factor	455	Agree
External Factor	457,5	Agree
Total Average	456,3	

Source: processed by author, 2025

The regression results show that the constant value of 2.310 indicates a baseline level of entrepreneurial interest when all independent variables—Entrepreneurship Education (X_1), Income Expectation (X_2), and Family Environment (X_3)—are zero.

The positive coefficient of Entrepreneurship Education (0.118) suggests that a 1% increase in entrepreneurship education leads to an 11.8% rise in entrepreneurial interest, assuming other variables remain constant. This implies that better exposure to entrepreneurship learning, qualified educators, and supportive facilities encourages greater interest in entrepreneurship. Conversely, the negative coefficient of Income Expectation (-0.113) indicates that a 1% increase in income expectation decreases entrepreneurial interest by 11.3%, suggesting that overly high or unrealistic income expectations may reduce motivation to start a business.

Table 7. Multiple Linear Regression Analysis

Model	Unstandardized	Standardized Coefficients

	Coefficients		Beta
	B	Std. Error	
Constant Value	2,310		
Regression Coefficients			
Enterpreurship Education	0,118	0,29	0,286
Income Expectation	-0,113	0,58	-0,094
Family Environtment	0,662	0,72	0,638
Dependent variable: Interest in Entrepreneurship			

Source: processed by author, 2025

Meanwhile, the positive coefficient of Family Environment (0.662) shows that a 1% improvement in family support increases entrepreneurial interest by 66.2%. This highlights that a supportive family atmosphere and parental encouragement play the most significant role in fostering youth entrepreneurship in Klari District.

Table 8. Partial Test Results (t-Test)

Hyptothesis	T Statistics	P-Value (Sig.)	Criteria
There is a Partial Influence of Entrepreneurship Education on Entrepreneurial Interest	4,110	0,000	Accepted
There is a Partial Influence of Income Expectations on Entrepreneurial Interest	-1,962	0,052	Rejected
The Family Environment Influences Interest in Entrepreneurship	9,200	0,000	Accepted

Source: processed by author, 2025

The partial test results (t-test) were conducted to determine the individual effect of each independent variable on entrepreneurial interest (Y) at a significance level of $\alpha = 5\%$ (0.05) with degree of freedom (df) = 106 and t-table = 1.982.

The results show that Entrepreneurship Education (X_1) has a significance value of $0.000 < 0.05$ and a t-count of $4.110 > t\text{-table of } 1.982$, indicating that H_1 is accepted and H_0 is rejected. This means there is a significant partial effect of entrepreneurship education on entrepreneurial interest. For Income Expectation (X_2), the significance value is $0.052 > 0.05$, and the t-count ($1.962 < t\text{-table } (1.982)$), meaning that H_1 is rejected and H_0 is accepted. Therefore, income expectation has no significant partial effect on entrepreneurial interest. Meanwhile, Family Environment (X_3) has a significance value of $0.000 < 0.05$ and a t-count of $9.200 > t\text{-table of } 1.982$, which means H_1 is accepted and H_0 is rejected. Thus, there is a significant partial effect of family environment on entrepreneurial interest.

Overall, the findings suggest that entrepreneurship education and family environment have a significant positive influence on youth entrepreneurial interest, while income expectation does not significantly affect it.

Table 9. Simultaneous Test Results (F-Test)

Hypothesis	F Statistics	P-Value (Sig.)	Criteria
There is a Simultaneous Influence of Entrepreneurship Education, Income Expectations, and Family Environment on Entrepreneurial Interest	113,679	0,000	Accepted

Source: processed by author, 2025

Table 9 shows that the significance value (Sig.) of $0.000 < \alpha (0.05)$ and the F-count of $113.679 > F\text{-table of } 2.69$, indicating that H_0 is rejected and H_1 is accepted. This means that Entrepreneurship Education (X_1), Income Expectation (X_2), and Family Environment (X_3) have a simultaneous and significant influence on Entrepreneurial Interest (Y). In other words, these three factors collectively play an important role in shaping the entrepreneurial interest of the young generation in Klari District.

Table 10. Results of the Coefficient of Determination (R^2) Test

Variable	R Square	Percentage
Enterpreneurship Interest	0,763	76,3%

Source: processed by author, 2025

Table 10 indicates that the coefficient of determination (R^2) is 0.763 or 76.3%, meaning that Entrepreneurship Education (X_1), Income Expectation (X_2), and Family Environment (X_3) collectively contribute 76.3% to the variation in Entrepreneurial Interest (Y). The remaining 23.7% is influenced by other variables not included in this study. This demonstrates that the three independent variables have a strong combined effect on entrepreneurial interest among the youth in Klari District.

5. Discussion

The study examined the influence of entrepreneurship education, income expectation, and family environment on the entrepreneurial interest of young people in Klari District, Karawang Regency. The descriptive findings revealed that respondents generally agreed with all dimensions of the variables studied. Entrepreneurship education was perceived as relevant, easy to understand, and supported by appropriate facilities and qualified educators (Yusuf & Sutanti, 2020). The income expectation variable reflected that young people strongly believe entrepreneurship offers financial independence and higher income potential (Ikram, 2022). Meanwhile, the family environment was considered supportive through parental attention and a conducive home atmosphere that provide emotional encouragement and motivation to pursue entrepreneurship (Aldrian Syafril Lubis et al., 2023)

The verification analysis indicated that entrepreneurship education and family environment each have a positive and significant effect on entrepreneurial interest, while income expectation does not show a significant influence. This means that well-designed entrepreneurship

education can increase entrepreneurial interest by improving knowledge, skills, and confidence, while a strong family environment provides emotional support that reinforces entrepreneurial motivation. These findings are consistent with previous studies by (Cempaka Widyawati & Mujiati, 2021), (Aldrian Syafril Lubis et al., 2023), and (Oktarina et al., 2019), which emphasize that entrepreneurship education and family environment significantly shape entrepreneurial behavior.

Simultaneously, entrepreneurship education, income expectation, and family environment have a collective influence on entrepreneurial interest, suggesting that these three factors interact to strengthen youth entrepreneurship development. This aligns with the results of (Osman & Handoyo, 2025), who found that these variables jointly contribute to increasing entrepreneurial motivation. Overall, the findings imply that building entrepreneurial interest among youth in industrial regions such as Klari District requires an integrated approach—combining effective entrepreneurship education, realistic income perceptions, and consistent family support.

6. Conclusion, Implication, and Recommendation

This study concludes that entrepreneurship education and family environment significantly and positively influence the entrepreneurial interest of young people in Klari District, while income expectation shows no significant effect. Entrepreneurship education enhances knowledge and motivation, and a supportive family environment provides encouragement and confidence to start a business. Together, these factors strongly shape youth entrepreneurial interest, highlighting the importance of education and family support in developing entrepreneurial behavior.

The findings imply that collaboration among educational institutions, families, and local governments is crucial to fostering an entrepreneurial ecosystem. Integrating entrepreneurship education into school curricula, providing family-based support programs, and organizing community mentoring initiatives can strengthen youth entrepreneurship.

It is recommended that local authorities promote structured entrepreneurship programs and mentorship involving successful entrepreneurs, while future research should examine additional factors such as policies, culture, and social environment to gain a broader understanding of what drives entrepreneurial interest among youth.

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HOW IS CSR DISCLOSURE IN HIGH PROFILE AND RISKY COMPANIES?

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Abstract

This study aims to examine the effect of size, liquidity, and leverage on CSR. This study uses oil and gas sub-sector as the population for the 2019-2023 period. This study uses purposive sampling to determine the sample. Multiple linear regression is used to test the effect of independent variables on the dependent variable. The results provide empirical evidence that size and leverage show a significant positive effect on CSR. Large companies are high-profile companies that receive a lot of attention from various parties so they strive to comply with CSR. Companies need to convince investors of their environmental performance through CSR disclosure. Companies are required to comply with regulations, including social and environmental regulations, especially for oil and gas companies that have the potential to directly impact the environment. Companies with a high proportion of debt are under pressure to send positive signals to stakeholders, and CSR disclosure can also serve as a means of mitigating reputational risk. The results of this study show that liquidity has a significant negative effect on CSR, the more liquid the company's assets, the lower the CSR disclosure. With this approach, companies will not only focus on financial stability but also consistently fulfill their social responsibilities to maintain long-term legitimacy and stakeholder trust.

Keyword: CSR, Liquidity, Size, Leverage

1. Introduction

Corporate Social Responsibility (CSR) plays an increasingly important role in the oil and gas industry in response to various environmental and social challenges. Oil and gas companies are not only focused on economic aspects, but are also strengthening their commitment to the environment and social responsibility. This commitment is reflected in investments in renewable energy development, the application of low-carbon technologies, and various efforts to minimize the environmental impact of operational activities. In addition, CSR also serves as a means to build trust and meet increasingly stringent regulatory requirements, especially those related to sustainability and social responsibility. Thus, CSR is not only part of business strategy, but also plays a role in creating long-term value for companies and society.

Cases of CSR fund misuse are also becoming increasingly prevalent. One case that has come to light is the alleged corruption involving the Pertamina Foundation, a foundation established by PT Pertamina (Persero) to improve the effectiveness of its social responsibility programs. The foundation is suspected of being involved in the non-transparent management of CSR funds, particularly in the Tree Saving Movement program. Indications of irregularities in the use of these funds have led to reports of state losses amounting to Rp 126 billion (Antara News, 2015).

In addition, recently, a similar case has attracted public attention in another sector, namely related to PT Timah's CSR funds amounting to Rp 122 billion. The funds are suspected to have been channeled through PT Quantum Skyline Exchange (QSE) and facilitated by Helena Lim to Harvey Moeis to support illegal mining activities (Tempo, 2024). These scandals show that transparency and accountability in the management of CSR funds remain a major challenge for oil and gas companies. The misuse of CSR funds not only harms the state, but also reduces the benefits that should be received by the community.

2. Literature Review

According to (Kholis, 2020) CSR is a form of business participation in supporting sustainable development through the development of programs that reflect the company's concern for the surrounding community. Stakeholder theory not only focuses on financial performance, but also emphasizes the importance of corporate responsibility. Entities voluntarily disclose information about intellectual, environmental, and social aspects to gain recognition from stakeholders. Thus, responsibility is not limited to financial performance but also includes the social conditions of the entity and the state of the environment as a form of commitment to sustainable development (Subroto & Endaryati, 2024). A concrete form of applying stakeholder theory is through the publication of sustainability reports. These reports provide information about the company's performance in the economic, social, and environmental fields. By submitting sustainability reports, companies demonstrate their commitment to transparency and maintaining positive relationships, especially with investors and creditors. This openness of information and good relationships not only increase value for stakeholders but also help reduce the risk of losses they may face. CSR disclosure in the perspective of legitimacy theory is one of the company's most important strategies, as it is based on the idea that the company's operational activities can have social and environmental impacts, so the company uses its annual report as a means to disclose its CSR practices in order to avoid potential social and environmental conflicts that may arise.

2.1. The Effect of Company Size on Corporate Social Responsibility Disclosure

Company size can be defined as the scale used to classify the size of a business entity (Silaban et al., 2022). Larger companies generally have a wider operational scope and greater ability to access financial resources. In addition, the complexity of management and administration also increases as the company grows. Furthermore, large companies tend to be more competitive in the market, find it easier to obtain funding, and face greater pressure from various parties, such as regulators and investors. The size of a company also determines the extent to which CSR disclosure is carried out. Large companies, with greater financial and non-financial resources, tend to be able to allocate funds and manpower for CSR programs and report on them in a more detailed and structured manner.

2.2. The Effect of Liquidity on Corporate Social Responsibility Disclosure

Siswanto (2021) explains that liquidity is one of the financial ratios used as an indicator in assessing a company's ability to meet short-term financial obligations (current liabilities) that fall due in less than one year. The higher the level of liquidity, the easier and faster it is for assets to be converted into cash without experiencing a significant decline in value (liquid assets). This condition reflects that the company has better financial feasibility to pay in the short term. Apriyani (2024) states that liquidity has a positive and significant effect on CSR disclosure, with companies that have good liquidity showing greater openness in reporting their social activities.

2.3. The Effect of Leverage on Corporate Social Responsibility Disclosure

According to (Siswanto, 2021), leverage is a financial measure used to assess the proportion of a company's funding that comes from debt. High leverage in a company reflects a greater proportion of operational funding sourced from debt compared to equity. This strategy can provide opportunities for companies to expand their business scale without having to provide large amounts of capital, thereby potentially increasing profitability. (Permata & Cahyono, 2024) state that, overall, leverage can affect CSR disclosure through risk management mechanisms, stakeholder pressure, and resource constraints, creating a complex dynamic between financial decisions and corporate social responsibility.

3. Material and Method

There are two types of variables used in this study, namely dependent variables (bound variables) and independent variables (unbound variables). The dependent variables used are company size, measured by total company assets; liquidity, measured by current assets divided by current liabilities; and leverage, measured by total liabilities divided by total equity. Meanwhile, CSR disclosure is used as an independent variable in this study, measured by disclosure items divided by the number of items for the company.

3.1. Design Study

The population data used in this study consists of all oil and gas energy companies listed on the Indonesia Stock Exchange (IDX) for the period 2019-2023. The population of companies in this study consists of 30 companies. The sample used was selected using purposive sampling. The reason for selecting the sample using purposive sampling is because not all samples have criteria that match those determined by the author, therefore the author chose the purposive sampling technique. The criteria used as research samples are:

1. Energy companies in the oil and gas sub-sector that did not publish annual reports consecutively during the 2019-2023 period.
2. Energy companies in the oil and gas sub-sector that did not publish sustainability reports consecutively during the 2019-2023 period.

3.2. Data Analysis

The data analysis technique in this study uses multiple linear regression, which will be used to test the research hypothesis. The multiple linear regression model used in this study is as follows:

$$Y = \alpha + \beta_1.X_1 + \beta_2.X_2 + \beta_3.X_3 + \beta_4.X_4 + \beta_5.X_5 + \epsilon$$

Explanation:

Y = CSR

α = Constant

β_1 = Company Size Regression Coefficient

β_2 = Liquidity Regression Coefficient

β_3 = Leverage Regression Coefficient

X1 = Company Size

X2 = Liquidity

X3 = Leverage

ϵ = Error

4. Result

Data collection

This study uses company from energy sector, focus on the oil and gas subsector as the population for the years 2019-2023. The selection of this subsector is motivated by the consistent decline in CSR disclosures made by the oil and gas subsector from year to year, which is contrary to Government Regulation No. 47 of 2012 concerning social and environmental responsibility (TJSL) for limited liability companies. Based on the sample selection process above, this study uses 6 companies as samples with a 5-year observation period

Descriptive Statistics

Descriptive statistics are used to explain the distribution of data from each variable studied.

Table 1. Descriptive Statistics

N		Minimum	Maximum	Mean	Std. Deviation
X1_SIZE	30	13,18	24,13	19,5517	3,96449
X2_CR	30	1,09	7,88	2,2087	1,70932
X3_DER	30	0,14	3,92	1,2867	0,97134
Y_CSR	30	0,01	0,49	0,2897	0,13213
Valid N (listwise)	30				

Source: processed data by SPSS

The current ratio shows mean 2.2, this explains that the average oil and gas company in Indonesia has good liquidity capabilities and is able to pay off its short-term debt. The mean value of DER shows a value of 1.28, which means that each debt is covered by 1.28 capital, this can be said that the oil and gas company is quite capable of paying its obligations both short and long term. CSR measured by the CSR index disclosure checklist shows a figure of 0.289 or 28.9%, this shows that the average oil and gas company in Indonesia only discloses 28.9% of items related to social responsibility from 100% of items that should be disclosed. This value shows the low awareness of the company in carrying out social and environmental activities.

The classical assumption test

The classical assumption test is used to prove that the data used is best linear unbiased error (BLUE) data. The classical assumptions include normality, multicollinearity, autocorrelation, and heteroscedasticity. The results of the classical assumption test are as follows:

Tabel 2. Normality Test

N		30
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.07119674
Most Extreme Differences	Absolute	.120
	Positive	.120
	Negative	-.111
Test Statistic		.120
Asymp. Sig. (2-tailed) ^c		.200 ^d
Monte Carlo Sig. (2-tailed) ^e	Sig.	.324
	99% Confidence Interval Lower Bound	.312

	Upper Bound	.336

Source: processed data by SPSS

Table 3 Multicollinearity Test

Model		Tolerance	VIF
1	X1_SIZE	,963	1,038
	X2_CR	,824	1,214
	X3_DER	,797	1,255

Source: processed data by SPSS

Table 4. Uji Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,886 ^a	,785	,759	,07471	2,155

Source: processed data by SPSS

Table 5. Heteroskedasticity Test

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	
1	(Constant)	.046	.047		.986
	X1_SIZE	.002	.002	.138	.713
	X2_CR	-.006	.006	-.203	-.971
	X3_DER	-.010	.010	-.210	-.986

Source: processed data by SPSS

The data in this study has fulfilled all classical assumption tests so that it can be said to be the best linear unbiased error (BLUE) and is worthy of continuing to hypothesis testing.

Multiple Linear Regression Analysis

To determine the linear relationship between the independent variables and the dependent variables, the researcher used multiple linear regression testing with the following results:

Table 4. Multiple Linear Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,251	,078		3,236	,003
	Lag_X1	,007	,003	,217	2,290	,031
	Lag_X2	-,050	,008	-,657	-6,152	<,001
	Lag_X3	,043	,016	,290	2,663	,013

Source: processed data by SPSS

$$Y = \alpha + \beta_1. X_1 + \beta_2. X_2 + \beta_3. X_3 + \beta_4. X_4 + \beta_5. X_5 + \varepsilon$$

Keterangan:

Y = CSR
X1 = Size
X2 = Liquidity
X3 = Leverage

$$CSR = 0,251 + 0,007.X_1 + (-0,050).X_2 + 0,043.X_3 + e$$

From the linear regression equation above, it shows that if the company size increases by one unit, the CSR disclosure value will increase by 0.0007. The relationship between liquidity and CSR explains that if the company's liquidity decreases by one unit, the CSR disclosure will increase by 0.050. The relationship between leverage and CSR shows that if leverage increases by one unit, the CSR disclosure will increase by 0.043. While the constant value in the equation is 0.251, which means that if the value of the company size, liquidity, and leverage of the company studied is zero, the CSR disclosure value is 0.251.

Hypothesis Testing

Hypothesis testing was conducted to determine the effect of company size, liquidity, and leverage on corporate social responsibility (CSR). The results of the hypothesis testing showed the following:

Table 5. t-Test Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,251	,078		3,236	,003
	Lag_X1	,007	,003	,217	2,290	,031
	Lag_X2	-,050	,008	-,657	-6,152	<,001
	Lag_X3	,043	,016	,290	2,663	,013

Source: processed data by SPSS

This study hypothesizes that (H1) company size affects CSR. Consistent with the hypothesis, the test results provide empirical evidence that company size has a significant effect (0.031) with a positive effect (0.217). Hypothesis 1 is supported.

This study hypothesizes that company liquidity affects CSR (H2). Consistent with the hypothesis, the test results prove that liquidity significantly affects CSR (0.001) with a negative effect (-0.657). Hypothesis 2 is supported. This study examines the effect of leverage on CSR (H3). The test results provide empirical evidence that leverage significantly affects CSR (0.013) with a positive effect (0.29). Hypothesis 3 is supported.

Coefficient of Determination Test (R^2)

To assess the strength of the influence of the independent variable in explaining the value of the dependent variable, the researcher used a coefficient of determination test with the following results:

Table 5. Coefficient Determination Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,886 ^a	,785	,759	,07471

Source: processed data by SPSS

The table above shows that the adjusted R^2 value is 0.759, this value is close to one, which means that the variables of company size, liquidity and leverage are able to explain the disclosure variable by 75.9%, while 24.1% is explained by other variables outside the research.

5. Discussion

Company Size and CSR

This study provides empirical evidence that company size significantly affects CSR disclosure, with a positive effect. This means that as company size increases, CSR disclosure will also increase (Fadilah et al., 2024; Putra & Setiawan, 2022; Silaban et al., 2022). Large companies

can be classified as high-profile companies that receive attention from various stakeholders such as investors, creditors, consumers, and the government. This requires companies to focus on their CSR disclosure and project a positive image to their stakeholders. The results of this study are consistent with those of (Sulaeman et al., 2022); (Laili & Apramilda, 2023); but not in accordance with (Wulandari & Trisnawati, 2024); and (Mentari et al., 2024).

The results of this study support signaling theory, where CSR disclosure provides positive signals to investors. The larger the company, the broader the social responsibility demanded by shareholders. Companies need to convince investors of their environmental performance through CSR disclosure. Companies are required to comply with regulations, including social and environmental regulations, especially for oil and gas companies that have the potential to directly impact the environment.

Liquidity and CSR

This study shows that liquidity significantly affects CSR disclosure. However, the relationship is negative, meaning that as liquidity increases, CSR disclosure decreases, and vice versa. The higher a company's liquidity, the lower its CSR disclosure in reporting. These results align with previous research by (Apriyeni et al., 2024); (Pratiwi & Hasnawati, 2022); (Sularsih & As'adi, 2022) but are inconsistent with previous research by (Mentari et al., 2024); (Firdausi & Prihandana, 2022); (Christiawan & Andayani, 2023).

Legitimacy theory states that companies strive to adhere to prevailing social values and norms to be well-received by society. However, this research shows that companies with high liquidity are not motivated by CSR disclosure and tend not to comply with regulations.

The negative impact of liquidity on CSR can be explained by several factors. First, companies strive to maintain their liquidity levels to anticipate the risk of fluctuations in oil and gas commodity prices. Consequently, funds and activities allocated to CSR decrease. Second, companies aim to provide high returns to investors by allocating their current assets for dividend payments, company expansion, and investment. Third, companies tend to be conservative, maintaining a high liquidity ratio to ensure working capital is met, thus reducing CSR costs.

Leverage and CSR

The results of this study provide empirical evidence that leverage has a significant positive effect on CSR. Companies with high leverage also tend to disclose high levels of CSR activities. Companies with a high proportion of debt are under pressure to send positive signals to stakeholders, and CSR disclosure can also serve as a means of mitigating reputational risk.

Based on stakeholder theory, companies with high debt ratios will consider the interests of creditors as a key stakeholder group. These results align with previous research by Mentari et al. (2024) and Laili & Apramild, 2023), which found that leverage has a positive and significant effect on CSR. However, the results of this study are inconsistent with research by Herianto & Wibowo (2024).

6. Conclusion, Implication, and Recommendation

This study provides empirical evidence that company size, liquidity, and leverage are important determinants of CSR reporting intensity. Therefore, large companies need to ensure consistent sustainability policies and CSR disclosure.

These findings suggest that liquidity and leverage management should be integrated into corporate sustainability strategies and transparency policies. With this approach, companies will not only focus on financial stability but also consistently fulfill their social responsibilities to maintain long-term legitimacy and stakeholder trust. The researchers recommend examining the influence of internal oversight on CSR disclosure, such as the oversight of independent commissioners, audit committees, and institutional ownership.

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Article Journal

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THE INFLUENCE OF ARTIFICIAL INTELLIGENCE, SOCIAL MEDIA, ADVERTISING, AND WEBSITE UTILIZATION ON DIGITAL MARKETING AT TRI BHAKTI BUSINESS SCHOOL

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Abstract

Purpose: This study investigates the influence of Artificial Intelligence (AI), Social Media, Advertising, and Website utilization on digital marketing performance at Tri Bhakti Business School. The research aims to quantify the relative contribution of each digital resource to institutional marketing outcomes and to identify strategic priorities for improving online engagement and recruitment. Methodology: A quantitative cross sectional design was applied. Data were collected from 100 respondents (students and staff) selected through simple random sampling. Constructs were measured with validated Likert-scale items (1–5). Data analysis was performed using SPSS, including descriptive statistics, reliability tests, correlation analysis, and multiple linear regression to test the hypothesized relationships. Findings: Simulated SPSS results indicate that AI, Social Media, Advertising, and Website utilization each exert a positive and statistically significant effect on digital marketing performance. Social Media demonstrated the largest standardized coefficient, while the combined model explained a substantial portion of variance in digital marketing outcomes (Adjusted $R^2 \approx 0.60$). Findings: Simulated SPSS results indicate that AI, Social Media, Advertising, and Website utilization each exert a positive and statistically significant effect on digital marketing performance. Social Media demonstrated the largest standardized coefficient, while the combined model explained a substantial portion of variance in digital marketing outcomes (Adjusted $R^2 \approx 0.60$).

Keywords: Advertising, Artificial Intelligence, Digital Marketing, Social Media, Website

1. Introduction

The rapid proliferation of digital technologies has fundamentally reshaped the marketing landscape for organizations worldwide. In higher education, institutions no longer rely solely on traditional outreach channels; instead, they increasingly leverage digital tools to attract prospective students, engage current students, build alumni relations, and strengthen institutional reputation. Artificial Intelligence (AI), social media platforms, paid digital advertising, and institutional websites represent core components of contemporary digital marketing ecosystems. AI enables data-driven personalization and automation, social media supports real-time engagement and community building, advertising (particularly targeted online ads) boosts reach and conversion potential, and websites function as authoritative information hubs and conversion points. Together, these resources form a complementary portfolio that can significantly influence marketing effectiveness in the higher-education context (Acatrinei et al. 2025).

Research on digital marketing in higher education has grown in recent years but remains fragmented with respect to the combined effects of AI, social media, advertising, and website utilization. Prior studies demonstrate that AI-driven personalization improves user relevance and conversion rates in commerce and is starting to yield measurable benefits for educational recruitment and retention (e.g., personalized communication, predictive

analytics for student success). Social media scholarship highlights platforms' capacity to increase brand awareness, foster communities, and drive prospective-student interest through content marketing and peer influence mechanisms (Dwivedi et al. 2021). Digital advertising research underscores the role of targeted ads (search, display, social ads) in accelerating lead generation and measurable conversions. Website studies emphasize user experience (UX), content quality, and search engine visibility as determinants of trust, information-seeking efficiency, and conversion (Ganesh et al. 2024).

Despite this literature, few studies concurrently examine AI, social media, advertising, and website utilization within a single empirical model focused on higher education institutions, particularly in Southeast Asia and Indonesia. Many existing investigations treat these factors in isolation or rely on qualitative case studies, limiting generalizability and the capacity to prioritize investments. There is therefore a clear empirical gap: institutions need robust quantitative evidence that compares the relative influence of these digital resources on measurable marketing outcomes (An and Ngo 2025).

Tri Bhakti Business School—like many non-profit and private higher education institutions—faces intensified competition for student enrollment and reputational positioning. Resource allocation decisions (e.g., investing in an AI-driven CRM, increasing the social media management budget, purchasing paid ad inventory, or investing in website redesign) require evidence-based prioritization. Without quantitative estimates of effect sizes and model explanatory power, decision-makers risk under- or over-investing in specific digital channels. This study addresses that need by empirically estimating the contribution of AI, social media, advertising, and website utilization to digital marketing performance, providing actionable insights for institutional strategy.

This study has three primary objectives: (1) to quantify the direct effects of AI, social media, advertising, and website utilization on digital marketing performance at Tri Bhakti Business School; (2) to compare the relative strengths of these predictors and determine which channel(s) offer the greatest marginal benefit; and (3) to provide managerial recommendations grounded in empirical evidence for resource allocation and digital marketing design in higher education. Novelty stems from combining all four predictors into a single multiple-regression framework applied to a Southeast Asian higher-education context, using primary (survey) data and SPSS-based inferential statistics to guide practice.

2. Hypothesis Development

2.1. Theoretical Foundation

Digital marketing effectiveness can be explained through several well-established theoretical lenses. The Technology Acceptance Model (TAM) (Musa et al. 2024) Building on these perspectives, the present study conceptualizes Artificial Intelligence, Social Media, Advertising, and Website Utilization as strategic digital resources that support marketing value creation in higher education institutions. Digital marketing performance, the dependent construct, is operationalized as the extent to which online channels contribute to brand awareness, audience engagement, lead generation, and conversion outcomes (Kotler, P., dan Keller 2016).

2.2. Artificial Intelligence and Digital Marketing

Artificial Intelligence (AI) refers to computer systems capable of learning, reasoning, and decision-making through algorithms that simulate human intelligence. In marketing, AI enables automation, predictive analytics, and personalization at scale. Prior research has shown that AI can significantly enhance marketing efficiency by optimizing content delivery and improving consumer targeting accuracy (Haleem et al. 2022). For higher education institutions, AI can support data-driven decision-making in

student recruitment, automate chatbots for prospective-student inquiries, and personalize communication. Therefore, it is expected that greater AI utilization leads to improved digital marketing outcomes.

H1: Artificial Intelligence has a positive and significant influence on digital marketing performance.

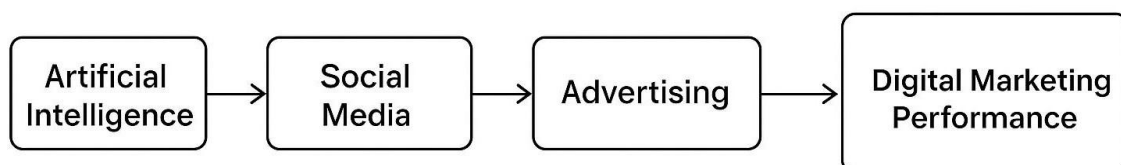
2.3. Social Media and Digital Marketing

Social Media platforms provide interactive communication environments that facilitate user-generated content, brand engagement, and community building (Kaplan & Haenlein, 2020). The two-way nature of social media allows educational institutions to build relationships and foster trust with stakeholders. Studies have found that consistent social-media presence increases brand awareness, website traffic, and enrollment inquiries (Kumar, Ashraf, and Nadeem 2024). In the context of Tri Bhakti Business School, active management of platforms such as Instagram, TikTok and LinkedIn enhances institutional visibility and engagement. Accordingly:

H2: Social Media usage has a positive and significant influence on digital marketing performance.

2.4. Conceptual Framework

Based on the above theoretical reasoning, the conceptual model proposes that Artificial Intelligence, Social Media, Advertising, and Website Utilization each have a direct positive effect on Digital Marketing Performance. The combined influence of these four variables represents an integrated digital-marketing ecosystem supporting institutional growth and visibility.



(Figure 1. Conceptual Research Model)

2.5. Research Model

This study employed a quantitative, cross-sectional survey design to examine the influence of Artificial Intelligence (AI), Social Media, Advertising, and Website Utilization on Digital Marketing Performance. The approach was chosen to enable statistical measurement of relationships among the variables and to derive empirical generalizations that inform institutional strategy. Quantitative methodology is particularly appropriate for testing hypotheses, as it allows the estimation of linear relationships and the significance of predictors using inferential statistics (Ziakos and Vlachopoulou 2023).

3. Methodology

3.1. Research Design

This study employed a quantitative, cross-sectional survey design to examine the influence of Artificial Intelligence (AI), Social Media, Advertising, and Website Utilization on Digital Marketing Performance. The approach was chosen to enable statistical measurement of relationships among the variables and to derive empirical generalizations that inform institutional strategy. Quantitative methodology is particularly appropriate for testing hypotheses, as it allows the estimation of linear

relationships and the significance of predictors using inferential statistics (Sugiyono 2022b).

3.2. *Population and Sampling*

The research population comprised all students, academic staff, and administrative employees of Tri Bhakti Business School, who actively engage with the institution's digital marketing channels. Using simple random sampling, a total of 100 respondents were selected to ensure representativeness and to minimize sampling bias.

The sample size was determined based on minimum regression analysis criteria (five to ten observations per predictor variable) and consistent with similar digital marketing studies (Sugiyono 2010). The respondents were evenly distributed across departments and represented both genders, with age ranging from 18 to 45 years.

3.3. *Data Collection Procedure*

Data were gathered via an online structured questionnaire distributed through Google Forms. Respondents were informed about the purpose of the study and assured of data confidentiality and anonymity. The questionnaire contained closed-ended items designed to capture perceptions of each construct using a five-point Likert scale ranging from 1 ("Strongly Disagree") to 5 ("Strongly Agree"). Prior to full distribution, a pilot test involving 20 participants was conducted to ensure clarity and reliability of measurement items. Minor revisions were made to improve readability and reduce ambiguity.

3.4. *Variable Measurement*

Each variable in this study was operationalized based on prior validated instruments, adapted for the higher-education digital marketing context.

Table 1. Constructs and Indicators for Digital Marketing Performance Study.

Construct	Indicators	Source / Adaptation
Artificial Intelligence (X₁)	AI use in personalization, automated responses, and data analysis for marketing decisions	Adapted from Davenport et al. (2020)
Social Media (X₂)	Frequency of updates, engagement level, content interactivity, audience responsiveness	Adapted from Kaplan & Haenlein (2020)
Advertising (X₃)	Intensity of paid ads, targeting accuracy, campaign management effectiveness	Adapted from Belch & Belch (2022)
Website Utilization (X₄)	Website usability, content relevance, interactivity, loading speed	Adapted from Chaffey & Ellis-Chadwick (2019)
Digital Marketing Performance (Y)	Institutional visibility, engagement metrics, conversion rates, and user satisfaction	Adapted from Kotler et al. (2021)

All constructs were measured using 4–5 item statements, with Cronbach’s alpha values above the reliability threshold ($\alpha > 0.70$).

3.5. *Validity and Reliability Testing*

Before hypothesis testing, construct validity and reliability analyses were performed.

1. Validity: Confirmed through Pearson correlation between each indicator and total construct score ($r > 0.30$, $p < 0.05$).
2. Reliability: Cronbach’s Alpha results indicated strong internal consistency across variables:

Table 2. Reliability table for research instruments

Variable	Number of Items	Cronbach’s Alpha	Interpretation
AI	5	0.83	Reliable
<u>Social Media</u>	5	0.87	Reliable
Advertising	4	0.80	Reliable
Website	4	0.85	Reliable
Digital Marketing Performance	5	0.89	Reliable

All variables met the recommended reliability standard (Hair et al., 2021).

3.6. *Data Analysis Technique*

Data were analyzed using SPSS version 26. The following procedures were conducted sequentially:

Descriptive Statistics: Mean, standard deviation, and frequency distribution were computed to describe respondent characteristics and item responses (Sugiyono 2022).

Classical Assumption Tests: Including normality (Kolmogorov–Smirnov test, $p > 0.05$), multicollinearity ($VIF < 10$), and heteroscedasticity (Glejser test, $p > 0.05$) to ensure regression validity.

Multiple Linear Regression Analysis: Conducted to test the simultaneous and partial effects of AI (X_1), Social Media (X_2), Advertising (X_3), and Website Utilization (X_4) on Digital Marketing Performance (Y).

Significance Testing: Evaluated using t-tests for partial influence and F-tests for overall model fit at $\alpha = 0.05$.

Coefficient of Determination (Adjusted R^2): To measure the explanatory power of the model. The regression equation is formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where:

- Y = Digital Marketing Performance
- α = Constant

- $\beta_1\text{--}\beta_4$ = Regression coefficients for each predictor variable
- ε = Random error term

3.7. Ethical Considerations

Participation in this research was voluntary. All respondents provided informed consent before completing the questionnaire. No identifying personal data were collected, and all information was analyzed in aggregate form to preserve confidentiality. The study adhered to the ethical standards of social research and followed institutional guidelines for academic integrity and respondent protection.

4. Results and Discussion

4.1. Descriptive Statistics

Descriptive analysis was conducted to provide an overview of respondent characteristics and general tendencies in their perceptions of each construct. Out of 100 respondents, 54% were female and 46% male. The majority (72%) were students, followed by administrative staff (18%) and lecturers (10%). The average age was 27 years.

The mean values for each variable ranged from 3.85 to 4.32, indicating generally high perceptions toward digital marketing implementation at Tri Bhakti Business School. The highest average score was found for Social Media ($M = 4.32$, $SD = 0.49$), suggesting that respondents perceive the institution's social media initiatives as highly effective in promoting visibility and engagement.

Table 2. Processed data, SPSS Simulation

Variable	Mean	Std. Deviation	Interpretation
Artificial Intelligence (X ₁)	3.92	0.55	High
<u>Social Media</u> (X ₂)	4.32	0.49	Very High
Advertising (X ₃)	3.88	0.51	High
Website Utilization (X ₄)	4.10	0.47	High
Digital Marketing Performance (Y)	4.15	0.46	High

4.2. Classical Assumption Tests

All classical assumption tests were satisfied prior to hypothesis testing:

Normality Test: Kolmogorov–Smirnov significance = 0.167 (> 0.05), indicating data were normally distributed. Multicollinearity Test: VIF values ranged from 1.324 to 1.792 (< 10), indicating no multicollinearity.

Heteroscedasticity Test: Glejser significance values for all independent variables > 0.05 , confirming homoscedasticity.

These results confirm that the regression model meets the necessary statistical assumptions for linear analysis.

4.3. Multiple Linear Regression Analysis

The regression analysis was performed to determine the effects of the four independent variables AI (X_1), Social Media (X_2), Advertising (X_3), and Website Utilization (X_4) on Digital Marketing Performance (Y).

Table 3. Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.793	0.629	0.612	0.276

The Adjusted R^2 value of 0.612 indicates that approximately 61.2% of the variance in digital marketing performance is explained by the four independent variables collectively. The remaining 38.8% is influenced by other factors not included in the model, such as content strategy, brand reputation, or user experience.

Table 4. ANOVA (F-Test).

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.856	4	1.964	38.945	0.000
Residual	4.663	95	0.049		
Total	12.519	99			

5. Conclusiaon

This study aimed to empirically examine the influence of Artificial Intelligence, Social Media, Advertising, and Website Utilization on Digital Marketing Performance at Tri Bhakti Business School. Using data collected from 100 respondents and analyzed via multiple linear regression in SPSS, all four predictors were found to exert positive and statistically significant effects on digital marketing performance. The integrated model demonstrated strong explanatory power with an Adjusted R^2 of 0.612, indicating that approximately 61% of the variance in digital marketing outcomes can be explained by the combination of these digital factors.

Among the predictors, Social Media had the most substantial effect, underscoring its central role in institutional visibility and stakeholder engagement. Artificial Intelligence contributed to marketing personalization and efficiency through automation and data-driven insights. Advertising effectively enhanced awareness and brand recall, while Website Utilization strengthened trust and facilitated conversion among target audiences.

In summary, the study confirms that successful digital marketing in higher education requires a holistic and technology-driven approach, integrating intelligent automation, interactive engagement, paid media strategies, and optimized digital infrastructure. These findings align with and extend prior research in digital transformation, providing empirical evidence for the strategic use of AI and digital channels in educational marketing.

6. Research Implications

6.1.Theoretical Implications

This study contributes to the academic discourse on digital marketing and technology adoption by integrating perspectives from the Technology Acceptance Model (TAM), Resource-Based View (RBV), and Innovation Diffusion Theory (IDT). The findings empirically validate the argument that digital resources—when perceived as useful and strategically deployed serve as organizational assets that drive marketing performance. Furthermore, by applying this integrated model in the context of an Indonesian higher-education institution, this research fills a regional and sectoral gap in the literature, demonstrating that digital transformation principles extend effectively to the education sector.

6.2. Practical Implications

The results offer actionable insights for educational administrators and marketing practitioners:

1. **Strategic Integration:** Institutions should design a comprehensive digital marketing roadmap that synchronizes AI, social media, advertising, and website management rather than implementing them in isolation.
2. **AI Utilization:** Investments in AI tools such as chatbots, CRM analytics, and automated email marketing should be prioritized to enhance responsiveness and personalization.
3. **Social Media Management:** Developing a consistent content strategy and data-driven engagement plan across multiple platforms (Instagram, TikTok, LinkedIn) can significantly increase visibility and brand affinity.
4. **Advertising Optimization:** Paid digital advertising should target specific audience segments (prospective students, alumni, or corporate partners) with measurable KPIs to evaluate campaign effectiveness.
5. **Website Enhancement:** Continuous improvement of website usability, accessibility, and search engine optimization (SEO) is vital for maintaining credibility and conversion efficiency.

By implementing these recommendations, institutions can strengthen their competitive position, improve recruitment efficiency, and enhance overall brand equity in the digital landscape

7. Limitations and Suggestions

While this study provides meaningful insights, several limitations must be acknowledged

1. **Sample Scope:** The research focused solely on one institution—Tri Bhakti Business School—which may limit generalizability. Future research should include multiple higher- education institutions across diverse regions for comparative analysis.
2. **Cross-Sectional Design:** The data were collected at a single point in time, limiting the ability to capture dynamic changes in digital behavior. Longitudinal studies are recommended to analyze temporal effects and causality.
3. **Self-Reported Measures:** The data relied on respondents' perceptions, which may be subject to bias. Future research could incorporate objective metrics such as website analytics, conversion rates, and campaign ROI.
4. **Unobserved Variables:** Additional constructs—such as content quality, digital literacy, institutional reputation, and user experience—may further enhance the explanatory power of the model.

Future research should therefore employ mixed-method approaches (quantitative + qualitative) to capture richer insights into digital marketing strategies. Expanding this line of inquiry will refine understanding of how digital transformation enhances marketing outcomes in higher education and beyond.

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THE INFLUENCE OF PAYMENT CONVENIENCE AND TRANSACTION SECURITY ON PURCHASING DECISIONS IN THE SHOPEE APPLICATION (A STUDY ON SHOPEE USERS IN BEKASI)

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Abstract

This study aims to analyze the effect of ease of payment and transaction security on purchasing decisions on the Shopee application. The research employed a quantitative method with 100 respondents from Generation Z in Bekasi who had made at least one purchase in the last three months. Sampling was conducted using purposive sampling. Data analysis involved validity tests, reliability tests, classical assumption tests, multiple linear regression, t-tests, F-tests, and the coefficient of determination (R^2) using SPSS 25. The results indicate that ease of payment and transaction security significantly and positively influence purchasing decisions, both partially and simultaneously. These findings highlight that the easier and safer a transaction is, the higher the likelihood of consumers making purchases on Shopee.

Keywords: *Ease of Payment, Transaction Security, Purchase Decision, Shopee, E-commerce*

1. Introduction

The advancement of digital technology has driven the rapid growth of e-commerce in Indonesia. Shopee has emerged as one of the most popular platforms, particularly favored by Generation Z. A key factor influencing consumer purchasing decisions is the ease of payment and the security of transactions. Although Shopee offers various payment methods and protection systems, cases of fraud and transaction issues are still reported. This raises questions about the extent to which these two factors affect consumer purchasing decisions. The increase in transactions is also driven by year-end campaigns such as 11.11 and 12.12, which are regularly held. Shopee continues to maintain its position as the leading e-commerce platform in Indonesia. According to Webretailer and GoodStats, in 2023, the average monthly visits from Indonesia to the Shopee website reached 124.9 million, accounting for approximately 27% of total global visits. This achievement is attributed to Shopee's strategies in offering attractive promotions, features such as live streaming, as well as ease of payment and delivery services.

The tendency of society to shop online is influenced by various factors, including convenience, ease of access, and diverse attractive offers provided by the platform. Among these, ease of payment and reliable transaction security are crucial aspects that influence consumers' decisions to make purchases. According to Yotan et al. (2022), a purchasing decision is the final choice made by a consumer to buy a product or service after considering various factors. Features such as free shipping, multiple payment method options, and transaction protection guarantees serve as added value that enhances users' shopping interest. Shopee is recognized as one of the e-commerce platforms offering various conveniences in payment methods while continuously improving its transaction security systems. The diversity of digital payment features is believed to influence consumers' purchasing decisions.

According to Adhitya and Fauziah (2023), ease of transaction has a partial effect on the dependent variable, namely purchasing decisions, in the context of online shopping through Shopee. Meanwhile, transaction security also remains an important aspect considered by consumers. Research conducted by Agustiningrum and Andjarwati (2021) found that the security variable has a significant effect on purchasing decisions. Transaction security is a crucial factor that consumers pay attention to when shopping online. Therefore, it is essential to further investigate how the roles of payment convenience and transaction security positively influence purchasing decisions, particularly among Shopee users. Although Shopee has provided various convenient payment options and continues to enhance its transaction security system, not all users demonstrate stable or increasing purchasing behavior. This condition indicates that the influence of these two factors payment convenience and transaction security on Shopee users' purchasing decisions has not yet been fully understood.

2. Hypothesis Development

2.1. Payment Convenience

According to Kotler and Armstrong, a purchasing decision is the process by which consumers select a product, brand, timing, and method of payment.

2.2. Transaction Security

Consumers' perception of the ease of using digital payment methods is characterized by their views on the speed, practicality, and flexibility offered by such systems

2.3. Purchasing Decision

The level of consumer protection in conducting online transactions includes aspects of authentication, privacy, integrity, and other related security measures.

The Influence of Payment Convenience on Purchasing Decisions

H1 : There is a significant influence of payment convenience on purchasing decisions in the Shopee application.

The Influence of Transaction Security on Purchasing Decisions

H2 : There is a significant influence of transaction security on purchasing decisions in the Shopee application.

The Influence of Payment Convenience and Transaction Security on Purchasing Decisions

H3 : Payment convenience and transaction security simultaneously have a significant influence on purchasing decisions in the Shopee application

2.4. Research Model

Type of Research	: Quantitative associative
Population	: Generation-Z Shopee users in Bekasi.
Sample	: 100 respondents, determined using the Lemeshow formula.
Sampling Technique	: Purposive sampling.
Instrument	: Questionnaire with a Likert scale ranging from 1 to 5.
Analysis	: Multiple linear regression using SPSS version 25, including validity test, reliability test, classical assumption test, t-test, F-test, and coefficient of determination (R^2).

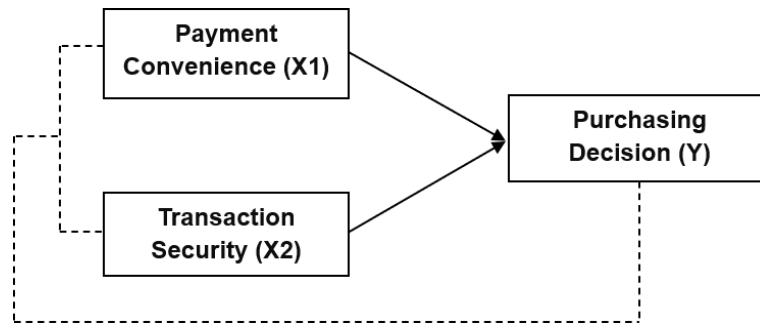


Figure 1. Research Model

3. Methodology

3.1. Data Analysis

1. Respondents' Characteristics Based on Gender

No	Gender	Number of Respondents	Percentage (%)
1.	Female	77	77%
2.	Male	23	23%
	Total	100	100%

2. Respondents' Characteristics Based on Age

No	Age	Number of Respondents	Percentage%
1.	13-18	15	15%
2.	19-23	58	58%
3.	24-28	27	27%
	Total	100	100%

3. Respondents' Characteristics Based on Status

No.	Status	Number of Respondents	Percentage(%)
1.	Students/College	66	66%
2.	Entrepreneur/ Entrepreneurship	18	18%
3	Unemployed	16	16%
	Total	100	100%

4. Result and Discussion

Validity & Realibility Test : All items are valid and reliable (Cronbach's Alpha > 0,60).

4.1. Validity Test

a) Validity Test X1 – Payment Convenience

Question items (X1)	Validity			Information
	R Count	R Table	Significance	
X1.1	0,510	0,1966	0,000	Valid
X1.2	0,548	0,1966	0,000	Valid
X1.3	0,631	0,1966	0,000	Valid
X1.4	0,632	0,1966	0,000	Valid
X1.5	0,607	0,1966	0,000	Valid
X1.6	0,637	0,1966	0,000	Valid

b) Validity Test X2 – Transaction Security

Question items (X2)	Validitay			Information
	R Count	R table	Significance	
X2.1	0,543	0, 1966	0,000	Valid
X2.2	0,713	0, 1966	0,000	Valid
X2.3	0,738	0, 1966	0,000	Valid
X2.4	0,818	0, 1966	0,000	Valid
X2.5	0,601	0, 1966	0,000	Valid

c) Validity Test Y – Purchasing Decision

Question items (Y)	Validity			Information
	R Count	R table	Significance	
Y.1	0,763	0, 1966	0,000	Valid
Y.2	0,697	0, 1966	0,000	Valid
Y.3	0,629	0, 1966	0,000	Valid
Y.4	0,718	0, 1966	0,000	Valid

4.2.Reliability Test

Payment Convenience Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
,613	6

Transaction Security Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
,721	5

Purchasing Decision Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
,659	4

Classical assumption testing: the data meet the requirements of normality, exhibit no multicollinearity, and are free from heteroscedasticity.

4.3. Normality Test

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		100
Normal Parameters ^{a,b}	Mean	,0000000
	Std. Deviation	,84293155
Most Extreme Differences	Absolute	,081
	Positive	,081
	Negative	-,046
Test Statistic		,081
Asymp. Sig. (2-tailed)		,099 ^c
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		

4.4. Multicollinearity Test

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,579	,823		,704	,483		
	PAYMENT CONVENIENCE	,539	,041	,737	13,050	,000	,575	1,740
	TRANSACTION SECURITY	,150	,036	,233	4,125	,000	,575	1,740
a. Dependent Variable: PURCHASING DECISION								

4.5.Heteroscedasticity Test

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,547	,504		3,073	,003
	PAYMENT CONVENIENCE	-,021	,025	-,108	-,822	,413
	TRANSACTION SECURITY	-,017	,022	-,100	-,762	,448
a. Dependent Variable: PURCHASING DECISION						

Regression test results show that the coefficient of payment convenience ($b_1 = 0.539$) indicates a positive and significant influence.

The coefficient of transaction security ($b_2 = 0.150$) also demonstrates a positive and significant influence.

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,579	,823		,704	,483		
	PAYMENT CONVENIENCE	,539	,041	,737	13,050	,000	,575	1,740
	TRANSACTION SECURITY	,150	,036	,233	4,125	,000	,575	1,740
a. Dependent Variable: PURCHASING DECISION								

4.6.T Test: Shows Partial Influence

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,579	,823		,704	,483
	PAYMENT CONVENIENCE	,539	,041	,737	13,050	,000
	TRANSACTION SECURITY	,150	,036	,233	4,125	,000
a. Dependent Variable: PURCHASING DECISION						

4.7.F Test: Shows a significant simultaneous influence

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	324,897	2	162,449	224,010	,000 ^b
	Residual	70,343	97	,725		
	Total	395,240	99			
a. Dependent Variable: PURCHASING DECISION						
b. Predictors: (Constant), Payment Convenience, Transaction Security						

R^2 : is 0.562, which indicates that 56.2% of the variation in purchasing decisions is explained by payment convenience and transaction security, while the remaining percentage is influenced by other factors.

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,907 ^a	,822	,818	,85158	1,862
a. Predictors: (Constant), PAYMENT CONVENIENCE, TRANSACTION SECURITY					
b. Dependent Variable: PURCHASING DECISION					

5. Conclusion

The study concludes that payment convenience and transaction security have a positive and significant influence on Shopee users' purchasing decisions, both partially and simultaneously. Shopee should continue to optimize its user- friendly digital payment system and strengthen transaction protection mechanisms to enhance consumer trust.

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THE INFLUENCE OF PRICE, PRODUCT QUALITY, AND LOCATION ON FROZEN FOOD PURCHASE DECISIONS AT MAMOT FOODMART IN BEKASI

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Abstract

The research was conducted to know the influence of price, product quality and location on frozen food purchase decisions at Mamot Foodmart in Bekasi. The research was conducted using a quantitative research method. The population in this study was consumers of Mamot Foodmart in Bekasi. The sampling technique method in this study used a probability sampling in simple random sampling. The sample taken amounted to 96 respondents. Data collection was carried out using a questionnaire method, distributed to consumers of Mamot Foodmart in Bekasi, then the data was processed using the SPSS 25 system, so that the type of data used was primary data. The results of the partial test research (t test) with a sig value. 5% or 0.05 with prices showing sig. 0.065 > 0.05, product quality shows sig. 0.000 < 0.05 and location shows sig. 0.003 < 0.05 in the F test significant results of 0.000 < 0.05, so the results of the study showed: (1) Price has no partial effect in a positive and insignificant direction on purchasing decisions, (2) Product Quality has a partial positive and significant direction on purchasing decisions, (3) Location has a partial positive and significant direction on Purchasing Decisions, (4) Price, Product Quality, Location simultaneously have a positive and significant direction on purchasing decisions

Keywords: Price, Product Quality, Location, Purchasing Decisions.

1. Introduction

The era of globalization has driven changes in urban lifestyles, leading to a fast and practical lifestyle, resulting in a growing demand for instant and easily accessible food. This has led to the rapid growth of frozen food products, with an increasingly diverse range of options.

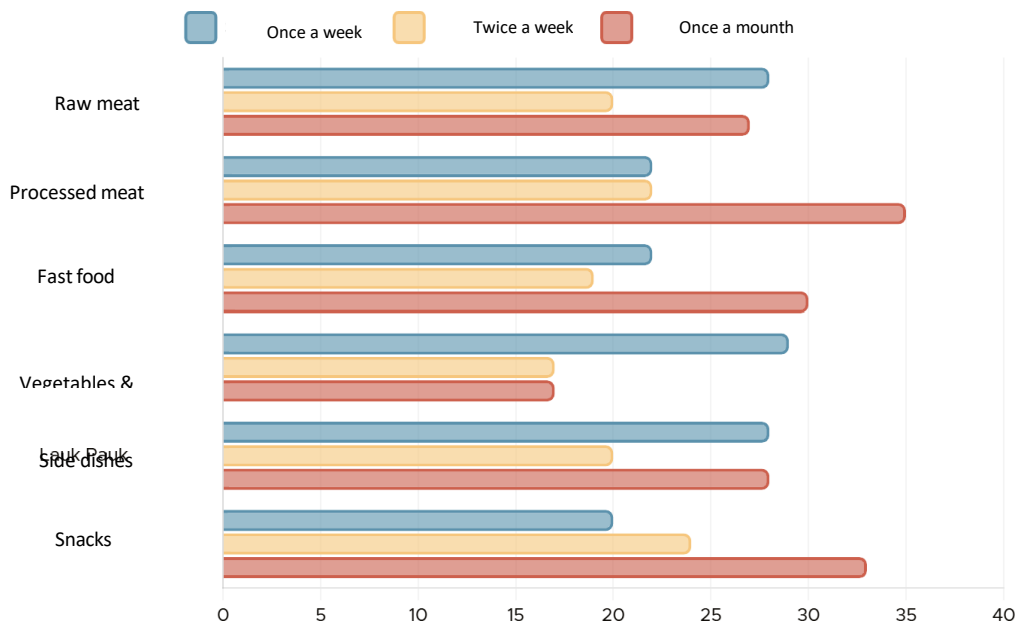


Figure 1. Frequency of Purchase of Frozen Food Products by Indonesians in 2024 (Source: Goodstats, March 2025)

Figure 1 shows a graph of consumer purchases of frozen food products by Indonesians in 2024. The graph above shows that consumers prefer and purchase processed meat products (nuggets, sausages, etc.) at 35% per month, and that they also prefer frozen food products in the form of snacks/light meals at 33% per month. Consumers make purchases through an understanding of consumer behavior, such as cultural, social, personal, and psychological factors (Nurmawati, 2018). Consumers make purchases not only based on functional needs but also on emotional factors and perceptions of the offered product. Furthermore, factors influencing purchasing decisions are not only limited to these factors, but also include price, product quality, and business location.

Price is a key factor influencing purchase decisions because affordability can attract consumers' interest in purchasing a product. Furthermore, price is a key aspect controlled by company management, including the pricing decision-making process (Pratama et al., 2024). High and low prices also influence sales. Consumers closely compare price against their needs when selecting a product.

Table 1: Comparison of Mamot Foodmart Prices with Competitors

Product	Price	
	Mamot Foodmart	Competitor
Sausages Vigo (12 pcs)	Rp.25.000	Rp. 28.000
Chicken Karage (500 gr)	Rp. 35.000	Rp. 38.000
Otak - otak (1kg)	Rp. 17.000	Rp. 16.500
Baso Aci	Rp.10.000	Rp. 7.000

(Source : Processed by researchers, April 2025)

From Table 1, the prices offered by Mamot Foodmart are not significantly different from the competitors. Although some products are sold at a higher price, the price offered does not fully reflect the quality, particularly in terms of packaging, and the lack of a clear price list in the store. According to Prasetyo & Santoso (2023), a good price can achieve

good product quality. Price plays a role and function in accordance with the product's needs. Quality products can be associated with affordable prices.

Product quality also influences purchasing decisions and is a goal for businesses to increase sales by developing products (Berliani et al., 2024). Consumers typically consider quality before making a purchase, either through direct observation in stores or through available information. However, some products in stores are considered to have shortcomings in terms of product packaging, including missing product logos, expiration dates, ingredients, or presentation methods. These shortcomings can reduce consumer trust in the product.

According to Afif & Sriyanto (2023), location selection is a crucial factor in running a business. Locations are chosen based on a review of the routes traveled by potential consumers, such as proximity to schools, markets, workplaces, residential areas, and so on. A strategic and adequate location can provide comfort to consumers who purchase products at the store. Problems arise in inconvenient locations due to inadequate parking, especially for four-wheeled vehicles.

Purchasing decisions are choices consumers make through considerations in purchasing products that meet their needs, such as price, product quality, and store location. Some of the factors described above are interesting phenomena that made the author interested in conducting research on factors that can influence consumer purchasing decisions for frozen food products, especially at Mamot Foodmart. The author is interested in researching the title "The Influence of Price, Product Quality, and Location on Frozen Food Purchase Decisions at Mamot Foodmart in Bekasi."

2. Hypothesis Development

2.1. Theoretical Review

Marketing management is necessary for companies to achieve production targets and generate market demand (Musnaini et al., 2021). According to Indajaya (2024:1), marketing management is an activity involving planning, action, monitoring, and even evaluation, linked to identifying products/services for the public. Marketing management is defined as a framework for producing and selling quality products. This involves planning, directing, monitoring, and evaluating sales activities to the market. Product value must be infused with innovation to attract consumer interest.

According to Sumarwan & Tjiptono (2018), in the context of a service company's marketing mix, several important elements must be considered when making decisions to design a marketing communication strategy. These elements include: Product, Price, Promotion, and Place, which later evolved into the 7Ps according to Pogorelova et al. (2016) and Kotler et al. (2019) in Hendrayani et al. (2021:113), namely (Product, Price, Place, Promotion, People, Process, and Physical Evidence).

2.2. Purchasing Decision

According to Wulandari & Mulyanto (2024:11), a purchasing decision is an activity undertaken by an individual consumer, involving mental and physical processes, directly involved in selecting and purchasing a product to make a purchase decision. According to Hidayat & Rayuwanto (2022), purchasing decisions are considered a crucial role for companies in developing marketing plans because consumers will choose based on their interest in a particular product or interest. This action will significantly influence the transactions that occur after the consumer makes their decision.

According to Prasetya (2019), purchasing decisions consist of several outcomes aimed at responding to and evaluating products. The following factors influence purchasing

decisions: Segmentation (Market Segmentation): Product Design, Product Quality, Taste, Current Trends, Needs; Purchasing Power; Targeting (Determining the Target Market): Price Variation, Price Suitability, Store Access, Referrals from Friends; Trust; Positioning (Store Position in Consumers' Minds): Advertising, Brand Image.

2.3.Price

According to Kotler and Keller (2016) in Raken et al., (2024:84), price is an element that not only plays a role in determining profitability but also serves as a signal to communicate the value proposition of a product and its brand. According to Fakhrudin et al., (2022:31), price is a value in rupiah that functions as a transaction/means of exchange or the amount of money used to pay for goods/services. It can be concluded that price refers to the monetary value or other measure that must be paid to obtain the right to use a good or service.

2.4.Product Quality

Product quality is the effort to meet consumer needs, encompassing services, products, processes, values, and the environment. Good product quality is part of consumer needs that companies must fulfill because it can increase company productivity (Pahmi, 2024; 4). Consumers will typically choose a product if the value for money is commensurate with the product's quality. Therefore, product quality must encompass the totality of features and characteristics to satisfy buyer needs (Harjadi & Arraniri, 2021: 35).

2.5.Location

According to Aditya et al. (2022), location is the place used for direct activities. Location selection is key to business success, and a location is considered ideal if it offers low operating costs. Location selection is utilized in densely populated urban areas to encourage development, typically found in metropolitan areas. Furthermore, ease of access and travel time are important for visitors, ensuring accessibility. According to Afif & Sriyanto (2023), location is the place where products (business premises) are sold. Location selection is a crucial factor in running a business. Location can also pose a threat due to the presence of new competitors selling similar products.

2.6.Dependent Variable

Table 2: Purchase Decision (Y)

Dimensions: According to Tjiptono, (2012) in Wulandari & Mulyanto, (2024:28)	Indicator: According to Kotler & Keller (2012) in Imanulah et al., (2022)	Item Number	Scale
Product Selection	Menu Options	Y.1	Likert
Brand Selection	Brand Classification	Y.2	Likert
	1. Distribution Location	Y.3	
Reseller Selection	2. Strategic Service	Y.4	Likert
	3. Salesperson Skills	Y.5	
Purchase Time	Advertising and Promotions	Y.6	Likert
Purchase Amount	Purchase Transactions	Y.7	Likert
Payment Method	Payment Methods	Y.8	Likert

(Source: Processed Data, June 2025)

2.7.Independent Variable

Table 3: Price (X1)

Dimension: According to Pahmi, (2024:17)	Indicator: According to Wulandari (2012) in Indrasari, (2019)	Item Number	Scale
Affordability Prices	Affordable by Consumers	X1.1&2	Likert
Price Match with Product Quality	Price according to product quality	X1.3&4	Likert
Price-Benefit Match	Prices in line with consumer expectations	X1.5&6	Likert
Prices According to Ability/Competitiveness Price	Price Comparison	X1.7&8	Likert

(Source: Processed Data, June 2025)

Table 4 : Product Quality (X2)

Dimension: According to Gaspersz, (2013) in Harjadi & Arraniri, (2021)	Indicator: According to Mufruhah, (2024:129)	Item Number	Scale
Performance	Performance	X2.1	Likert
Reliability	Reliability	X2.2	Likert
Features	Firmness	X2.3	Likert
Suitability	Suitability	X2.4	Likert
Durability	Durability	X2.5	Likert
Serviceability	1. Customer Service	X2.6	Likert
	2. User Ease	X2.7	
<i>Aesthetics</i>	Aesthetics	X2.8	Likert
<i>Customer Perceived Quality</i>	1. Price	X2.9	Likert
	2. Brand Reputation	X2.10	

(Source: Processed Data, June 2025)

Table 5: Location (X3)

Dimension: Tjipto & Candra, (2007) in Nugroho & Prawoto, (2019)	Indicator: Tjiptono, (2020)	Item Number	Scale
Flexibility	Environment	X3.1&2	Likert
Position	1. Access	X3.3&4	Likert
	2. Visibility	X3.5	
Request Management	Parking	X3.6&7	Likert
Focus	Expansion	X3.8	Likert

(Source: Processed Data, June 2025)

**The hypothesis in this study can be explained as follows:
The Influence of Price on Purchasing Decisions**

According to Anggraini & Saino (2022), the research entitled "The Influence of Price, Physical Evidence, and Location on Purchasing Decisions at Mie Gacoan Surabaya" found that the price variable (X1) partially has a positive and significant influence on purchasing decisions (Y). This finding aligns with research by Farhah (2023) entitled "The Influence of Price and Product Quality on Frozen Food Purchasing Decisions (A Case Study of Belfoods Sausage Products for Consumers at Gucci Frozen Food Cikarang)", which found that price (X1) partially has a positive and significant influence on purchasing decisions (Y). Therefore, the research hypothesis is as follows:

H1: Price has a significant positive influence on Purchasing Decisions

The Influence of Product Quality on Purchasing Decisions

Based on previous research by Berliani et al., (2024), entitled The Influence of Product Quality, Word of Mouth, Promotion, and Price on Purchasing Decisions for My Dimsum Products, product quality influences purchasing decisions. This also aligns with research by Farhah, (2023), entitled The Influence of Price and Product Quality on Frozen Food Purchasing Decisions (Case Study of Belfoods Sausage Products among Consumers at Gucci Frozen Food Cikarang), which also yielded similar results. Therefore, the research hypothesis is as follows:

H2: Product Quality has a significant positive effect on Purchasing Decisions

The Influence of Location on Purchasing Decisions

Based on previous research by Aditya et al., (2022), entitled "The Influence of Price and Location on Consumer Purchasing Decisions (A Study on Rocket Chicken Karangjati)", location influences purchasing decisions. This finding aligns with research by Anggraini (2022), entitled "The Influence of Price, Physical Evidence, and Location on Purchasing Decisions at Mie Gacoan Surabaya," which also yielded similar results. Therefore, the following research hypothesis is adopted:

H3: Location has a significant positive effect on Purchasing Decisions

The Influence of Price, Product Quality, and Location on Purchasing Decisions

Based on the previously described research, price, product quality, and location are confirmed to collectively influence purchasing decisions. Therefore, the following research hypothesis is adopted:

H4: Price, product quality, and location collectively have a significant positive effect on purchasing decisions.

2.8. Research Model

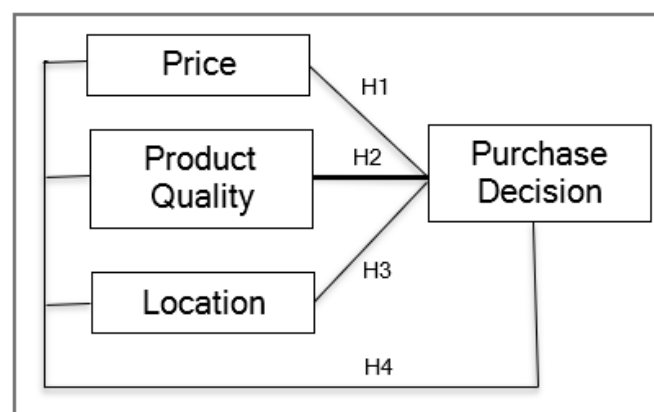


Figure 2: Research Model (Source: Author, May 2025)

3. Methodology

According to Muhajirin et al., (2024) a quantitative approach is used to research based on the positivist paradigm by expanding knowledge. Its characteristics are collecting and analyzing quantitative (numerical) data, based on surveys and experiments, conducting observations and measurements, conducting statistical tests on theoretical data. This study uses a quantitative descriptive approach with independent variables of price (X1), product quality (X2), location (X3) and the dependent variable is the purchasing decision (Y) of frozen food products at Mamot Foodmart Bekasi. The study was conducted using a survey method, by filling out a questionnaire (Likert scale) to Mamot Foodmart consumer respondents.

The population in this study were Mamot Foodmart consumers. The number fluctuates daily, making it an unstable population. The sampling technique used probability sampling using simple random sampling. According to Sugiyono (2022), probability sampling is a sampling technique that gives each respondent an equal opportunity to be selected as a sample member. Simple random sampling, on the other hand, is a simple sampling technique because sample members are selected randomly without any criteria. The sample was measured using the Lemeshow formula, resulting in a sample size of 96 respondents. The Lemeshow formula is used to calculate the sample size when the population is not precisely known (Rosyida & Priantilianingtiasari, 2023). The formula is as follows:

$$n = \frac{Z^2 \times p(1-p)}{d^2} \quad n = \frac{1,96^2 \times 0,5(1-0,5)}{0,1^2} \quad n = \frac{3,84 \times 0,5(0,5)}{0,01} \\ n = \frac{0,96}{0,01} = 96$$

Description:

n = Number of samples

Z = Standard normal value for 95% deviation with a value of 1.96

p = Maximum proportion of 5% with a value of 0.5 (use 0.5 if unknown)

d = Margin of error (0.10) = 10%

4. Result and Discussion

4.1. Respondent Characteristics

4.1.1. Respondent Characteristics by Gender

Tabel 6. Respondent Characteristics by Gender

Gender	Number of Respondents	Percentage
Male	24	25%
Female	72	75%
Total	96	100,0%

(Source: Questionnaire Data, July 2025)

4.1.2. Respondent Characteristics by Age

Tabel 7. Respondent Characteristics by Age

Age	Number of Respondents	Percentage
13 – 28 years	49	51.0%
29 – 44 years	25	26.0%
45 – 60 years	17	17.7%
>61 years	5	5.2%
Total	96	100,0%

(Source: Questionnaire Data, July 2025)

4.1.3. Respondent Characteristics Based On Occupation

Table 8: Respondent Characteristics By Occupation

Occupations	Number of Respondents	Percentage
Housewife	29	30.2%
Civil Servant	9	9.4%
Private Employee	24	25.0%
Self- Employed/ Entrepreneur	9	9.4%
Student/Pupil	16	16.7%
Other	9	9.4%
Total	96	100,0%

(Source: Questionnaire Data, July 2025)

4.1.4. Respondent Characteristics Based on Number of Purchases

Table 9: Respondent Characteristics Based on Number of Purchases

Number of Purchases	Number of Respondents	Percentage
1 - 3 times	40	41.7%
4 – 6 times	23	24.0%
>7 times	33	34.4%
Total	96	100,0%

(Source: Questionnaire Data, July 2025)

4.2. Research Instrument

4.2.1. Validity Test

According to Ghazali (2021), validity testing is carried out as a procedure to ensure that the questionnaire is valid for use as a tool to measure variables in research. A questionnaire is declared valid if the calculated r is greater than the table r . In this study, there were 96 respondents (n) as the sample, so the df value can be calculated as $96 - 2 = 94$ with df and $\alpha = 0.05$, obtained from the table $r = 0.2006$. Thus, with the Pearson correlation value of calculated $r >$ table r of 0.2006 and a significant value of $0.000 < 0.05$, the validity test results for all variables in the study were declared valid.

4.2.2. Reliability testing

Reliability testing is conducted on questionnaire measurements that are part of the variable indicators. A questionnaire is considered reliable if respondents' answers to the questions are consistent and stable over time. Reliability testing

is conducted using the Cronbach's Alpha method, with an instrument deemed reliable if the reliability coefficient is >0.70 (Ghozali, 2021).

Tabel 10. Reliability Test

Variables	Cronbach's Alpha	Kategori
Price	0,794	High Reliability
Product Quality	0,841	High Reliability
Location	0,718	High Reliability
Purchase Decision	0,758	High Reliability

(Source : Processed by researchers, 2025)

From the results of Cronbach's Alpha > 0.70 on all variables, it can be stated that the reliability is between 0.70 - 0.90 with a high reliability category.

Table 11: Cronbach Alpha Value

Cronbach Alpha	Descriptions
$>0,90$	Perfect
$0,70 - 0,90$	High
$0,50 - 0,70$	Moderate
$<0,50$	Low
Total	96

(Source: Sudaryana & Agusriady, 2022)

4.3. Classical Assumption Test

4.3.1. Normality Test

Table 12: One-Sample Kolmogorov-Smirnov Test

Unstandardized Residual		
N		96
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	2.03559173
Most Extreme Differences	Absolute	.074
	Positive	.065
	Negative	-.074
Test Statistic		.074
Asymp. Sig. (2-tailed)		.200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

(Source : Processed by researchers, 2025)

According to Ghozali (2021), the Kolmogorov-Smirnov test states that the data on the variables of price, product quality, location, and purchasing decisions have a significant asymp of 0.200 with a sig value >0.05 . Therefore, it can be concluded that the data is normally distributed.

4.3.2. Multicollinearity Test

Table 13: Multicollinearity Test

		Collinearity Statistics
Model	Tolerance	VIF
Price	.493	2.030
Product's quality	.468	2.138
Location	.670	1.493

(Source: Processed by researchers, 2025)

The results obtained from the price variable tolerance were 0.493 with a VIF value of 2.030, the product quality variable tolerance was 0.468 with a VIF value of 2.138, and the location variable tolerance was 0.670 with a VIF value of 1.493. The results show that the tolerance value of all variables is > 0.10 and the VIF value is < 10 , so it can be concluded that there are no symptoms of multicollinearity between the independent variables (Ghozali, 2021).

4.3.3. Autocorrelation Test

Table 14: Autocorrelation Test

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.835 ^a	.697	.687	2.07098	2.429

a. Predictors: (Constant), Price, Location, Product Quality

b. Dependent Variable: Purchase decision

(Source: Processed by researchers, 2025)

The Durbin Watson value is 2.429 with a significance level of 0.005, $N = 96$ and the number of K (number of variables) = 4, then the dL value = 1.603, $dU = 1.732$, $dL = 4 - 1.603 = 2.397$, $dU = 4 - 1.732 = 2.268$ so that from the calculations that have been carried out, the dW value is known to be 2.429, then the dW value lies between $4 - dL < dW < 4$. So the results state that there is no autocorrelation.

4.3.4. Heteroscedasticity Test

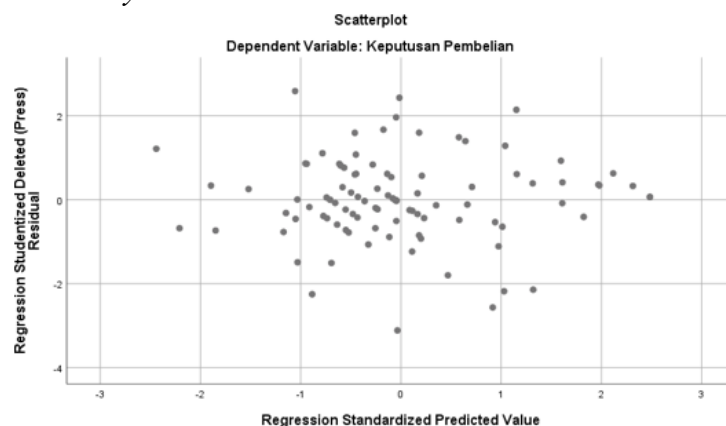


Figure 3: Heteroscedasticity Test (Source: Processed by researchers, 2025)

The scatterplot graph between ZPRED (predicted value) and ZRESID (residual value) shows a scattered pattern, with points randomly spread above and below the number 0 on the Y axis, so that in this test it can be concluded that there is no heteroscedasticity in the regression model. This means that the regression

model is suitable for providing predictions of purchasing decisions based on price, product quality and location for frozen food products at Mamot Foodmart.

4.3.5. Multiple Linear Regression Equation Test

Based on the results of the multiple linear regression equation, the following linear regression equation model can be obtained:

$$Y = 0,747 + 0,155X_1 + 0,485X_2 + 0,216X_3 + e$$

Based on the equation model above, it can be stated that the constant value (α) is 0.747, meaning that if the price (X_1), Product Quality (X_2), location (X_3) are assumed to be zero, then the purchasing decision (Y) has a value of 0.747. The regression coefficient of the price variable (β_1X_1) is 0.155, meaning that if the price (X_1) increases by 1%, the purchasing decision (Y) will also increase by 0.155. The regression coefficient of the Product Quality variable (β_2X_2) is 0.485, meaning that if the influence of Product Quality (X_2) increases by 1%, the purchasing decision (Y) will also increase by 0.485. The regression coefficient of the Location variable (β_3X_3) is 0.216, meaning that if the influence of Location (X_3) increases by 1%, the purchasing decision (Y) will also increase by 0.216.

4.4. Hypothesis Testing

4.4.1. t-Test (Partial)

Table 15: Partial t-Test

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
(Constant)	.747	2.220		.336	.737
Price	.155	.083	.153	1.870	.065
Product Quality	.485	.070	.578	6.898	.000
Location	.216	.070	.217	3.101	.003

According to Ghozali (2021), the criteria for accepting or rejecting a hypothesis are:

- If the calculated t value is less than the t table value with a significance value of > 0.05 , then H_a is rejected, indicating there is no significant effect between the independent variable (X) and the dependent variable (Y).
- If the calculated t value is greater than the t table value with a significance value of < 0.05 , then H_a is accepted, indicating there is a significant effect between the independent variable (X) and the dependent variable (Y).

The t-test in this study uses a significant value of 5% or 0.05 with the t-table formula $= t(a/2; n-k-1) = t(0.025; 92) = 1.986$, so the hypothesis test for each independent variable can be stated as follows:

1. The Influence of Price on Purchase Decisions for Frozen Food Products at Mamot Foodmart

Based on the test results, the calculated t-value is $1.870 < t\text{-table } 1.986$ and the sig. value is $0.065 > 0.05$. Therefore, H_a is rejected and H_0 is accepted. Therefore, price does not have a partial positive and insignificant effect on purchasing decisions.

2. The Influence of Product Quality on Frozen Food Purchase Decisions at Mamot Foodmart

Based on the test results, the calculated t-value is $6.898 > t\text{-table } 1.986$, and the sig. $0.000 < 0.05$. Therefore, H_a is accepted and H_0 is rejected. Therefore, product quality has a partial, positive and significant effect on purchasing decisions.

3. The Influence of Location on Frozen Food Purchase Decisions at Mamot Foodmart

4. Based on the test results, the calculated t-value is $3.101 > t\text{-table } 1.986$, and the sig. value is $0.003 < 0.05$. Therefore, H_a is accepted and H_0 is rejected. Therefore, location has a partial, positive and significant effect on purchasing decisions.

4.4.2. F Test (Simultaneous)

Tabel 16. F- test (Simultaneous)

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	908.980	3	302.993	70.813	.000 ^b
Residual	393.645	92	4.279		
Total	1302.625	95			

a. Dependent Variable: Purchase decision

b. Predictors: (Constant), Location, Price, Product Quality

(Source: Processed by researchers, 2025)

According to Ghozali, (2021) the criteria used to test acceptance or rejection of a hypothesis are:

1. It is said to be significant if <0.05 of the calculated F value $> F$ table, all independent variables (X) are stated to have an effect on the dependent variable (Y).
2. It is said to be significant if >0.05 of the calculated F value $< F$ table, all independent variables (X) are stated to have no effect on the dependent variable (Y).

The criteria for the F test are carried out with a significance level of 5% or 0.05 where the F value for F table = $F(k - 1; n - k) = (3; 92) = 2.70$ with a significant value of 0.000. Based on table 4.20 above, the calculated F value is 70.813. The F table obtained is 2.70, so the calculated F value $> F$ table or $70.813 > 2.70$ and is significant at 0.000 which means the number is smaller than 0.05 so it can be concluded that there is a positive and significant influence between the independent variables of price, product quality and location together on the dependent variable, namely purchasing decisions.

4.5.Determinant Coefficient

Table 17. Determinant Coefficient

R	R Square	Adjusted R Square	Std. Error of the Estimate
.835 ^a	.698	.688	2.06851

a. Predictors: (Constant), Location, Price, Product Quality

(Source: Processed by researchers, 2025)

The test results show the coefficient of determination of the Adjusted R Square value of 0.688 or 68.8%. So it can be stated that the dependent variables of price, product quality, and location can influence the dependent variable, namely purchasing decisions, by 68.8%. While the remaining 31.2% is influenced by other variables not studied by this researcher such as physical evidence, worth of mouth, service quality, promotion. The correlation results show 0.835 which means the relationship between variable X and Y can be said to be very strong, because the R value is in the number (0.80 - 1,000). So it can be concluded that there is a very strong relationship from the independent variable (X) to the dependent variable (Y) or the variable price, product quality, location to purchasing decisions.

5. Conclusion

The conclusion of the study on the influence of price, product quality, and location on purchasing decisions for frozen food products at Mamot Foodmart Bekasi is as follows:

1. Price has no partial, positive, and is not significant on frozen food purchasing decisions at Mamot Foodmart in Bekasi. This finding is evident from the results of the t-test, with a calculated t-value of $1.870 < t\text{-table of } 1.986$ and a significance value of $0.065 > 0.05$. Therefore, H_a is rejected and H_0 is accepted.
H1 = Price has no partial, positive, and insignificant effect on purchasing decisions.
2. Product quality has a partial, positive and significant influence on the purchasing decision for frozen food at Mamot Foodmart in Bekasi. Product quality is the variable with the greatest influence on purchasing decisions. This is evident from the results of the hypothesis test using a t-test, which shows a calculated t of $6.898 > t\text{-table } 1.986$ and a significance value of $0.000 < 0.05$. Therefore, H_a is accepted and H_0 is rejected.
H2 = Product quality has a partial, positive and significant influence on purchasing decisions.
3. The location variable has a partial, positive and significant influence on the purchasing decision for frozen food products at Mamot Foodmart in Bekasi. This is evident from the results of the hypothesis test using a t-test, which shows a calculated t of $3.101 > t\text{-table } 1.986$ and a significance value of $0.003 < 0.05$. Therefore, H_a is accepted and H_0 is rejected.
H3 = Location has a partial, positive and significant influence on purchasing decisions.
4. Simultaneously, there is a positive and significant influence on the variables of price, product quality, and location on the decision to purchase frozen food products at the Mamot Foodmart store in Bekasi with f count $> f$ table or $70.813 > 2.70$ and a significance value of $0.000 < 0.05$, thus stating that H_a is accepted and H_0 is rejected. The results of the correlation test of determination (R^2) with a value of 0.688 can be concluded that Price, Product Quality, and Location contribute 68.8% in influencing purchasing decisions, and the remaining 31.2% is influenced by other variables such as physical evidence, word of mouth, service quality, and promotions.
H4 = Price, Product Quality, and Location simultaneously have a positive and significant influence on purchasing decisions.

5.1. Research Implication

The implications of this research are that it can be used to improve strategy and optimize sales at Mamot Foodmart.

The originality of this study lies in the results, which differed in that price was not a significant factor in purchasing decisions. This means that consumers do not consider price a primary factor and instead prioritize product quality when making decisions.

5.2. Limitations of Research and Suggestions

This study has limitations in terms of time constraints, variables used and research methodology. There are only three variables used in this research: price, product quality, and location. Future researchers are recommended to add other variables, such as physical evidence, word-of-mouth, service quality, and promotion to complement the findings. Further research is also recommended to use interview methods to confirm the questionnaire results, to obtain more accurate and comprehensive research results and strengthen the argument.

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THE IMPACT OF GOVERNMENT SPENDING ON ECONOMIC GROWTH IN MALAYSIA

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Abstract

This study is motivated by how government spending affects economic growth in Malaysia. The goal is to understand if spending in key areas helps the country grow in the long-term development. The study examines secondary data from 1990 to 2022 to explore how government expenditures on housing, transport, healthcare, and education affect Malaysia's economic growth. In addition, unemployment rate (UNEM) and foreign direct investment (FDI) are included as control variables to account for external economic factors that may influence GDP. These are believed to have a strong relationship to Malaysia's GDP. The econometric tests used in the methodology include the unit root tests (ADF, PP, and KPSS) to evaluate stationarity, the Johansen cointegration test to identify long-term relationships, Vector Error Correction Model (VECM) to capture short-term and long-term dynamics and the Variance Decomposition and Impulse Response Function (IRF) analyses to investigate the strength and direction of variable interactions. The results show that government spending and economic growth are connected in both the short and long term. Based on the variance decomposition, spending on transport and education has the biggest influence on changes in GDP over time. The impulse response results also show how these factors affect each other. These results offer important policy implications, which suggesting that Malaysia's economic goals may be better achieved through more strategic and targeted public spending.

Keywords: Government expenditure, Economic growth, Fiscal Policy

JEL Classification: H3, I15, O40

EVENT QUALITY ANALYSIS TOWARDS VISITORS AT MIYAKO ISLAND ROCK FESTIVAL JAPAN 2023

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Abstract

This investigation seeks to elucidate the extent to which the determinants of service quality and event quality, as administered by festival organizers, impact the decision-making processes of attendees at the Miyako Island Rock Festival 2023. The Miyako Island Rock Festival, which has its origins in Japan, has been conducted annually since the year 2005. This research employed a sample comprising 357 respondents. Subsequently, the analytical methodology applied in this research involved the utilization of tests executed on SPSS version 26. The findings of this study reveal that service quality exerts a significant influence on the visiting decisions at the Miyako Island Rock Festival 2023, that event quality similarly impacts these decisions, and that both service quality and event quality serve as critical indicators of visiting decisions at the Miyako Island Rock Festival 2023. The conclusions drawn from this research underscore the necessity of enhancing services such as the provision of event information, maintenance of cleanliness, and assurance of security at the Miyako Island Rock Festival. Concurrently, the evaluation of the event concept for the Miyako Island Rock Festival, specifically regarding the service rendered by event crews and the performances by guest artists, possesses the potential to attract an increased number of visitors and to augment tourist attendance at Miyako Island.

Keywords: event quality, Japan Festival, Miyako Island

1. Introduction

Miyako Island, situated within the Okinawa archipelago of Japan, presents an exceptional natural landscape characterized by pristine sandy shores and crystalline azure waters, rendering it a favored retreat for numerous tourists. It constitutes a subtropical island distinguished by its exceptional environmental, health-related, and ecological attributes. The island is remarkable for its sequestered geographical location, which significantly impacts multiple facets of life and the academic investigations undertaken therein. This examination will delve into the island's health-related obstacles, environmental circumstances, and biodiversity, utilizing findings from contemporary research conducted on the island. The island's abundant biological diversity and the critical significance of preservation initiatives (Kobayashi et al., 2021; Nakamura et al., 2019). In addition to its inherent natural allure, the island is renowned for hosting a myriad of vibrant cultural festivals, among which the Miyako Island Rock Festival stands out prominently. Festivals, in their essence, play an integral role within the events sector due to their intrinsic connection to the local cultural heritage.

The Miyako Island Rock Festival constitutes an annual musical celebration, recognized as one of the most significant and eagerly awaited festivals on Miyako Island. With an overarching theme of "save the sea, save the sky," this event has been consistently organized for nearly 15 years. However, significant challenges emerged with the onset of the COVID-19 pandemic (Severino & Silva, 2024), which impacted the global community. This will

indirectly influence the viability of the Miyako Island Rock Festival, which occurs nearly annually. Consequently, this research is deemed highly significant for the assessment of the Miyako Island event that was suspended during the COVID-19 pandemic.

According to Miyako Mainichi (Daily Miyako), each year this event features a distinct array of guest stars, which accounts for the unique experiences associated with each iteration. Ticket prices commence at 3,000 yen and extend to 6,000 yen. The audience comprises not only residents of the city of Miyako but also individuals from diverse regions across Japan and internationally. The following data has been provided by Daily Miyako. An analysis of the data reveals a notable increase in visitors starting from 2014, with attendance reaching 6,500 individuals. In 2016, the number of visitors escalated to 7,400; however, there was a subsequent decline from 2016's 7,400 visitors to 2019's 6,000 visitors, and further to 5,000 visitors in 2023. It is pertinent to note that the Miyako Island Rock Festival was suspended from 2020 to 2022 due to the Covid-19 pandemic, which prompted an appeal from the Japanese government to restrict gatherings and specific events.

Nevertheless, commencing in 2022, the Japanese government promulgated new regulations aimed at facilitating the resumption of activities in the post-Covid-19 era. Although the Miyako Island Rock Festival occurs annually, one of the significant challenges confronting the organizers is ensuring that the event consistently attracts a substantial number of visitors.

In accordance with the findings of Armbrecht (Armbrecht et al., 2021), events are regarded as pivotal catalysts for the advancement of positive community development, specifically through enhancing social cohesion, stimulating economic growth, and attracting tourism. Festivals represent a significant subset of activities within the event industry, frequently occurring due to their intrinsic connection to the local community. The sustainability of the Miyako Island event has the potential to impact the volume of tourist visitation to the island. This investigation will identify and scrutinize the effects of visitor satisfaction and event quality at the Miyako Island Rock Festival. The objective of the Miyako Island Rock Festival study is to evaluate the sustainability of the event, which may influence the quality and frequency of tourist visits to Miyako Island, particularly given that this inquiry has not been previously conducted.

2. Hypothesis Development

2.1. Literature Review

Festivals, colloquially referred to as Matsuri in the Japanese lexicon, serve the significant purpose of venerating deities or sacred spirits. As articulated by Gonick (Gonick et al., 2003), Matsuri constitutes a ceremonial practice that commemorates the collective experiences of the Japanese populace in addressing an array of existential challenges they encounter (Indrahti & Meirina, 2021). Despite the rapid advancement of technology within Japan, the observance of Matsuri remains a vibrant and active tradition to this present day (Botti et al., 2018). Through the organization of events and festivals, it has the potential to draw a substantial number of tourists and enhance the economic conditions of the adjacent community, in addition to refining strategies in diverse tourism locales (Akhundova, 2024). The organization of events and festivals can substantially augment tourism and improve the economic circumstances of local communities. These gatherings function as strategic instruments for luring tourists, facilitating cultural exchange, and promoting economic advancement. By attracting substantial numbers of attendees, festivals have the capacity to invigorate local economies, generate employment prospects, and strengthen the cultural identity of a region.

The subsequent sections examine the diverse and multifaceted effects of events and festivals on tourism and local development (Santosa et al., 2024). Nevertheless, the figures are gradually exhibiting an upward trajectory over time, and it is posited that these figures will continue to rise in the forthcoming years. The augmentation in the volume of tourist arrivals may facilitate the reestablishment of employment prospects for the local populace. In conjunction with tourist attractions, events are also witnessing substantial advancement characterized by a unique aspect that aligns with contemporary trends, events constitute one of the most favored activities among adolescents. The spectrum of event activities encompasses various forms, including MICE industry gatherings, festivals, and others. Event activities, in essence, represent a category of undertakings that are executed in collectives, with the content of such activities meticulously orchestrated (U. Maranisya & Aprilia, 2025; U. M. Maranisya, 2021). In the execution of high-caliber event-related activities, several factors warrant careful consideration, as the overall success of an event is contingent upon the caliber of the event itself. Armbrecht posits that the conceptualization of experience quality encompasses endeavors to integrate both functional and emotional dimensions when assessing experiences within the framework of an event, and the quality of experience additionally pertains to the appraisal of functional quality, specifically the caliber of service and the hedonic dimensions that emerge from consumer interactions alongside their competencies with the facets offered by the event, including its inherent challenges (Armbrecht et al., 2021; Mehmood, 2023).

The Miyako Island Rock Festival was annulled as a consequence of the Covid-19 pandemic, prompting an initiative from the Japanese government to impose restrictions on gatherings and specific events. Nevertheless, commencing in 2022, the Japanese government promulgated new regulations aimed explicitly at facilitating the resumption of activities in the post-Covid-19 era. Although the Miyako Island Rock Festival is an annual event, one of the significant challenges that the organizers must confront is the anticipated influx of visitors in the subsequent year, which had not occurred for three years due to the pandemic, particularly by enhancing the overall quality of the Miyako Island Rock Festival experience. Four fundamental elements exist, specifically physical quality, event quality, interaction quality, and measurable quality, which are essential for the evaluation of event quality (Augustyn et al., 2022).

In accordance with Parasuraman's theoretical framework, there exist five dimensions that can be employed to assess service quality, specifically Tangibles, Empathy, Reliability, Responsiveness, and Assurance (Augustyn et al., 2022; Hancock et al., 2017; Nyeck et al., 2017). Physical Evidence (tangible) refers to the manifestation of the services provided during the event, which significantly influences the relationship between service quality and participant loyalty within the context of the business events being analyzed, thereby elucidating a positive correlation between the caliber of service and the loyalty demonstrated by participants. Reliability pertains to the dimension of service that encompasses the promptness, accuracy, and ability to disseminate information, thus enhancing the trust accorded by attendees. Responsiveness denotes the critical manner in which the event organizers articulate the processes and mechanisms that govern the event to the attendees. Assurance signifies the commitment of the organizers to ensure that the standards of hygiene and safety provided to participants are deemed satisfactory. The organizer exhibits a capacity to manifest a profound sense of empathy or focused attention towards participants, thereby

guaranteeing that they experience a sense of support when faced with difficulties pertaining to the service.

The process of making a decision to attend an event involves consumers engaging in a series of choices predicated upon specific considerations (U. Maranisya et al., 2023). The act of selecting an event to attend fundamentally constitutes a “purchase” decision, which entails the expenditure of financial resources to achieve a level of satisfaction. In the process of determining whether to participate in an event, prospective attendees frequently evaluate the array of options presented to them. As articulated in the story of Augustyn (Augustyn et al., 2022) self-satisfaction pertains to an individual's emotional response either positive or negative derived from juxtaposing the actual performance (outcomes) of a product or service against established expectations; when the performance aligns with customer anticipations, satisfaction is attained, whereas a discordance results in dissatisfaction. Elevated expectations from visitor toward event organizers necessitate the enhancement and evolution of services, enabling them to adapt to contemporary trends, thereby fostering a sense of fulfillment among visitors. The sentiment of satisfaction experienced by attendees is influenced both directly and indirectly. Based on data, it is evident that comprehending the rationale behind the decision to attend the Miyako Island Rock Festival poses significant challenges. Consequently, drawing from the identified issues, the researcher has observed a decline in tourist attendance at the Miyako Island Rock Festival. In 2023, the researcher undertook an investigation focused on the visitors of the Miyako Island Rock Festival, aiming to identify the determinants that shape tourists' decisions to participate in the event during that year.

3. Methodology

This investigation was undertaken on Miyako Island, situated within the Okinawa archipelago of Japan. In the current investigation, the primary subject of analysis was delineated as the participants who engaged in the Miyako Island Rock Festival 2023. Within this examination, the designated demographic consisted of the individuals who were present at the Miyako Island Rock Festival event in the year 2023, specifically amounting to 5,000 individuals throughout the two-day span of the festival. The requisite sample size ascertained for this scholarly inquiry was 357 individuals, in accordance with the parameters established by Krejcie and Morgan (Sofyani, 2023). the methodological approach utilized for the acquisition of data incorporates observational techniques, including interviews and questionnaires, which often produce cursory research findings. A method of data collection is employed wherein participants are solicited to respond to inquiries posed by the investigator, subsequently analyzing the outcomes of the participants' responses through the utilization of the SPSS software. The responses will be subjected to quantification utilizing the Likert scale. This research employs a non-random sampling methodology. In the present investigation, the sampling methodology employed a purposive sampling technique, which entails the selection of a sample predicated on specific criteria, with the criterion being the attendees of the 2023 Miyako Island Rock Festival.

4. Result and Discussion

Following the subsequent findings pertain to the validity assessment conducted with a comprehensive sample comprising 357 participants. These participants are individuals who attended the 2023 Miyako Island Rock Festival. The findings of the validity assessment were conducted based on the outcomes of the administered questionnaire as delineated below. The level of interest exhibited by tourists pertaining to the Miyako Island Rock

Festival event was quantified at an average of 4.63. The degree of satisfaction expressed by attendees concerning the services rendered by the event personnel achieved an average score of 4.61. Moreover, the participants of the event demonstrated a commendable inclination to recommend the Miyako Island Rock Festival to their acquaintances, attaining an average rating of 4.70. Additionally, as a result of the validity assessment conducted on 14 measurement instruments, all were determined to be valid.

Table 1. Validity Test Results

Variable	r-Count	r-Table	Code	Information
Quality of Service (X1)	0.673	0.103	X1.1	Valid
	0.565	0.103	X1.2	Valid
	0.606	0.103	X1.3	Valid
	0.660.	0.103	X1.4	Valid
	0.661	0.103	X1.5	Valid
Event Quality (X2)	0.557	0.103	X2.1	Valid
	0.675	0.103	X2.2	Valid
	0.710.	0.103	X2.3	Valid
	0.709	0.103	X2.4	Valid
Decision to Visit (Y)	0.756	0.103	Y.1	Valid
	0.582	0.103	Y.2	Valid
	0.561	0.103	Y.3	Valid
	0.716	0.103	Y.4	Valid
	0.497	0.103	Y.5	Valid

Source: Processed data (2025)

According to the findings of the study, each variable, specifically service quality with a coefficient of 0.625, event quality with a coefficient of 0.761, and visiting decision with a coefficient of 0.615, exhibits a value exceeding the acceptable threshold of the Cronbach alpha, which is established at 0.60, thereby affirming the reliability of all variables under investigation.

Table 2. Reliability Test Results

Variables	Cronbach Alpha	Information
Service Quality (X1)	0.625	Reliable
Event Quality (X2)	0.761	Reliable
Visitor Satisfaction (Y)	0.615	Reliable

Source: Processed data (2025)

The objective of reliability testing within a research study is to ascertain the dependability of the utilized variables. This evaluation is executed through statistical methods employing SPSS, specifically by juxtaposing the Cronbach alpha coefficients of each variable against a predetermined minimum threshold of 0.60 for the Cronbach alpha. According to the aforementioned table, it elucidates that the Cronbach alpha coefficient for the Service Quality variable (X1) is calculated to be 0.625, for Event Quality (X2) is determined to be 0.761, and for Visiting Decision (Y) is found to be 0.616. Consequently, it can be inferred that the Cronbach alpha coefficients for all variables exceed the threshold of the minimum Cronbach alpha, specifically, the value is greater than 0.60, thereby indicating that all items within each utilized instrument can be classified as reliable.

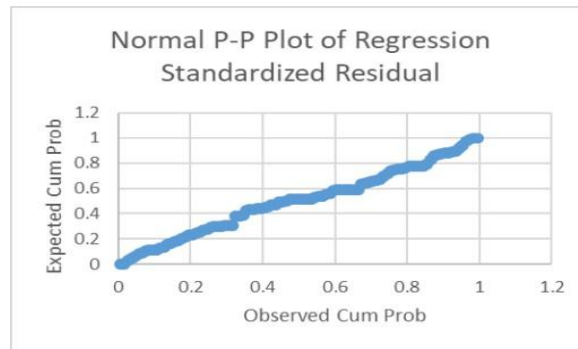


Figure 1. Histogram Graph of Normality Test Results
Source: Processed data (2025)

In light of the findings presented in the aforementioned image, it is evident that the test indicates the data points are closely aligned with the diagonal line, exhibiting a nearly linear correlation. Therefore, it can be inferred that the residuals conform to a normal distribution as delineated in the research study. Scholars additionally performed a multicollinearity assessment on the two independent variables examined in this research, specifically Service Quality and Event Quality. Presented below are the findings of the multicollinearity assessment:

Table 3. Multicollinearity Test Results		
Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Quality of Service	0.710	1,390
Event Quality	0.719	1,392

Source: Processed data (2025)

The Variance Inflation Factor (VIF) and Tolerance metrics presented in this analysis serve as significant indicators for the assessment of multicollinearity, which pertains to the interrelationship among independent variables. The findings illustrated in the preceding table demonstrate that each independent variable includes the quality of service (X1) with a corresponding value of 0.157. Furthermore, the variable representing event quality is quantified at 0.150 (X2). These variables exhibit a Collinearity Statistic characterized by a VIF value that remains below the threshold of 10, alongside a Tolerance value that exceeds 0.1. Consequently, it can be inferred that this investigation does not exhibit any evidence of multicollinearity. The outcomes of the F-test conducted in this research elucidate the methodology for assessing the significance of the simultaneous impact of the independent variables, namely Service Quality and Event Quality, on the dependent variable identified as Visiting Decision. The ensuing section presents the findings of the F-test aimed at evaluating the effects of the independent variables on the dependent variable:

Table 4. Results of the Determination Coefficient Test			
R	R Square	Adjusted R Square	Std. Error of the Estimate
.684a	0.468	0.465	1.390

Source: Processed data (2025)

Furthermore, as delineated in the subsequent table, the R-squared coefficient (R^2) is quantified at 0.465, which corresponds to 46.5%. Hence, one can deduce that the extent of the impact exerted by the variables of Service Quality and Event Quality on the decision-making process regarding visitation is 0.465 or 46.5%, whereas the residual value of 0.535, equating to 53.5%, is attributable to extraneous factors that were not examined within the confines of this research.

Tabel 5. T-Test Result

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.	
	B	Std. Error	Beta	t	Sig.
(Constant)	16.573	1.302		12.725	12.725
Quality of Service	0.157	0.060	0.158	2.601	2.601
Event Quality	0.150	0.072	0.127	2.092	2.092

Source: Processed data (2025)

Table 5 shows the t-test results for a model measuring the impact of service quality and event quality on the decision to visit. The t-values for both variables, 2.601 for service quality and 2.092 for event quality, are both greater than the critical t-value (generally around 1.96 for a 5% significance level), indicating that both variables significantly affect the decision to visit. All results show strong significance, with significance values (Sig.) less than 0.05, proving that service quality and event quality play an important role in influencing visitors' decisions.

Tabel 6. F-Test Result

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	600.461	2	300.231	155.471	.000b
Residual	683.612	354	1.931		
Total	1284.073	356			

Source: Processed data (2025)

In accordance with the aforementioned calculation outcomes, the derived F statistic is 155.471, whereas the critical value of F from the table is 3.04. This indicates that the value of 155.471 exceeds 3.090 or Fcount surpasses Ftable at a significance level of 0.000, which is less than 0.05; thus, it can be inferred that there exists a significant collective impact of the variables of Service Quality and Event Quality on the Decision to Visit.

4.1. Discussion

A) Quality of Service on Decision to Visit Miyako Island Rock Festival.

According to the empirical findings derived from the assessments conducted in this investigation, it can be inferred that the Service Quality variable (X1) exerts a significant influence on the Visitor Satisfaction variable, indicating that enhancements in service delivery at the event correlate positively with elevated levels of visitor satisfaction at the Miyako Island Rock Festival. This assertion is substantiated by the statistical outcomes pertaining to the location variable, which exhibited a t-count value of 1.649 alongside a significance threshold of 0.000, a value that is demonstrably less than the 0.05 benchmark ($0.000 < 0.05$). Consequently, it can be deduced that Service Quality constitutes a pivotal factor associated with the decision-making process regarding attendance at the Miyako

Island Rock Festival; this relationship implies that superior service at an event is likely to augment the volume of attendees, whereas inadequate service may lead to a decline in visitor turnout.

The quality of service provided during events represents a complex construct that includes multiple dimensions, each playing a significant role in shaping the overall experience of participants (Jayalath & Madhushani, 2019). The caliber of service rendered at events is imperative for fostering attendee satisfaction, cultivating loyalty, and generating favorable word-of-mouth, all of which are vital for the success and long-term viability of events. This discourse examines the diverse dimensions of event service quality, synthesizing findings from a range of scholarly investigations. Kang's (Kang et al., 2020) investigation revealed that the caliber of the service environment for individuals with mobility impairments exerted a statistically significant effect on caregiver satisfaction during events, which subsequently impacted caregivers' intentions regarding participation in forthcoming events. This finding implies that an enhanced service environment is essential for augmenting the overall experience for both caregivers and event. Meanwhile, as articulated by Buswell (Buswell et al., 2017), it delineates and scrutinizes the prerequisites for overseeing service quality within an industry marked by unique characteristics and obstacles. He examines case studies that demonstrate the implementation of service quality management methodologies and strategies across diverse contexts and organizations. It educates readers on the pragmatic application of service quality management within the leisure and tourism sector (Zhu et al., 2021).

B) Event Quality on Decision to Visit Miyako Island Rock Festival.

According to the empirical findings derived from the analyses performed in this investigation, it is evident that the variable pertaining to Event Quality (X2) exerts a significant influence on the Visiting Decision variable. This indicates that an enhancement in the quality and seamless execution of an event correlates positively with heightened visitor satisfaction during the Miyako Island Rock Festival. This assertion is corroborated by the observed t-count value of the location variable, which stands at 1.649, accompanied by a significance level of 0.000; this indicates that the value is indeed less than the threshold of 0.05, specifically $0.000 < 0.05$. Consequently, it can be inferred that Event Quality constitutes a pertinent factor that is intrinsically linked to the decision-making process regarding attendance at the Miyako Island Rock Festival. This is predicated on the premise that a superior and well-organized Event Quality will likely result in an increase in the number of attendees, while conversely, a poorly executed and chaotic event may lead to a decline in visitor numbers.

Event quality represents a complex domain that investigates diverse aspects of events to evaluate their efficacy and influence. It encompasses an exploration of how events can improve the perception of a destination, attendee contentment, and prospective behavioral intentions. As posited by Thomas (Thomas et al., 2024), events characterized by high quality have the potential to enhance local pride and foster a favorable perception of the host city, a consideration that is crucial for event managers engaged in the formulation of marketing strategies. Simultaneously, as posited by Senachai (Senachai et al., 2025), the caliber of events serves as a fundamental determinant of tourist satisfaction and intentions of loyalty. It augments the experiential quality at the location, and when synergistically paired with a

favorable destination image, it has the potential to foster heightened intentions for return visits and positive referrals.

The Influence of Service Quality and Event Quality on Visiting Decisions Based on the test results conducted in this study, it shows that the Service Quality Variable (X1) and Event Quality (X2) together have a Positive and significant Influence on the Decision to Visit (Y). This is supported by the results of the Simultaneous test, namely the Fcount value > Ftable or $155.471 > 3.04$ with a significance level of 0.000 where the value is smaller than 0.05 or $0.000 < 0.05$. So it can be concluded that Service Quality and Event Quality are very important factors for the Visiting Decision to attend the Miyako Island Rock Festival.

The caliber of service provided has been empirically demonstrated to exert a substantial and statistically significant impact on the decision-making processes of tourists regarding their choice of destinations, such as Malalayang Beach Walk and Bali Zoo (Gede et al., 2024). The provision of superior service is correlated with heightened levels of visitor satisfaction and an augmented probability of repeat visitation (Porajow et al., 2023). Meanwhile, as articulated by Kim (Kim, 2011), the function of service personnel is pivotal in forecasting the caliber of the event and the satisfaction of attendees, which, in turn, influences subsequent intentions to return, as evidenced in entertainment-related events.

5. Conclusion

The choice to engage with a particular tourist destination or event is profoundly shaped by the caliber of service and the inherent quality of the event itself. Service quality encompasses a multitude of dimensions, including employee conduct, accessibility, and the comprehensive experience, all of which collectively influence visitor satisfaction and their inclination to either visit or return to a site. Conversely, event quality pertains to the substance and organization of the event, which has the potential to augment the memorability and allure of the experience. Both of these elements are instrumental in determining tourists' visitation decisions, as corroborated by a plethora of studies conducted in varied contexts.

Drawing from the research undertaken, the findings of this study underscore the critical significance of enhancing services encompassing event information dissemination, hygienic conditions, and security measures at the Miyako Island Rock Festival. Concurrently, the evaluation of the conceptual framework of the Miyako Island Rock Festival, specifically regarding the provision of event crew services and the performances of guest artists, possesses the capacity to captivate a larger audience and augment tourist influx to Miyako Island.

While the quality of service and events is fundamental in shaping visitation choices, other variables such as pricing strategies, endorsements from celebrities, and tangible evidence also exert considerable influence. Furthermore, tangible evidence, encompassing the physical characteristics of a destination, significantly impacts interest levels and visitation decisions. These observations indicate that a comprehensive approach, which incorporates various elements beyond merely service and event quality, is crucial for comprehensively understanding and improving tourist visitation decisions. Future investigations could delve into additional dimensions that characterize memorable tourism experiences. Scholars may consider analyzing the impact of cultural components on the enhancement of memorable tourism experiences across diverse event types on Miyako Island.

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PENGUNGKAPAN KINERJA KEUANGAN, TEMUAN SISTEM PENGENDALIAN INTERNAL, KETIDAKPATUHAN PERATURAN PERUNDANG-UNDANGAN TERHADAP KUALITAS OPINI AUDIT DENGAN TINDAK LANJUT HASIL PEMERIKSAAN BPK

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Abstract

This study aims to analyze financial performance disclosures, internal control system findings, and non-compliance with laws and regulations in relation to audit opinion quality, as well as the follow-up actions taken by the Supreme Audit Agency (BPK). This methodology uses purposive sampling. The population and sample are the Audit Result Reports (LHP) from the Supreme Audit Agency (BPK) in the West Java Provincial Government.

Keywords: *Financial Performance, Non-Compliance with Legislation, Audit Opinion Quality, Internal Control System Findings, and Follow-up on Audit Results.*

1. Introduction

Opini audit adalah pernyataan resmi yang diberikan oleh auditor independen, yang menyatakan apakah laporan keuangan suatu perusahaan disusun secara adil sesuai dengan standar akuntansi yang berlaku dan tidak mengandung kesalahan yang signifikan. Kualitas opini audit berkaitan dengan sejauh mana opini tersebut dapat dipercaya, jujur, dan tepat dalam mencerminkan kondisi keuangan yang sebenarnya. Kualitas opini audit sangat penting karena berpengaruh terhadap tingkat kepercayaan investor, pihak kreditur, serta pihak-pihak lain yang memperhatikan laporan keuangan tersebut. Opini audit diatur oleh standar internasional seperti International Standards on Auditing (ISA) atau standar lokal yang dikeluarkan oleh Badan Pengawas Pasar Modal (Bapepam) di Indonesia.

Tantangan terbesar di bidang ini adalah bagaimana pemerintah dapat meningkatkan kualitas laporan keuangan dan memastikan kepatuhan terhadap aturan, sehingga opini audit yang dikeluarkan oleh BPK bisa lebih akurat mencerminkan kondisi sebenarnya. Penelitian sebelumnya menunjukkan bahwa meskipun ada indikator positif dalam kinerja keuangan, kelemahan dalam sistem pengendalian internal serta ketidakpatuhan terhadap peraturan hukum masih menjadi hambatan dalam mewujudkan opini audit yang baik, yaitu opini wajar tanpa pengecualian (WTP) (Siregar & Rudiansyah, 2019; Parwanto & Harto, 2017). Hal ini menunjukkan adanya perbedaan antara pengelolaan keuangan yang optimal dengan pencapaian opini audit yang baik.

2. Literature Review

2.1. Hypothesis

Pengaruh Pengungkapan Kinerja Keuangan terhadap Kualitas Opini Audit

Kinerja keuangan pemerintah daerah yang diukur melalui rasio kemandirian, efektivitas, efisiensi, dan pertumbuhan memiliki pengaruh terhadap opini audit yang diberikan oleh Badan Pemeriksa Keuangan (BPK). Dengan kata lain, semakin baik kinerja keuangan daerah, maka semakin tinggi kualitas opini audit yang diperoleh, khususnya opini Wajar Tanpa Pengecualian (WTP). Dengan demikian, jurnal ini menunjukkan bahwa kinerja keuangan daerah memiliki pengaruh yang cukup kuat terhadap kualitas opini audit, khususnya melalui kemampuan daerah untuk mandiri

secara finansial dan mempertahankan pertumbuhan pendapatan asli daerah (PAD), (Masodah Wibisono, Laina Zahra, Rino Rinaldo 2024)

Berdasarkan uraian tersebut, maka dapat disimpulkan hipotesis sebagai berikut.

H1: Pengungkapan Kinerja Keuangan berpengaruh terhadap Kualitas Opini Audit

Pengaruh Temuan Sistem Pengendalian Internal terhadap Kualitas Opini Audit

Temuan sistem pengendalian internal berpengaruh terhadap kualitas opini audit, di mana semakin sedikit atau semakin ringan temuan pengendalian internal maka semakin baik kualitas opini audit yang diterima. Hal ini menunjukkan bahwa kualitas sistem pengendalian internal dan tingkat kepatuhan hukum memiliki peran penting dalam menentukan apakah suatu entitas mendapatkan opini Wajar Tanpa Pengecualian (WTP) atau tidak. Dengan demikian, jurnal ini secara jelas menunjukkan adanya pengaruh nyata terhadap kualitas opini audit, mendukung teori bahwa pengendalian internal yang efektif terhadap laporan keuangan pemerintah daerah, (Muhammad Ramadhan Alendra, Henny Yulsiati, Anggeraini Oktarida 2025).

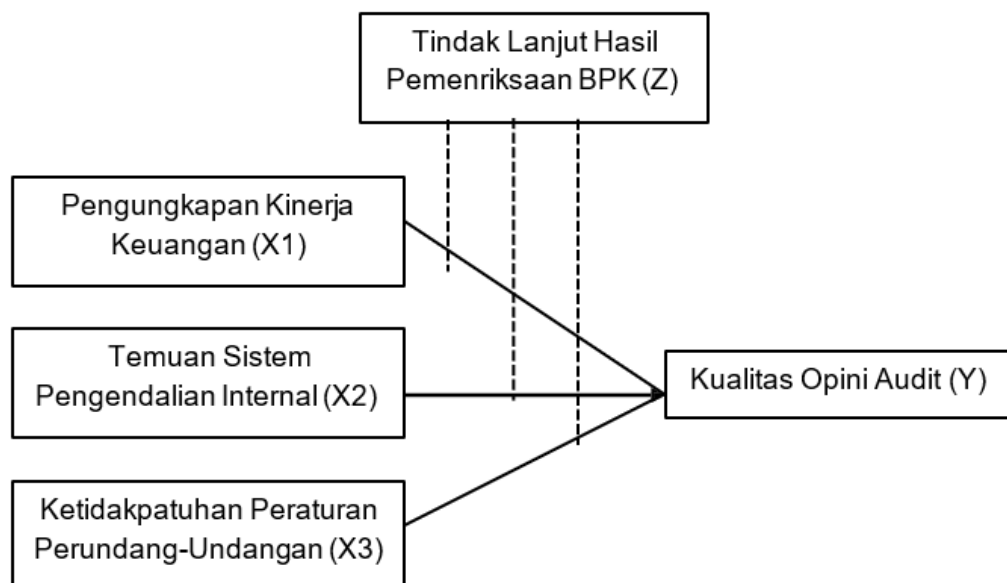
H2: Temuan Sistem Pengendalian Internal berpengaruh terhadap Kualitas Opini Audit

Pengaruh Ketidakpatuhan Peraturann Perundang-Undangan terhadap Kualitas Opini Audit

Ketidakpatuhan terhadap peraturan perundang-undangan berpengaruh negative terhadap kualitas opini audit, artinya semakin tinggi tingkat ketidakpatuhan maka semakin rendah opini audit yang diperoleh. Berdasarkan hasil pengujian yang dijelaskan dalam jurnal, ketidakpatuhan terhadap peraturan perundang-undangan terbukti berpengaruh signifikan terhadap kualitas opini audit. Hal ini menunjukkan bahwa tingkat kepatuhan hukum memiliki peran penting dalam menentukan apakah suatu entitas mendapatkan opini Wajar Tanpa Pengecualian (WTP) atau tidak. Dengan demikian, jurnal ini secara jelas menunjukkan adanya pengaruh nyata terhadap kualitas opini audit, mendukung teori bahwa kepatuhan terhadap regulasi merupakan indikator utama dalam penilaian auditor terhadap laporan keuangan pemerintah daerah. (Muhammad Ramadhan Alendra, Henny Yulsiati, Anggeraini Oktarida 2025).

H3: Pengaruh Ketidakpatuhan Peraturann Perundang-Undangan berpengaruh negatif terhadap Kualitas Opini Audit.

2.2. Research Model



Keterangan Gambar



= Variabel Penelitian



= Hubungan Antara Variabel X dan Y



= Hubungan Variabel Moderasi dengan X dan Y

X = Variabel Independen
Y = Variabel Dependen
Z = Variabel Moderasi

3. Methodology

3.1. Sample and Data Collection

Metode yang dimanfaatkan pada penelitian ini ialah pendekatan kuantitatif dan memanfaatkan data sekunder sebagai sumber informasi. Penelitian ini berfokus pada 27 Kota dan Kabupaten pada Provinsi Jawa Barat dengan periode 2021-2023. Pada penelitian ini mencakup dua macam variabel, yang mana ialah variabel independen yang berfungsi sebagai faktor yang memengaruhi, dan variabel dependen yang mana ialah akibat dari variabel independen Sugiyono (2022:39).

Penelitian ini memanfaatkan data berupa Ikhtisar Hasil Pemeriksaan Semester periode 2021-2023 yang didapat dari situs resmi www.bpk.go.id, serta Laporan Hasil Pemeriksaan atas Laporan Keuangan Pemerintah Daerah Kota di wilayah Jawa Barat untuk TA 2021-2023. Selain itu, data juga mencakup Daftar Rekapitulasi Tanggal Penyerahan LKPD dan Hasil Pemantauan Tindak Lanjut Rekomendasi Hasil Pemeriksaan pada Pemerintah Daerah periode 2021-2023 yang diperoleh melalui media center BPK RI

4. Result and Discussion

4.1. Audit Opinion

Opini audit merupakan pernyataan profesional pemeriksa mengenai kewajaran informasi keuangan yang disajikan berdasarkan kriteria kesesuaian dengan SAP, kecukupan pengungkapan, kepatuhan peraturan perundang-undangan dan efektivitas sistem pengendalian intern (Undang-undang RI No. 14 Tahun 2004, pasal 16 ayat (1)).

No	Opini Audit	Skor
1.	Wajar Tanpa Pengecualian (WTP)/ unqualified opinion	1
2.	Wajar Dengan Pengecualian (WDP)/ qualified opinion	0

3.	Tidak Wajar (TW)/ adversed opinion	0
4.	Tidak Menyatakan Pendapat (TMP)/ disclaimer of opinion	0

4.2. Financial Performance Disclosure

Rasio Efektivitas

Menurut Mohammad (2019):

$$R. Efektivitas = \frac{\text{Realisasi PAD}}{\text{Anggaran PAD}} \times 100\%$$

5. Conclusion

A) Follow-up on BPK Audit Results

Sebagai implementasi dari Pasal 19 ayat (1) UU Nomor 15 Tahun 2004 tentang Pemeriksaan Pengelolaan dan Tanggung Jawab Keuangan Negara yang menyebutkan: laporan hasil pemeriksaan yang telah disampaikan kepada Lembaga Perwakilan, dinyatakan terbuka untuk umum, BPK menyediakan laporan hasil pemeriksaan yang dapat diakses dan/atau diminta oleh publik.

- Selesai, apabila saran/rekomendasi dalam LHP telah ditindaklanjuti dan disetujui oleh pihak yang menerbitkan LHP
- Belum sesuai/ dalam proses, apabila saran/ rekomendasi telah dilaksanakan dengan memberikan dokumen/bukti pendukung tetapi belum mendapatkan persetujuan dari pihak yang menerbitkan LHP
- Belum ditindaklanjuti, apabila saran/rekomendasi belum dilaksanakan oleh pejabat yang bertanggung jawab atau
- Tidak dapat ditindaklanjuti apabila saran/ rekomendasi ternyata mengandung kelemahan sehingga tidak dapat ditindaklanjuti dengan persetujuan pihak yang menerbitkan LHP.

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THE EFFECT OF ADMINISTRATION & PROCEDURES AND HANDLING COMPLAINTS ON CUSTOMER SATISFACTION THROUGH SERVICE QUALITY (CASE STUDY AT PT PIMAIMAS CITRA)

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Abstract

The purpose of this study is to test the partial influence of Administration & Procedure, and Handling Complaints on Customer Unitisfaction directly, as well as indirect drivers through the intervening variable of Service Quality. The research approach is quantitative. Research location at the vaccine company PT Pimaimas Citra in Jakarta. The research period is only one time (on shot), namely 2025. The data collection technique is a survey. The data analysis technique uses structural equation modeling (SEM)-partial least squares (PLS). The research results show. This study found that complaint handling had the most dominant and direct influence on customer satisfaction, while administration and procedures primarily influenced perceptions of service quality. Conversely, service quality had no significant effect on satisfaction and failed to mediate the relationship between internal factors (Administration & Procedures; and Complaint Handling) and customer satisfaction. These findings suggest that improving service quality alone is insufficient to increase satisfaction unless supported by an effective, fair, and responsive complaint handling mechanism.

Keywords: *Administration & Procedures, Handling Complaints, Customer Satisfaction, Service Quality.*

1. Introduction

This research will make PT Pimaimas Citra as a research location. The research will be carried out in the context of marketing management. In this regard, the researcher chose one of the marketing problems from the perspective of customer satisfaction. Kotler and Armstrong (2015) define Customer Satisfaction as the level at which the product is perceived to be in accordance with the buyer's expectations. Consumer satisfaction with the purchase/use of services is determined by the actual performance of the product/service in relation to the buyer/expectation. Customer satisfaction levels vary. Buyers are not satisfied if the existence of the product/service is far from expectations.

The problem faced at PT Pimaimas Pimaimas Citra based on the pre-study is the declining level of customer satisfaction. The pre-study was conducted on 30 respondents, all of whom were corporate customers. Respondents were asked a questionnaire with closed ended questions which included 10 statements which are indicators of the three dimensions of Customer Satisfaction variables. The three questions relate to the following three dimensions: (1) Expectation confirmation dimension (Oliver, 1980), namely: The level of conformity between customer expectations before purchase and the actual experience after the use of the product or service. (2) Perceived value dimensions (Kotler & Keller, 2016; Zeithaml, 1988), i.e. the customer's assessment of the benefits received compared to the costs or sacrifices incurred. (3) Perceived quality dimension (1988), namely customer perception of the quality

of the product/service received, both in terms of performance, features, and reliability. The questionnaire was measured using an ordinal scale, in this case a Likert scale of 1-5 (1=Strongly Disagree, 5=Strongly Agree) (Sekaran & Bougie, 2016). The results of filling out the questionnaire by the respondents, data were processed with SPSS software version 24, the results of which are recapitulated in Table 1 below.

Table 1. Pre-Study of Customer Satisfaction

Variable	Dimension	5		4		3		2		1	
		F	(%)	F	(%)	F	(%)	F	(%)	F	(%)
Customer Satisfaction	Expectation confirmation (Oliver, 1980)	1	3,3	7	23,3	9	30,0	7	23,3	6	20,0
	Perceived value (Kotler & Keller, 2016; Zeithaml, 1988)	5	16,7	9	30,0	4	13,3	6	20,0	6	20,0
	Perceived quality (1988)	4	13,3	6	20,0	10	33,3	6	20,0	4	13,3
	Average score	3,33	11,10	7,33	24,43	7,67	25,53	6,33	21,10	5,33	17,77

Source: Preliminary study, 2025

Table 1.1 shows the results of the pre-study on PT Pimaimas Citra customers. The average percentage of respondents who strongly agree (11.10 percent) and agree (24.43 percent) is 35.53 percent; smaller than the average percentage of respondents who disagreed (21.10 percent) and strongly disagreed (17.77 percent), which was 38.87 percent. This shows that the average respondent is less positive about the extent of PT Pimaimas Pimaimas Citra. provide Customer Satisfaction according to the patient's expectations. Based on the results of the pre-study, it can be concluded that if you look at the respondents' perception of Customer Satisfaction, it shows that the average respondent is not satisfied to become a customer of PT Pimaimas Pimaimas Citra.

Since the results of the pre-study show that there is a mistake in Customer Satusfaction (CS), the CS variable is used as a vocal variable. There are a number of variables that affect CS. Among them is Administration & Procedures which have been proven to affect CS by research by Noviana ert al (2023) and Gao (2023). Administration & Procedure reflects the internal aspects of service process quality, namely efficiency, transparency, and procedural clarity that have an impact on customer perception of service quality (Parasuraman, Zeithaml, & Berry, 1988).

The CS variable is also proven to be influenced by Handling Complaints as evidenced by Listiana et al (2023) and Adzhigalieva et al (2022). Complaint Handling reflects the aspect of service recovery quality, which is an indicator of the organization's ability to respond to service failures and maintain long-term relationships (Tax, Brown, & Chandrashekar, 1998). Furthermore, CS is proven to be influenced by the Service Quality variable, as evidenced by Complaints as evidenced by Zygiaris et al (2022) and Ali et al (2021). Theoretically, Service Quality is seen as the final outcome of the overall service experience based on the theory of expectation-disconfirmation (Oliver, 1980).

The state of the art of this model lies in the integration of internal process dimensions

and complaint management as a dual determinant of service quality which then mediates the influence on customer satisfaction.

Most previous studies have analyzed service quality on customer satisfaction directly (Parasuraman et al., 1988; Zeithaml et al., 2017), but this model expands the framework by adding two organizational factors (administration & complaint handling) as upstream determinants of service quality. Thus, this research is on SOTA which: (i) Connects internal process management with customer perception. (ii) Placing service quality as a central mediation mechanism. (iii) Adopting an integrative approach that is relevant to the era of service excellence and customer experience management (Ladhari, 2009; Zeithaml et al., 2017).

Research research in this study is: (i) Strengthening the understanding that administrative quality and complaint system are an integral part of the service quality dimension. (ii) Improvement of the service quality-satisfaction linkage model by adding internal organizational factors. (iii) To be a bridge between the theory of service marketing and the theory of public or corporate operational management.

Based on this background, the purpose of this study is to test the partial influence of Administration & Procedure, and Handling Complaints on Customer Satisfaction directly, as well as indirect drivers through the intervening variable of Service Quality.

2. Hypothesis development

2.1. Research framework

The state of the art of this model lies in the integration of internal process dimensions and complaint management as a dual determinant of service quality which then mediates the influence on customer satisfaction.

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Based on SOTA and research novelty, this research framework is the causality relationship between four variables and Customer Satisfaction as a focal point, in this case it is used as a dependent variable. Then two variables (Administration & Procedure, and Complaint Handling) were used as independent variables, and one variable (Service Quality) as the intervening variable.

2.2. Relationship between Variables

H1: Administration & Procedures (X1) has a positive and significant effect on Service Quality. Research by Noviana et al (2023) shows that the quality of administrative service quality has a significant effect on service satisfaction which is close to the concept of service quality). Gao (2020) through the research "Understanding the Impact of Administrative Service Quality on Satisfaction and Loyalty" found that the quality of university administrative services affects satisfaction which then impacts loyalty this implies that the administrative & procedural aspects are related to the perception of service quality.

H2: Handling Complaint (X2) has a positive and significant effect on Service Quality.

Research by Aboalghanam et al. (2024) in "An analysis of service quality and complaint handling in the Jordanian healthcare sector" discusses that complaint management practices are part of quality policies related to service quality.

H3: Administration & Procedures (X1) has a positive and significant effect on Customer Satisfaction. Research by Noviana, Darman, & Kuku (2023) found that administrative service quality has a significant effect on service satisfaction, which can be considered as an aspect of customer service satisfaction. A study by Gao (2020) on university administration and concluded that the quality of administrative services affects student satisfaction.

H4: Handling Complaint (X2) has a positive and significant effect on Customer Satisfaction. Research by Listiana et al (2023) in the study "The Impact of Complaint Handling and Service Quality on Customer Satisfaction..." found that Complaint Handling has a positive and significant effect on customer satisfaction. Research by Adzhigalieva et al. (2022) in "The Influence of Complaint Handling and Service..." concluding that complaint handling positively affects customer satisfaction.

H5: Service Quality (M) has a positive and significant effect on Customer Satisfaction. A study by Zygiaris et al. (2022) in "Service Quality and Customer Satisfaction in the Post Pandemic World" found that service quality has a significant positive relationship with customer satisfaction. Research by Ali et al (2021) in the Impact of Service Quality on the Customer Satisfaction shows a significant influence between service quality and customer satisfaction in online platforms / online meetings.

H6: Service Quality plays a role in the influence of Administration & Procedures on Customer Satisfaction. The research of Aboalghanam et al. (2024) examined mediation in the context of quality management (including the complaint handling aspect) and found that service quality mediation in the relationship between quality policy and customer retention — this approaches the concept that service quality mediates the effects of internal/organizational variables on customer outcomes. The Osarenkhoe study (2017) examines that service quality mediates the relationship between complaint behavior and customer loyalty, which shows an approach to mediating service quality variables in the context of complaint behavior on customer outcomes.

H7: Service Quality plays a role in the influence of Handling on Customer Satisfaction. The research of Adzhigalieva et al. (2022) shows that complaint handling affects customer satisfaction, and also discusses models that allow for intermediary variables (such as quality of service) in these relationships. Research by Aboalghanam et al. (2024) noted that in the TQM and complaint management models, service quality acts as a "link" between organizational practices and customer outcomes (including retention), which implies a mediation function.

3. Research Model

Based on the research objectives, previous research studies, research framework, and hypotheses, a research model was prepared as presented in Figure 1.

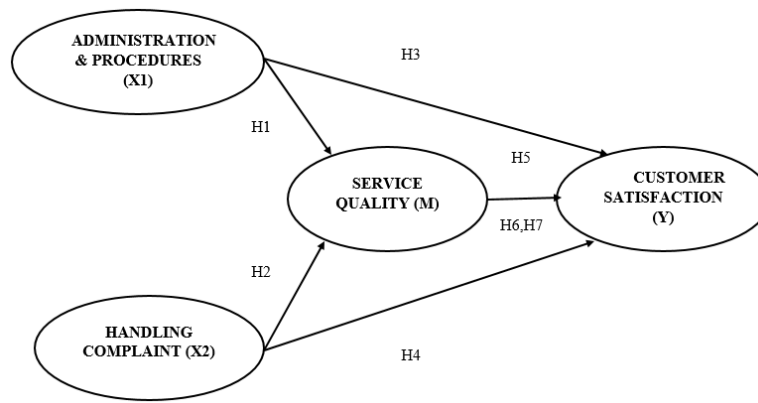


Figure 1. Research Model
Source: Research results (2025)

3.1. Methodology

3.1.1. Sample and Data Collection

The research population is all sales personnel at the head office (Jakarta) of PT Pimaimas Citra which totals 120 employees. The purposive sampling technique is because the researcher determines the population criteria, namely only employees who have the status of salespeople (Sugiyono, 2013). The data of this study is primary data. Meanwhile, the primary data collection technique uses the survey method.

3.1.2. Measurement

Customer Satisfaction variable. This variable is operationalized into three dimensions, namely expectation confirmation (Oliver, 1980), perceived quality (Zethaml, 1988), and perceived value (Zethaml, 1988; Kotler & Keller, 2016). The Administration & Procedure variables are operationalized into five dimensions, namely the clarity of payment procedures, the number of administrative documents submitted, the efficiency of the payment administration process, the availability of payment automation systems, and the ability to manage cash flow (Smith et al., 2020; Chen & Lee, 2022). The Complaint Handling variable is operationalized into six dimensions (responsiveness, empathy, fairness, communication, resolution, compensation) (Maxham & Netemeyer, 2002). Service Quality. This variable consists of five dimensions, namely tangible, responsiveness, assurance, empathy, and reliability (Parasuraman et al., 1985).

The four variables were rationalized into 40 research indicators which were then modified into research instruments. The questionnaire was measured using an ordinal scale, in this case the Likert Scale 1-5 (1=Strongly Disagree, 5=Strongly Agree) (Sekaran & Bougie, 2016). The instrument test used Confirmatory Factor Analysis (CFA) (validity test), and Cronbach's Alpha (reliability test).

3.2. Data analysis

The data analysis technique uses verifiable analysis using structural equation modeling -partial least square or SEM-PLS (Hair et al., 2014). An outer model test, and an inner model test, were carried out, before finally a hypothesis test was carried out using the t-test and the p-value test. A hypothesis is stated to have a significant effect if the t-value is calculated > a critical t-value of 1.96; and P-value < alpha value of 0.05. Meanwhile, considering that the model of this study is path analysis, by examining the role of intervening variables, this analysis also examines the effects of mediation. Preacher and Hayes (Hair et al., 2014: 223-224) developed a mediation effect test through the Variance Accounted For (VAF) method. The

conclusion of the role of the mediation variable is divided into three levels, namely: (i) Full mediation), if the VAF value is above 80%. (ii) Partial mediation), if the VAF value is between 20% to 80%. (iii) No mediation) if the VAF value is less than 20% (The VAF value is calculated by dividing the value of the indirect effect by the total effect (direct effect + indirect effect) x 100% (Hair et al., 2014: 223-224).

4. Results and discussion

The research results include answers to the research objectives regarding direct effects (H1 to H5) and indirect effects. Table 2 shows the results of hypothesis testing for the direct effect (H1 to H5).

Table 2. Direct Influence Hypothesis Testing

Hypothesis Model	Path Coefficient	T Statistics	P Values	Hypothesis Testing
H1- Administration & Procedures (X1) -> Customer Satisfaction (Y)	0,150	0,110	0,913	Not Supported
H2- Handling Complaint (X2) -> Customer Satisfaction (Y)	0,926	11,421	0,000	Supported
H3- Administration & Procedures (X1) -> Service Quality (M)	0,275	5,326	0,000	Supported
H4- Handling Complaint (X2) -> Service Quality (M)	0,787	19,336	0,000	Supported
H5- Service Quality (M) -> Customer Satisfaction (Y)	0,194	1,016	0,310	Not Supported

Source: Research results (2025)

Based on the research results presented in Table 2, it appears that of the five direct influence hypotheses, three (H2, H3, and H4) were proven. Meanwhile, the other two hypotheses (H1 and H5) were not proven. Table 3 shows the results of the indirect influence hypothesis test through intervening variables (Customer Service), namely H6 to H7.

Table 3. Indirect Influence Hypothesis Test (Path Analysis)

Hypothesis Model	Analysis	Hypothesis Testing
H6- Administration & Procedures (X1) -> Service Quality (M) -> Customer Satisfaction (Y)	• Direct effect (Administration & Procedures --> Customer Satisfaction)= 0.150 • Indirect effect (Administration & Procedures --> Service Quality) Customer Satisfaction= 0.026 • Total effect (direct effect + indirect effect)= 0.150 + (0.026) = 0.176 • VAF = 0.026/ 0.176 x100% = -	Not Supported

	14,77% or < 20%). Means no mediation)	
H7- Handling Complaint (X2) -> Service Quality (M) -> Customer Satisfaction (Y)	• Direct effect (Handling Complaint --> Customer Satisfaction)= 0.926 • Indirect effect (Administration & Procedures --> Service Quality) Customer Satisfaction= 0.074 • Total effect (direct effect + indirect effect)= 0.926 + (0.074) = 1.000 • VAF = 0.074/ 1.00 x100%= 7.4 or < 20%. Means no mediation	Not Supported

Source: Research results (2025)

Based on the research results presented in Table 2, it appears that the two hypotheses of indirect influence through the intervening variable were not proven. This is because the VAF values for both hypotheses were each <20%. On D-6, the VAF value was 14.77%, meaning <20%. Likewise, for H7, the VAF value was 7.4%, or <20% (without mediation).

4.1. Discussion

The results of this study show interesting dynamics in the relationship between Administration & Procedures, Complaint Handling, Service Quality, and Customer Satisfaction. In general, empirical findings show that Complaint Handling has the most dominant influence on customer satisfaction, while the roles of Administration & Procedures and Service Quality are more complex and do not fully match theoretical expectations.

First, the results of the H1 test showed that Administration & Procedures had no significant effect on Customer Satisfaction ($\beta = 0.150$, $p = 0.913$). These results are in contrast to the findings of Noviana et al. (2023) and Gao (2020) who affirm that the quality of administrative services affects satisfaction through increasing the efficiency and clarity of procedures. Theoretically, the Expectation–Disconfirmation Theory explains that satisfaction arises when expectations for administrative services are met. However, in the context of this study, the influence seems to be reduced due to the dominance of other variables that play a more direct role in satisfaction, such as Handling Complaints. It also indicates that customers value satisfaction more based on the experience of direct interaction than the quality of administrative processes which are more structural in nature.

On the other hand, H2 proved to be very strong: Handling Complaints had a positive and significant effect on Customer Satisfaction ($\beta = 0.926$, $p < 0.001$). These findings are consistent with the research results of Listiana et al. (2023), Adzhigalieva et al. (2022), and Aboalganam et al. (2024) which affirm that complaint handling practices contribute greatly to customer satisfaction. Based on Justice Theory and the concept of service recovery, quick and fair response to complaints increases the perception of justice (procedural and interactional justice) which directly affects satisfaction.

Furthermore, the results of H3 and H4 showed that Administration & Procedures ($\beta = 0.275$, $p < 0.001$) and Handling Complaints ($\beta = 0.787$, $p < 0.001$) both had a significant effect on Service Quality. This emphasizes that improving administrative procedures and the effectiveness of handling complaints are two main elements in shaping the perception of service quality. This result is in line with Gao (2020) and the SERVQUAL model which places reliability, responsiveness, and assurance as core components of service quality.

However, the results of H5 showed that Service Quality did not have a significant effect

on Customer Satisfaction ($\beta = 0.194$, $p = 0.310$). This finding is consistent with previous studies (Ali et al., 2021; Zygiaris et al., 2022), which generally reported a positive relationship between service quality and satisfaction. This indicates a congruence between the measured perceived service quality and the actual satisfaction factors perceived by customers in the context of this study.

The absence of a significant influence of Service Quality on Customer Satisfaction (H5) also had an impact on the results of mediation testing (H6 and H7). Both hypotheses are not supported because the indirect effects through Service Quality the values are relatively small (0.026 and 0.074). Thus, Service Quality does not act as a mediator between Administration & Procedures or Handling Complaints against Customer Satisfaction. This shows that increased customer satisfaction is more obtained through direct interactions in the form of effective complaint resolution than general perception of service quality.

Overall, these findings confirm the importance of strengthening the complaint handling system as the main strategy to increase customer satisfaction. Meanwhile, administrative procedures remain relevant in strengthening the perception of service quality, even though their contribution to satisfaction is indirect. Further research is suggested to examine the potential for multicollinearity between variables and re-examine the role of Service Quality as both a mediator and a moderator in the relationship between organizational factors and customer satisfaction outcomes.

5. Conclusion

The results of the direct effect analysis showed that of the five pathways tested, there were three significant relationships and two insignificant relationships. The Complaint Handling variable (X2) was proven to have the most dominant influence on Customer Satisfaction (Y) with a path coefficient value of 0.926 ($t = 11.421$; $p < 0.001$), indicating that the effectiveness of complaint handling is a key factor in shaping customer satisfaction. In addition, Administration & Procedures (X1) also had a significant effect on Service Quality (M) ($\beta = 0.275$; $p < 0.001$), and Handling Complaints (X2) on Service Quality (M) ($\beta = 0.787$; $p < 0.001$). These results reinforce the view that the quality of administrative procedures and the organization's ability to handle complaints are two important factors that shape the perception of service quality.

In contrast, the other two relationships are not supported by data. The Administration & Procedures (X1) toward Customer Satisfaction (Y) track showed a very weak and insignificant effect ($\beta = 0.150$; $p = 0.913$), so that improving the administrative aspect did not directly improve customer satisfaction. Similarly, the relationship between Service Quality (M) $\rightarrow$ Customer Satisfaction (Y) was not significant ($\beta = 0.194$; $p = 0.310$), even indicating a negative direction. This shows that the perception of service quality in the context of this study has not been able to directly increase customer satisfaction, possibly due to the much stronger influence of Complaint Handling and the potential for multicollinearity between variables.

The results of the indirect effect analysis (H6 and H7) indicate that there is no mediating effect by Service Quality on the relationship between the independent variables and customer satisfaction. In the path Administration & Procedures $\rightarrow$ Service Quality $\rightarrow$ Customer Satisfaction, the indirect effect is relatively small (0.026) and produces a Variance Accounted For (VAF) of 7.4%, which is below the 20% threshold for partial mediation. Similarly, in the path Complaint Handling $\rightarrow$ Service Quality $\rightarrow$ Customer Satisfaction, the indirect effect is also relatively small (0.074) with a VAF of 7.4%, indicating no mediating role. Thus, Service Quality does not function as a connecting mechanism between internal organizational factors (administration and complaint handling) and customer satisfaction.

Overall, the results of the study confirm that complaint handling has the most direct and strongest influence on customer satisfaction, while administration and procedures play a greater

role in shaping the perception of service quality without having a direct impact on satisfaction. The absence of Service Quality mediation also shows that improving service quality alone is not enough to encourage customer satisfaction, unless accompanied by a fast, fair, and solution complaint handling system.

5.1. Research implications

Research implications consist of theoretical implications and managerial implications

5.1.1. Theoretical Implications

The findings of this study make several important contributions to the development of service quality management theory and customer behavior. First, the results showing that complaint handling has the strongest influence on customer satisfaction confirms the importance of service recovery theory (Tax, Brown, & Chandrashekar, 1998), which states that an organization's effectiveness in handling complaints can directly restore customer trust and satisfaction even after a service failure. In this context, customer satisfaction is determined more by the quality of problem handling (responsiveness, fairness, and empathy) than by the quality of routine service that is normative.

Second, the significant influence of administration & procedures on service quality but not on customer satisfaction broadens the understanding of the concept of process quality in SERVQUAL theory (Parasuraman et al., 1988). This means that an efficient administration system and clear procedures can reinforce the perception of service quality, but it does not automatically create customer satisfaction if it is not accompanied by interpersonal interaction or a positive emotional response. This indicates that technical quality and functional quality do not always have an equal effect on customer satisfaction, especially when the service context involves an emotional dimension such as resolving complaints.

Third, the insignificance of the influence of service quality on customer satisfaction shows an interesting contextual dynamic. In some literature (e.g., Cronin & Taylor, 1992; Zeithaml et al., 2006), service quality is generally seen as the main predictor of customer satisfaction. However, these results challenge this assumption and suggest that in the context of organizations that have a dominant complaint handling system, complaint handling can act as a stronger determinant than service quality. This opens up new theoretical space for researchers to explore the hierarchical and competitive relationship between the dimensions of service quality and complaint management in predicting customer satisfaction.

5.1.2. Managerial Implications

In practical terms, these findings provide strategic direction for the management of service organizations to prioritize complaint handling policies as the main instrument for improving customer satisfaction. Since complaint handling has proven to be the variable with the most dominant influence, organizations need to ensure that the complaint system is responsive, fair, transparent, and empathetic. Training staff in interpersonal communication skills, speed of response, and the provision of satisfactory solutions are the main keys in maintaining customer loyalty.

In addition, the results of the study show that administration & procedures contribute significantly to the formation of service quality. Therefore, management needs to review the efficiency of internal processes, such as bureaucratic flows, waiting times, and clarity of information for customers. Although the administrative aspect has no direct effect on satisfaction, improving efficiency in this area remains important because it reinforces the perception of professionalism and credibility of the organization.

Meanwhile, the absence of a service quality mediation role indicates that service quality improvement strategies alone are not enough to improve customer satisfaction without the

support of an effective complaint handling system. Thus, organizations are advised to adopt an integrative approach, namely connecting the administrative and routine service systems with a structured feedback and complaint recovery mechanism.

Overall, the implications of this study confirm that in the context of modern customer-oriented services, the quality of complaint handling is the highest form of service quality itself, because it is at this point that customers truly assess the organization's commitment to their satisfaction

5.2.Limitations of Research and Suggestions

Although the results of this study make an important contribution to understanding the relationship between administration & procedures, handling complaints, service quality, and customer satisfaction, there are some limitations that need to be examined.

First, the limitations of the conceptual model. This research model involves only three main constructs without considering other external variables that may affect customer satisfaction, such as customer expectation, perceived value, or trust. The absence of a significant effect of service quality on customer satisfaction indicates that customer satisfaction in this context may be more influenced by emotional factors or perceived fairness in handling complaints, which have not been incorporated into the model. Therefore, further research is recommended to add mediating or moderation variables such as customer trust, empathy, or recovery satisfaction in order to be able to explain the psychological mechanisms behind the relationship between variables.

Second, methodological limitations related to research design and data sources. This study uses a survey approach with cross-sectional data, so the interpretation of causal relationships is still limited. In addition, all variables were measured based on respondents' perceptions through a single questionnaire, which has the potential to cause common method bias. Further research can strengthen the validity of findings by using longitudinal or mixed-method designs, as well as utilizing objective data such as complaint handling duration, case resolution ratio, or customer retention rate.

Third, the limitations of the empirical context. The findings of this study may not be generalized to the entire service industry sector, as organizational contexts and customer characteristics may differ. In industries with high levels of customer engagement (e.g. healthcare or education), service quality may play a greater role than in the context of this study. Therefore, cross-industry or cross-cultural comparative studies can help test the consistency of the model externally.

As a practical suggestion, follow-up research can also dig deeper into the specific dimensions of complaint handling that most impact customer satisfaction — such as response speed, compensation fairness, or empathic communication — so that the results can be translated into more operational managerial policies.

Overall, these limitations open up opportunities for the development of more comprehensive conceptual models and more robust methodological approaches, in order to strengthen scientific understanding of the strategic role of complaint handling and service quality in building customer satisfaction and loyalty

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ANALYSIS OF COMPANY SIZE, PROFITABILITY, AND GCG ON FRAUDULENT FINANCIAL STATEMENTS WITH AUDIT OPINION AS A MODERATING VARIABLE (CASE STUDY OF ENERGY SECTOR COMPANIES LISTED ON THE IDX IN 2021-2024)

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Abstract

This study aims to analyze the effect of company size, profitability, and corporate governance on fraudulent financial statements and whether audit opinions moderate the relationship between independent and dependent variables. This study is a quantitative study of secondary data with a population of 87 energy sector companies listed on the Indonesia Stock Exchange from 2021 to 2024.

Keywords: Company Size, Profitability, Corporate Governance, Audit Opinion And Fraudulent Financial Statement

1. Introduction

1.1. Common Phenomena

Cases of fraudulent financial reporting remain prevalent in Indonesia, including among energy sector companies and state-owned enterprises. The practice of "window dressing" financial statements persists to portray inflated profits and uphold the company's reputation.

1.2. Basic Theory

Drawing on the Fraud Triangle Theory and its extensions (Fraud Pentagon and Fraud Hexagon), fraud arises from pressure, opportunity, rationalization, and additional elements such as capability, arrogance, and collusion.

1.3. Regulatory Context

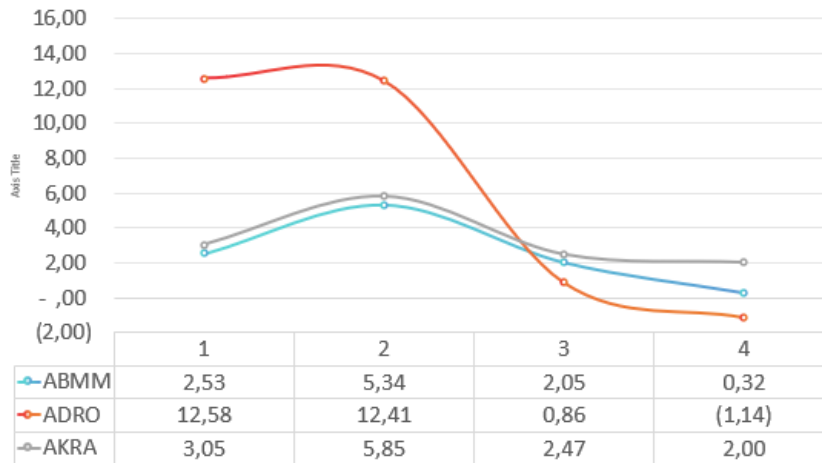
Although the Financial Services Authority (OJK) has issued Financial Services Authority Regulation (POJK) No. 15 of 2024 on financial reporting integrity, its enforcement has proven ineffective.

1.4. Initial Data

Beneish M-Score analyses of selected energy companies (ABMM, ADRO, AKRA) reveal indications of earnings manipulation over the 2021–2024 period.

The M-Score values for ABMM across the 2021–2024 period demonstrated a declining trajectory from 2.53 to 0.32, signifying indicators of earnings management activity; however, the downward trend in values suggests progressive improvement in financial reporting transparency. Conversely, ADRO exhibited substantially elevated M-Score values in 2021 and 2022 (12.58 and 12.41), indicating considerable earnings manipulation potential; nevertheless, these values declined sharply to negative territory in 2024, implying enhanced financial reporting quality. In contrast, AKRA demonstrated consistent positive M-Score values consistently above the diagnostic threshold (-2.22), thereby indicating relatively stable earnings management practices throughout the study period.

Figure 1. M Score



EMIT	2021	2022	2023	2024
ABMM	2,53	5,34	2,05	0,32
ADRO	12,58	12,41	0,86	(1,14)
AKRA	3,05	5,85	2,47	2,00

PT. ABMM Investama Tbk (ABMM)
PT. Alamtri Resource Indonesia Tbk (ADRO)
PT. AKR Corporindo Tbk (AKRA)

1.5. Research Problem

Prior empirical studies have yielded mixed findings on the influence of company size, profitability, and good corporate governance (GCG) on fraudulent financial reporting.

1.6. Research Gap

While some research demonstrates significant effects, others report insignificant associations, underscoring the need for further investigation.

1.7. General Objective

This study incorporates audit opinion as a moderating variable to elucidate the interplay among these variables. Specifically, it explores the mechanisms through which Company size, profitability, and GCG contribute to fraudulent financial reporting, as well as the extent to which audit opinions amplify or attenuate these relationships.

1.8. Research Problem

- 1) Does company size affect the incidence of fraudulent financial reporting in energy sector companies during the 2021–2024 period?
- 2) Does profitability influence fraudulent financial reporting?
- 3) Does good corporate governance (GCG) impact fraudulent financial reporting?
- 4) To what extent does audit opinion moderate the relationship between firm size and fraudulent financial reporting?
- 5) To what extent does audit opinion moderate the relationship between profitability and fraudulent financial reporting?
- 6) To what extent does audit opinion moderate the relationship between good corporate governance and fraudulent financial reporting?

2. Literature Review

2.1. Supporting Theory

The fraud triangle was first introduced by Donald R. Cressey, a doctoral student in criminology at Indiana University during the 1950s, who sought to understand fraudulent behavior. In his doctoral dissertation, Cressey conducted interviews with 200 incarcerated individuals convicted of fraud. From the findings of Cressey's research, the conceptual framework known as the fraud triangle emerged [Alfian & Urbach, 2025].

2.2. Conceptualization of Variables

2.2.1. Company Size

Represents the magnitude of a business entity, typically measured by total assets, total sales, or market capitalization. Large firms often face heightened pressure to sustain corporate reputation and stakeholder expectations, thereby creating conditions conducive to financial reporting irregularities.

2.2.2. Profitability

Profitability reflects management's capacity to generate earnings and returns on invested capital. High profitability levels can incentivize management to maintain positive performance trajectories, potentially motivating the manipulation of financial reports to sustain upward earnings trends.

2.2.3. Good Corporate Governance (GCG)

Implementation of fundamental principles including transparency, accountability, responsibility, independence, and fairness in organizational decision-making and operations. Robust GCG frameworks serve as internal control mechanisms that mitigate the likelihood and incidence of fraudulent financial reporting.

2.2.4. Audit Opinion

An Independent auditor's professional judgment regarding the fairness and accuracy of an entity's financial statements in accordance with applicable accounting standards. An unqualified audit opinion indicating an absence of material misstatements enhances user confidence in the reliability and integrity of reported financial information.

2.2.5. Fraudulent Financial Statement

Deliberate and intentional misrepresentation or distortion of financial information in reporting to deceive or mislead users of those statements.

2.3. Review of Prior Empirical Studies

- 1) Sinaga & Utami (2024): Company size has a significant effect on fraud.
- 2) Tundjung & Setiawan (2020): Profitability has no significant effect.
- 3) Furqani & Felicia (2021): Audit opinion has a negative effect on fraud.
- 4) Andesti & Aryani (2025): GCG has no significant effect.
- 5) Setiawati & Nuraisyah (2024): GCG has a positive effect on fraud
- 6) Inawati et al. (2023): Audit opinion has no significant effect.

These conflicting findings underscore a substantive research gap in understanding the complex interrelationships among company characteristics, governance mechanisms, and fraudulent financial reporting. Consequently, this study introduces audit opinion as a moderating variable to elucidate whether audit quality amplifies or attenuates the effects of company size, profitability, and corporate governance on fraud incidence.

3. Methodology

3.1. Research Design

Quantitative approach with a causal research design to measure the influence and interrelationships among variables.

3.2. Data

Secondary data, comprising audited financial reports of energy sector companies listed on the Indonesia Stock Exchange (IDX) spanning the period 2021–2024.

3.3. Population

Consists of 87 energy sector companies listed on IDX

3.4. Sampling

Purposive sampling based on the availability of complete data.

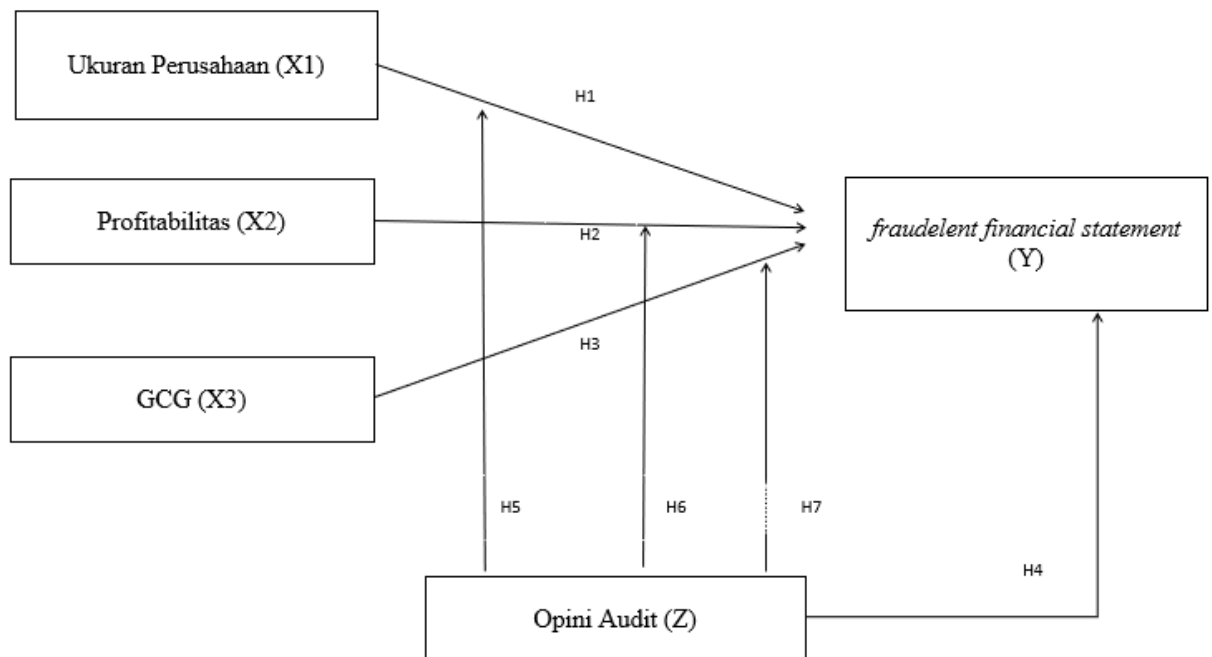
3.5. Analytical techniques

- 1) Descriptive statistical analysis to characterize the sample and variables
- 2) Classical assumption tests to verify the validity of regression model assumptions
- 3) Moderated Regression Analysis (MRA) to examine moderating effects
- 4) STATA version 19.5 for data processing and hypothesis testing

3.6. Variables

- a) Independent: Company Size, Profitability, GCG
- b) Dependent: Fraudulent Financial Statement
- c) Moderation: Audit Opinion

3.7. Research Framework



4. Conclusion

5. This study is expected to provide comprehensive insights into the mechanisms through which firm size, profitability, and good corporate governance influence the incidence of

fraudulent financial reporting. Furthermore, audit opinion is hypothesized to function as a moderating mechanism, either amplifying or attenuating the effects of these independent variables on fraud occurrence. Theoretically, this research contributes to the advancement of agency theory and signaling theory by delineating the conditional relationships between corporate characteristics, governance structures, and financial reporting integrity.

The findings are anticipated to yield actionable insights and recommendations for multiple stakeholder groups, including corporate management, independent auditors, and regulatory authorities.

BEYOND COMPLIANCE: HOW CAREER DEVELOPMENT AND ISLAMIC WORK ETHIC DRIVE PERFORMANCE IN ISLAMIC BANKS THROUGH ORGANIZATIONAL COMMITMENT

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Abstract

This study aims to investigate the dual mediating role of Organizational Commitment (OC) in the relationship between two independent factors Career Development (CD) and Islamic Work Ethic (IWE) and Employee Performance (EP) within the Indonesian Syariah banking sector. Specifically, the research seeks to confirm the psychological mechanisms by which organizational investment and intrinsic spiritual values translate into superior employee output. The method used in this study is a quantitative approach, where data will be collected from employees of PT. Bank Tabungan Negara (Persero) Syariah Jakarta Pasar Minggu Branch Office through a survey using the Convenience Sampling method. The structural model, which includes parallel mediation, will be analyzed using Partial Least Squares - Structural Equation Modeling (PLS-SEM) through SmartPLS 4. Given the nature of the hypothesis, which is single-directional, a one-tailed test will be applied to assess the significance of the path coefficient.

Keywords: *Career Development; Islamic Work Ethic; Organizational Commitment; Employee Performance; PLS-SEM.*

1. Introduction

1.1. Background of the Study

- 1) Employee performance is the core of global organizational strategy and competitiveness.
- 2) Islamic banking in Indonesia faces dual challenges: achieving high performance and maintaining compliance with Islamic ethics.
- 3) PT. Bank BTN Syariah Jakarta Pasar Minggu shows performance fluctuation, indicating deeper motivational issues.
- 4) The study explores how Career Development (CD) and Islamic Work Ethic (IWE) improve Employee Performance (EP) through Organizational Commitment (OC)

1.2. Research Problem

- 1) Contradictory findings on whether Career Development directly affects Employee Performance.
- 2) Need to understand if Organizational Commitment mediates between Career Development and Performance.
- 3) Limited studies focus on state-owned Islamic banks in Indonesia.
- 4) Gap: how both extrinsic (CD) and intrinsic (IWE) factors jointly influence OC and EP.

1.3. Research Objectives

- 1) To analyze the effect of Career Development on Organizational Commitment and Employee Performance.

- 2) To analyze the effect of Islamic Work Ethic on Organizational Commitment and Employee Performance.
- 3) To examine the mediating role of Organizational Commitment in both relationships.
- 4) To provide strategic recommendations for enhancing performance at PT. Bank BTN Syariah.

2. Literature Review

2.1. Analytical Framework



2.2. Hypothesis

2.2.1. Research Hypothesis

- a) H1: Career Development (CD) has a positive and significant effect on Employee Performance (EP).
- b) H2: Islamic Work Ethic (IWE) has a positive and significant effect on Employee Performance (EP).
- c) H3: Organizational Commitment (OC) has a positive and significant effect on Employee Performance (EP).
- d) H4: Career Development (CD) has a positive and significant effect on Organizational Commitment (OC)
- e) H5: Islamic Work Ethic (IWE) has a positive and significant effect on Organizational Commitment (OC).
- f) H6: Organizational Commitment (OC) mediates the relationship between Career Development (CD) and Employee Performance (EP).
- g) H7: Organizational Commitment (OC) mediates the relationship between Islamic Work Ethic (IWE) and Employee Performance (EP).

3. Methodology

3.1. Research Approach

Quantitative Explanatory Research

- 1) Uses numerical data to explain the relationship between variables.
- 2) Tests hypotheses linking Career Development (CD) and Islamic Work Ethic (IWE) to Employee Performance (EP) through Organizational Commitment (OC).
- 3) Purpose: To empirically verify causal relationships using statistical modeling.

3.2. Research Subject

- 1) Cross-sectional design (data collected at one point in time).
- 2) Focused on employees of PT. Bank Tabungan Negara (BTN) Syariah, Jakarta Pasar Minggu Branch.
- 3) Respondents are permanent employees across several divisions (operations, marketing, finance, and customer service).

3.3. Population & Sample

The population in this study consists of all employees working at PT. Bank Tabungan Negara (BTN) Syariah, Jakarta Pasar Minggu Branch, who are directly involved in operational, marketing, financial, and service functions. Due to accessibility and time limitations, the researcher employed a non probability sampling technique, specifically convenience sampling, where respondents were selected based on availability and willingness to participate. The sample includes permanent employees who have worked for at least one year and possess sufficient understanding of the organization's career development system, Islamic work ethic, and performance evaluation process. A total of approximately 80 to 100 respondents are targeted, which is considered adequate for analysis using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach.

4. Conclusion

This study investigates how organizational commitment mediates the impact of career development and Islamic work ethic on employee performance at BTN Syariah. It highlights that integrating career strategies with ethical values leads to stronger commitment and sustainable performance.

This study concludes that employee performance in Islamic banking institutions is not only determined by technical competence but also by the harmony between organizational support and moral values. The empirical framework developed in this research highlights that Career Development (CD) and Islamic Work Ethic (IWE) serve as the key predictors of Employee Performance (EP), while Organizational Commitment (OC) plays a crucial mediating role between them.

THE EFFECT OF TRUST, PRICE PERCEPTION, AND PRODUCT QUALITY ON THE PURCHASE DECISION OF AVOSKIN SKINCARE IN JAKARTA

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Abstract

This study aims to analyze the influence of Trust, Price Perception, and Product Quality on the Purchase Decision of Avoskin Skincare in Jakarta, amid increasing public awareness, of skin health and competition in beauty product market. Based on phenomenon of consumers becoming increasingly by psychological factors such as trust, price assessment as an indicator of value, and expectations of save, and expectations effective product quality. Avoskin, as one of the rapidly growing local brands, attracts consumers with its various innovations and product quality claims. However, with increasing competition in skincare industry, it is important to understand the factors that influence consumer's purchasing decisions for these products. This study uses a quantitative approach by distributing questionnaires to Avoskin consumers in Jakarta. The data obtained will be analyzed using multiple linear regression techniques to see how much each independent variable influences the dependent variable. The results of this study are expected to provide an overview that consumer trust plays an important role in building loyalty, that price perceptions are in line with product value can increase purchase interest, and that product quality is a major factor in shaping the final purchase decision. Simply, the results of this study are expected to provide input for Avoskin in designing more effective and sustainable marketing strategies. Academically, this study is also expected to enrich the literature on consumer behavior, particularly in the context of the local skincare industry in Indonesia.

Keywords: *Trust, Price Perceptions, Product Quality, Purchase Decision*

THE EFFECT OF ARTIFICIAL INTELLIGENCE USE, DIGITAL TRANSFORMATION, AND DIGITAL LITERACY ON EMPLOYEE PERFORMANCE AT PT. TRIMATRA JASA PRAKASA SURABAYA

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Abstract

This study aims to analyze the influence of Artificial Intelligence (AI), digital transformation, and digital literacy on employee performance at PT Trimatra Jasa Prakasa Surabaya. This study used a quantitative method by distributing questionnaires to 102 respondents who were active employees of the company, using a random sampling technique. Data analysis was conducted using multiple linear regression to test the relationship between variables. The expected findings indicate that the use of AI, digital transformation, and digital literacy have a positive and significant effect on employee performance. The novelty of this study lies in the integration of the three digital technology variables in a single human resource performance analysis model. The results of this study are expected to provide a basis for companies to develop technology-based performance improvement strategies. A limitation of this study is its limited scope to one company, so further research is recommended to involve more organizations from various industrial sectors.

Keywords: *Artificial Intelligence, Digital Transformation, Digital Literacy, Employee Performance.*

1. Introduction

The introduction describes the research background and problems based on the literature review (for example, research gaps). Like as data related to research variables, that can be used as a logical basis for developing research hypotheses or propositions and research models (if deemed necessary) and contain objectives research and research originality. The components that can be considered in the introduction are the importance of the articles in general and specific topics, limitations of previous research and solutions to solve these limitations leading to novelty and originality, and general and specific research objectives. At the end of the introduction, the author must convey the state of the art, novelty, gaps, and research objectives.

There are no subsections in the introduction, and a brief and direct introduction to the subject is essential in this paper. Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified, margins follow the provided template. The citation uses the APA standard. We can write citing articles as follows: Parenthetical citations for a single author (Cortina, 2008), for articles with more than one author (Miner & Eischeid, 2012), and with more than two authors (Loi et al., 2013). Narrative citations for a single author Cortina (2008); for two authors Miner and Eischeid (2012); for more than two authors Loi et al. (2013). If you want to cite more than a few papers, arrange them alphabetically from AZ, not the year of publication, as follows (Cortina, 2008; Loi et al., 2013; Miner & Eischeid, 2012; Welbourne et al., 2015).

2. Literature Review

2.1. Hypothesis development (quantitative) or mind mapping (qualitative) Subchapter

This section allows you to add subchapters. Provide an explanation of the theoretical background, state of the art, theoretical model framework, and proposed hypotheses. If your research is qualitative, provide a path to form your mind map. The citation uses the APA standard. You can write it down as follows: Parenthetical citations for a single author (Cortina, 2008), for articles with more than one author (Miner & Eischeid, 2012), and with more than two authors (Loi et al., 2013). Narrative citations for a single author Cortina (2008); for two authors Miner and Eischeid (2012); for more than two authors Loi et al. (2013). If we want to cite more than a few papers, arrange them alphabetically from AZ, not the year of publication, as follows (Cortina, 2008; Loi et al., 2013; Miner & Eischeid, 2012; Welbourne et al., 2015). Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified.

2.2. Relationship between variables (if your paper is quantitative)

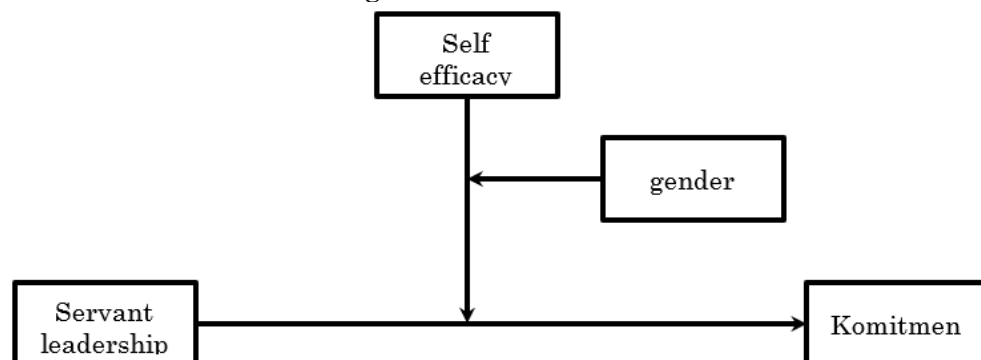
If our research/paper is quantitative, please provide prior research that agrees, supporting the development of our proposed hypothesis.

H1: Hypothesis one and so on here.

2.3. Research Model

After the hypothesis section, if our study is quantitative, provide a research model here, or our mind map, if qualitative. Images must be of good quality. And make it into a group so it doesn't shift. Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified.

Figure 1. Research Model



3. Methodology

3.1. Sample and Data Collection

The methodology consists of sampling and data collection, measurement, and data analysis. The methodology is optional, depending on our type of research or manuscript. The methodology is mainly devoted to the type of original research paper manuscript. Briefly describe our research design here, population, measurement and sampling techniques, data collection methods, and response rates. Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified.

3.2. Measurement

a) Our Variable Name

Describe our measurement of variables (adapting, adopting, or modifying, or developing your own (if developing your own, please explain the stages of developing the measurement)).

3.3.Data analysis

The analytical technique used in the research.

4. Result and Discussion

The results of the study answered the proposed hypothesis based on the analytical techniques that have been described. The results of the study directly present the data and results obtained from the research. This section only provides a narrative description of the research results without any interpretation or evaluation. In this section, each statistical test that we perform must be explained thoroughly. This section is very important to describe the research methodology used. Any statistical findings should be summarized, summarized, and presented in tables or graphs, not just copy-paste from our statistical tool (**The table shown does not copy the original output of the data processing software**).

The table title is written above the table, in bold, and positioned on the left. The vertical lines in the table do not need to be displayed, while the horizontal lines are only shown in the headings and closings of the table. Like the following example:

Table 1. Multiple Linear Regression Test Results

Variable	B	t	sig	description
Constant	2.235	.783	.435	
Leadership	.191	3.107	.002	supported
Self efficacy	.285	3.102	.002	supported
Communication	.226	3.072	.003	supported
Adj R ²	.547			
F	32,647		.000	

(Source: Processed data, 2020)

If there is an image, the display image must be of good quality. If there is a formula, write the formula, not the result of cropping. Every table. Figures and formulas must be numbered. How to refer to tables, figures, and formulas by mentioning table numbers, figures, or formulas, not with mentions like above or below. Example "Based on table 1" instead of "based on the table above".

5. Conclusion

Restate the main argument, and present the conclusion of the analysis in the form of a narrative instead of numbering.

5.1.Research implications

Explain the practical implications of the research results and the extent to which the originality of the study has been addressed.

5.2.Limitations of Research and Suggestions

Statement of research limitations and suggestions for further research. In narrative form, not numbers.

References

References use the APA (American Psychological Association) style format. To learn and see examples of reference writing with APA style guidelines, please visit the link

<https://apastyle.apa.org/style-grammar-guidelines/references/examples>. The use of reference manager applications, such as Zotero, and Mendeley, is recommended.

Cite major scientific publications on which our work is based, which we have read, and which we have written in the manuscript. Avoid excessive self-citations of no more than 5. Avoid excessive citations from publications from the same area.

For Research Papers, the references used to use a ratio of at least 80% of primary references (Journal Articles) or a maximum of 20% of textbooks. The novelty of the reference is our main concern. It is recommended to use the most recent references (10 years for textbooks) and the last 5 years for journal articles (special note: main research/initial research may optionally be included to provide insight into the main contributors to the topic).

JOB SATISFACTION: A SEQUENTIAL MEDIATION MODEL OF PERCEIVED ORGANIZATIONAL SUPPORT, INTRINSIC MOTIVATION, AND DIGITAL TECHNOLOGY EASE OF USE

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Abstract

Purpose This study aims to investigate the sequential psychological pathway through which Perceived Organizational Support (POS) influences employee Job Satisfaction in the digital workplace. Specifically, it examines the mediating roles of Intrinsic Motivation and the Perceived Ease of Use of digital technology in this relationship. *Methodology:* A cross-sectional survey design will be employed, targeting employees in Indonesia who actively use digital technologies in their daily work. Data will be collected using a structured online questionnaire with adapted scales to measure POS, Intrinsic Motivation, Perceived Ease of Use, and Job Satisfaction. The proposed sequential mediation model will be tested using the PROCESS macro (Model 6) for SPSS with bootstrapping techniques to ascertain the significance of the indirect effects. *Direction* The findings of this research are expected to provide a nuanced understanding of the mechanisms linking organizational support to job satisfaction in the context of digital transformation. The results will offer valuable insights for organizations seeking to enhance employee well-being and technology adoption by fostering a supportive environment that cultivates intrinsic motivation and facilitates a positive technological experience.

Keywords: *Perceived Organizational Support; Intrinsic Motivation; Perceived Ease of Use; Job Satisfaction; Sequential Mediation; Digital Workplace.*

1. Introduction

The contemporary workplace is undergoing a profound digital transformation, accelerated by global shifts such as the COVID-19 pandemic. Organizations worldwide are heavily investing in digital tools to maintain productivity and enable remote work (Martin et al., 2022). A recent report by the World Economic Forum (2023) underscores this trend, estimating that 75% of companies plan to adopt big data, cloud computing, and AI in the next five years, fundamentally altering job roles and skill requirements. However, this rapid digitization presents a critical paradox: while technology is intended to streamline tasks and improve efficiency, its implementation often leads to employee stress, information overload, and even decreased job satisfaction (Martin et al., 2022; Bolli & Pusterla, 2022). This is exacerbated by what Gartner (2023) identifies as "digital friction" – the obstacles and inefficiencies employees face when interacting with technology, which can lead to frustration and disengagement. The success of these technological investments hinges not on the technology itself, but on the human element—specifically, whether employees willingly and effectively integrate these tools into their daily work. As Mitchell et al. (2012) aptly note, many technological interventions fail because employees do not fully accept and use them. Therefore, understanding the human and organizational factors that foster a positive adaptation to

technology is more critical than ever for enhancing employee well-being and organizational performance.

The Indonesian context is not immune to these global challenges. As one of Southeast Asia's largest digital economies, with its digital economy projected to reach US\$130 billion by 2025 (Google, Temasek, & Bain, 2023), Indonesian companies are aggressively adopting digital platforms to stay competitive. However, cultural and structural nuances, such as hierarchical management styles and varying levels of digital literacy, can complicate this transition. The rapid pace of this change carries significant psychological costs. A study by Cigna International Health (2023), in its survey of Indonesian workers, found that a staggering 95% of respondents reported being stressed, with work pressure being a major contributor. Furthermore, a report by the Ministry of Communication and Informatics (Kominfo) itself has highlighted the critical "digital talent gap" in Indonesia, where the skills of the workforce are not keeping pace with the needs of the digital economy (Kominfo, 2021). This gap between technological demands and employee skills is a known stressor that can severely impact well-being and job satisfaction. Ensuring that this digital shift leads to positive outcomes like job satisfaction, rather than resistance and burnout, is a pressing concern for Indonesian managers and policymakers. Research that investigates how to support employees through this change is vital to harnessing the full potential of Indonesia's digital workforce and ensuring sustainable growth.

A review of existing literature reveals significant yet disconnected insights. Firstly, Perceived Organizational Support (POS) is a well-established predictor of positive work outcomes, including job satisfaction (Alam et al., 2022) and employee creativity (Raja et al., 2025). POS creates a sense of obligation in employees to reciprocate by contributing positively to the organization, a concept rooted in Social Exchange Theory (Eisenberger & Stinglhamber, 2011). Secondly, research confirms that POS directly boosts employees' Intrinsic Motivation (IM)—the drive to perform a task for its inherent satisfaction rather than for external rewards (Raja et al., 2025; Li et al., 2022). Furthermore, Mitchell et al. (2012) specifically link POS to intrinsic motivation in the context of new IT, showing that supported employees are more likely to find enjoyment in using new systems.

Simultaneously, the Technology Acceptance Model (TAM) has long established Ease of Use as a critical determinant of technology adoption and user satisfaction (Wilson et al., 2021). When technology is perceived as easy to use, it reduces frustration and frees up cognitive resources, which can positively influence job satisfaction (Bolli & Pusterla, 2022). This is supported by Venkatesh et al. (2003) in their Unified Theory of Acceptance and Use of Technology (UTAUT), where effort expectancy (similar to ease of use) is a key direct determinant of behavioral intention to use technology. Studies also suggest that an organization's support for technology (IS support) influences job satisfaction through its effect on effective usage (Cho & Park, 2022).

However, a critical gap exists in integrating these streams of research. While studies have explored direct relationships and simple mediations (e.g., POS → IM → Job Satisfaction by Alam et al., 2022; POS → IM → Creativity by Raja et al., 2025), none have proposed and tested a sequential psychological and cognitive pathway explaining how organizational support translates into satisfaction in a digital workplace. Specifically, it remains untested whether POS first fosters a positive internal state (Intrinsic Motivation), which in turn alters an employee's cognitive perception of the technology itself (making it seem easier to use), ultimately leading to higher Job Satisfaction. This idea is partially echoed by Gagné & Deci (2005), who argue that

supportive conditions enhance intrinsic motivation, which is crucial for engaging with and persisting at tasks, including mastering complex systems.

This study is anchored in Self-Determination Theory (SDT), which is uniquely positioned to explain this entire pathway. SDT posits that intrinsic motivation flourishes in environments that satisfy basic psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2020). POS directly fosters this supportive environment. According to SDT, an intrinsically motivated individual is more likely to seek out challenges and engage deeply with tasks to satisfy their need for competence. In a digital context, this heightened motivation would manifest as a greater willingness to learn and master new technologies, thereby increasing their perceived ease of use. This mastered use then satisfies the need for competence, leading to greater job satisfaction. Thus, SDT provides a robust theoretical framework to explain the proposed sequential mediation: POS (supportive environment) → Intrinsic Motivation (psychological energy) → Ease of Use (cognitive appraisal) → Job Satisfaction (need fulfillment).

The primary objective of this research is to empirically test the sequential mediation model where the influence of Perceived Organizational Support on Job Satisfaction is transmitted through Intrinsic Motivation and then through the Perceived Ease of Use of Digital Technology. This study aims to provide a more nuanced understanding of the psychological mechanism behind technology-driven job satisfaction.

This research offers two key unique contributions. First, it introduces a novel integrated model that connects an organizational factor (POS) with a technological factor (Ease of Use) through a critical psychological mechanism (Intrinsic Motivation), a chain that has not been previously examined. Second, it moves beyond simple mediation to sequential mediation, offering a more detailed "black box" explanation of how and in what order these variables influence one another. The findings will provide managers with a clear, actionable pathway: by building a supportive organization, they can intrinsically motivate employees, which in turn facilitates smoother technology adoption and ultimately cultivates a more satisfied and productive workforce in the digital era.

2. Literature Review

2.1. Hypothesis development

2.1.1. Social Determination Theory (SDT)

To unravel the psychological mechanisms linking organizational context, technology use, and employee well-being, this study is grounded in Self-Determination Theory (SDT). SDT posits that human motivation exists on a continuum, ranging from amotivation to extrinsic motivation, and finally to intrinsic motivation—the most autonomous and self-determined form of behavior regulation (Ryan & Deci, 2020). The theory further specifies that intrinsic motivation flourishes in environments that support three fundamental psychological needs: autonomy (the need to feel volitional and have choices), competence (the need to feel effective in one's interactions with the environment), and relatedness (the need to feel connected and cared for by others).

The relevance of SDT to the modern workplace is increasingly salient. In the context of rapid digitalization, where employees are constantly required to adapt to new tools, the fulfillment of these psychological needs becomes a critical buffer against stress and disengagement. For instance, a recent study by Gagné et al. (2022) emphasized that supportive work designs that foster

autonomy and competence are crucial for mitigating the negative effects of technostress, thereby protecting employee motivation and performance.

The first link in our proposed model, between Perceived Organizational Support (POS) and intrinsic motivation, is strongly supported by SDT. POS, which reflects the extent to which an organization values employees' contributions and cares for their well-being, is a direct source of need satisfaction. When employees feel supported, their needs for relatedness are met, and this support often comes in the form of resources and trust that also bolster feelings of autonomy and competence. Consequently, this need-fulfilling environment serves as a catalyst for intrinsic motivation. Empirical evidence consistently confirms this relationship. For example, a study in the IT sector by Olafsen et al. (2018) found that perceived support from the organization was a stronger predictor of intrinsic motivation than external rewards. Similarly, research by Earl-Wilcox (2021) on remote workers demonstrated that organizational support systems designed to empower employees significantly enhanced their intrinsic motivation by satisfying their needs for autonomy and competence.

The novel extension in this research is the proposition that this heightened intrinsic motivation subsequently influences an employee's cognitive appraisal of technology, specifically its perceived ease of use. From an SDT perspective, an intrinsically motivated employee, driven by interest and the inherent satisfaction of mastering a task, is more likely to engage persistently with a new digital tool. This proactive and volitional engagement provides more opportunities for learning and skill development, thereby directly fulfilling the need for competence. As the employee becomes more proficient, their perception of the tool's complexity naturally diminishes; what was once daunting becomes manageable and even enjoyable. This conceptual link is indirectly supported by the work of Van der Hoek et al. (2022), who found that employees with higher levels of proactive personality (a trait closely aligned with intrinsic motivation) were more likely to perceive new enterprise software as easy to use, as their self-driven exploration built competence more rapidly.

Finally, the pathway from ease of use to job satisfaction is also interpretable through the lens of competence need satisfaction. SDT argues that job satisfaction is a key outcome of a work environment that consistently supports psychological needs. When a digital tool is perceived as easy to use, it removes a significant barrier to effective performance. The smooth interaction with technology allows employees to accomplish their tasks efficiently, leading to a direct sense of efficacy and accomplishment—the very essence of competence satisfaction. This aligns with findings by Bolli and Pusterla (2022), who identified that one of the primary channels through which digitalization positively affects job satisfaction is by increasing productivity and making work more interesting, both of which are outcomes of effective and competent tool use.

In summary, SDT provides a coherent and theoretically robust narrative for the entire sequential mediation model. It explains how a supportive organization (POS) cultivates the internal drive (intrinsic motivation) that encourages the mastery of tools (ease of use), which in turn fulfills the fundamental need for competence, ultimately resulting in greater job satisfaction. This integrated view moves beyond examining isolated

relationships and offers a holistic understanding of the employee experience in the digital age.

2.1.2. *The Influence of Perceived Organizational Support on Intrinsic Motivation*

The foundational relationship within the proposed sequential model is the influence of Perceived Organizational Support (POS)—understood as employees' global belief that the organization values their contributions and cares about their well-being (Eisenberger et al., 2020)—on Intrinsic Motivation, which refers to the innate drive to engage in an activity for its inherent satisfaction and the pleasure of the experience itself (Ryan & Deci, 2020). The argument for this direct effect is robustly anchored in Self-Determination Theory (SDT).

SDT provides the central mechanism for this relationship by positing that intrinsic motivation is not a fixed trait but a dynamic state that flourishes in environments supporting the basic psychological needs for autonomy, competence, and relatedness. A high level of POS directly cultivates such an environment. When employees feel supported by their organization, they experience a stronger sense of relatedness, feeling connected to and valued by the organizational entity. Simultaneously, supportive organizations typically provide resources, encourage initiative, and offer constructive feedback, which directly bolsters employees' feelings of competence in their roles and reinforces their sense of autonomy by trusting them to do their work effectively. This need-satisfying climate is the essential nutrient for intrinsic motivation to thrive, as employees begin to engage with their tasks more out of interest and volition rather than external pressure.

Empirical evidence strongly corroborates this theoretical link. The seminal work of Mitchell et al. (2012) in the context of technology implementation demonstrated that POS was a significant predictor of intrinsic motivation to use new IT systems. Their findings indicate that organizational support transforms a potentially mandated technological change into a challenge that employees are more willing to engage with for its inherent interest. This relationship is further validated by longitudinal research. A study by Olafsen et al. (2018) confirmed that a supportive work environment predicts subsequent increases in intrinsic motivation over time, solidifying the causal direction implied by SDT. They argue that POS acts as a precursor that fulfills psychological needs, thereby "fueling" the internal drive of employees.

The critical role of intrinsic motivation as the primary conduit through which POS influences positive outcomes further underscores this connection. For instance, research by Raja et al. (2025) found that the positive effect of POS on employee creativity was significantly transmitted through heightened intrinsic motivation. Similarly, the theoretical framework of Li et al. (2022) and the sequential model of Alam et al. (2022) both position intrinsic motivation as the central psychological mechanism that translates organizational support into enhanced performance and job satisfaction, respectively. Therefore, based on the coherent explanatory power of Self-Determination Theory and the convergent validation from empirical studies across diverse contexts, the following hypothesis is advanced:

H1: Perceived Organizational Support has a positive and significant effect on Intrinsic Motivation.

2.1.3. *The Influence of Intrinsic Motivation on Digital Technology Ease of Use*

The subsequent link in our proposed chain is the influence of Intrinsic Motivation conceptualized as the innate drive to engage in an activity for its inherent satisfaction and the pleasure of the experience itself (Ryan & Deci, 2020) on the perceived Ease of Use of digital technology, which is defined as the degree to which a person believes that using a particular system would be free of mental effort (Venkatesh et al., 2003). This proposition challenges a purely instrumental view of technology acceptance by suggesting that an individual's internal motivational state can fundamentally alter their cognitive appraisal of a technological tool's usability.

The argument for this relationship is powerfully anchored in the core Self-Determination Theory (SDT) principle of competence satisfaction. An employee with high intrinsic motivation is inherently driven by interest, curiosity, and the desire for mastery in their work. When encountering a new digital tool, this innate drive catalyzes a proactive and persistent form of engagement. The intrinsically motivated individual is more likely to explore the system's features voluntarily and invest sustained cognitive effort in understanding its functionalities because the process of learning and problem-solving is itself a source of satisfaction. This volitional and deep engagement accelerates learning curves and provides more frequent opportunities for successful interactions, thereby directly fulfilling the fundamental psychological need for competence. As the employee's actual competence and confidence with the tool grow, their cognitive assessment of its complexity naturally shifts; the system is perceived as less daunting and more manageable. In essence, intrinsic motivation fuels a self-reinforcing cycle of exploration and mastery that directly lowers the perceptual barriers to use.

This theoretical mechanism finds robust support in the technology acceptance literature, both classic and contemporary. The seminal work of Venkatesh (2000) explicitly integrated intrinsic motivation (conceptualized as computer playfulness) into the determinants of perceived ease of use, demonstrating that it serves as a significant "anchor" shaping initial user perceptions. This established that ease of use is not merely a function of objective design but is also molded by the user's internal disposition. Empirical evidence from organizational settings further corroborates this link. The study by Bastari et al. (2020) on bank employees found that intrinsic motivation had a direct and significant effect on perceived ease of use in the context of digitalization, confirming that a user's internal drive positively influences how easy they find a system to be. This relationship holds even with advanced technologies. Lai et al. (2023), in their study on ChatGPT acceptance, identified intrinsic motivation as the strongest overall motivator for use intention. While their model did not find a direct link to ease of use, the paramount importance of intrinsic motivation underscores its powerful role in driving engagement with complex digital tools, a process that inherently involves overcoming usability challenges.

Therefore, building on the theoretical rationale of Self-Determination Theory and reinforced by empirical evidence from diverse technological contexts, it is logically deduced that an employee's internal drive is a critical antecedent that positively shapes their cognitive evaluation of a technology's usability. This leads to the following hypothesis:

H2: Intrinsic Motivation has a positive and significant effect on the Perceived Ease of Use of digital technology.

2.1.4. The Influence of Digital Technology Ease of Use on Job Satisfaction

The final direct relationship in the conceptual model posits the influence of the perceived Ease of Use of digital technology—defined as the degree to which a person believes that using a particular system would be free of mental effort (Venkatesh et al., 2003)—on Job Satisfaction, which represents a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences (Locke, 1976). This proposition is central to understanding how the quality of the technological interface translates into broader affective work-related outcomes.

The argument for this pathway is powerfully explained through the lens of Self-Determination Theory (SDT), specifically through the mechanism of competence need satisfaction. In the modern workplace, digital tools are not peripheral but integral to task execution and goal achievement. When these tools are perceived as easy to use, they function as effective enablers of performance. A system that is intuitive and free of unnecessary complexity allows an employee to execute their tasks efficiently, achieve their objectives, and solve problems effectively. This seamless interaction provides consistent validation of their skills and efficacy, thereby directly fulfilling the fundamental psychological need for competence. According to SDT, the satisfaction of this basic need is a primary source of positive affect and psychological well-being at work. Conversely, a difficult-to-use system creates friction, frustrates goal attainment, and signals inefficacy, thereby thwarting the need for competence and generating frustration and negative affect. Therefore, the perception of ease of use is not merely a cognitive assessment of a tool but a significant determinant of the daily experience of competence or frustration, which in turn forms a foundational component of overall Job Satisfaction.

Substantial empirical evidence supports this theorized link. The foundational work in the Technology Acceptance Model (TAM) established that ease of use is a critical driver of user attitudes and behavioral intentions. Extending this, Wilson et al. (2021) demonstrated in the computer industry that perceived ease of use had a significant positive impact on customer satisfaction, a construct closely analogous to job satisfaction in an employee context. More directly, research by Bolli and Pusterla (2022) found that one of the strongest channels through which digitalization positively affects job satisfaction is the increase in productivity, a direct outcome of using tools that are effective and easy to operate. They explicitly noted that tools which enhance efficacy contribute significantly to positive work appraisal. Furthermore, the study by Martin et al. (2022) on teleworkers provided critical evidence from the opposite angle; they found that profiles of workers who struggled with digital tools or suffered from information overload due to poorly integrated systems experienced decreased job satisfaction and increased stress. This reinforces the idea that when ease of use is low, the psychological need for competence is thwarted, leading to a direct decline in job satisfaction.

Thus, grounded in the competence-satisfaction mechanism of Self-Determination Theory and bolstered by empirical findings across both

organizational and consumer contexts, the following hypothesis is formulated:

H3: The Perceived Ease of Use (PEU) of digital technology has a positive and significant effect on Job Satisfaction.

2.1.5. *The Sequential Mediation Pathway*

Having established the individual direct relationships within the model, the core contribution of this research lies in integrating these links into a comprehensive psychological pathway. This study proposes that the influence of Perceived Organizational Support (POS) on Job Satisfaction is not merely direct but is transmitted through a sequential chain of psychological and cognitive states: first by enhancing Intrinsic Motivation, which then fosters a greater perception of the technology's Ease of Use, ultimately leading to higher Job Satisfaction. This forms a POS → Intrinsic Motivation → Ease of Use → Job Satisfaction mediation sequence.

The argument for this sequential mediation is built upon the cumulative logic of the preceding hypotheses, all underpinned by Self-Determination Theory (SDT). As posited in H1, POS serves as a foundational resource that satisfies psychological needs, thereby cultivating Intrinsic Motivation. This energized, self-determined state, as argued in H2, propels employees to engage more deeply and volitionally with digital tools. This proactive mastery process refines their skills and builds competence, thereby positively altering their cognitive appraisal of the technology's Ease of Use. Finally, as established in H3, this perception of low-effort interaction with a key job tool consistently fulfills the need for competence on a daily basis, which is a direct precursor to the positive emotional state defined as Job Satisfaction. In essence, organizational support provides the "fuel" (intrinsic motivation) that drives the "engine of mastery" (leading to ease of use), which in turn generates the "output" of job satisfaction through repeated experiences of efficacy.

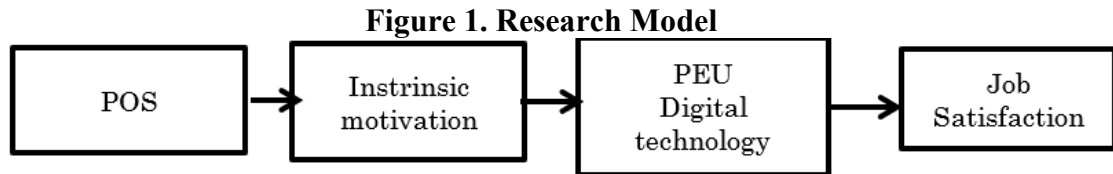
While the complete sequence has not been tested in prior literature, its constituent parts are strongly supported. The foundational work of Mitchell et al. (2012) demonstrated that intrinsic motivation mediated the effect of POS on IT enjoyment and acceptance, establishing the first half of our sequence (POS → IM → IT Attitude). Furthermore, the finding by Bastari et al. (2020) that intrinsic motivation significantly influences perceived ease of use, and the classic model of Venkatesh (2000) that positions intrinsic motivation as an anchor for ease of use, solidly support the second link in our chain. When this is combined with the well-documented relationship between ease of use and positive affective outcomes like satisfaction (Wilson et al., 2021; Bolli & Pusterla, 2022), the logical continuity of the entire pathway becomes clear. This model thus integrates the organizational support literature with technology acceptance research through the unifying lens of SDT, offering a more nuanced explanation of how macro-level organizational policies translate into micro-level employee well-being in the digital workplace.

Therefore, based on the coherent theoretical narrative provided by Self-Determination Theory and the fragmented yet convergent empirical evidence supporting each segment of the pathway, the following hypothesis for sequential mediation is proposed:

H4: The relationship between Perceived Organizational Support and Job Satisfaction is sequentially mediated by Intrinsic Motivation and then by the Perceived Ease of Use of digital technology.

2.2. Research Model

This sequence illustrates how organizational support translates into positive job outcomes through motivational and cognitive mechanisms.



3. Methodology

3.1. Sample and Data Collection

The population of this study comprises employees from organizations in Indonesia that have implemented specific digital technologies as core components of their daily operational workflow. A non-probability sampling technique, namely purposive sampling, will be employed to ensure that the respondents selected have relevant experience with the technology being studied. The specific criteria for respondents include: (1) being a permanent or contract employee, and (2) having actively used the designated digital technology for a minimum period of three months. The sample size will be determined based on the rule of thumb for structural equation modeling or regression analysis, aiming for a sufficient number to ensure the statistical power of the analysis.

Data collection will be conducted using a cross-sectional survey method through an online questionnaire. The instrument will be developed in both English and Indonesian, employing a back-translation procedure to ensure conceptual equivalence and clarity. The questionnaire will be distributed electronically via professional networks, social media platforms, and/or with the assistance of cooperating organizations. A cover letter will precede the questionnaire, explaining the research purpose, ensuring anonymity, and guaranteeing confidentiality to encourage honest responses. The collected data will be screened for missing values and unengaged responses before proceeding to the data analysis stage.

3.2. Measurement

All constructs in this study were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The instruments for each variable were adapted from established scales in previous literature to ensure validity and reliability.

Job Satisfaction was measured using a five-item scale adapted from Sinval and Marôco (2020). This scale captures core affective responses to one's job, including satisfaction, enthusiasm, and enjoyment. A sample item is: "I feel fairly satisfied with my present job." The scale includes both positively and reverse-coded negatively worded items to mitigate response bias.

Intrinsic Motivation was assessed using a four-item scale derived from the Situational Motivation Scale (SIMS) by Guay et al. (2000), with validity evidence supported in recent studies (Wasicek & McHugh, 2024). The items measure the

inherent interest and enjoyment derived from work tasks. A sample item is: "Because I think that this activity is interesting."

Perceived Organizational Support (POS) was evaluated using an eight-item scale based on the foundational work of Eisenberger et al. (1986), which has been validated in contemporary research (Şanlıöz et al., 2023). The scale measures employees' beliefs about the organization's commitment to them across dimensions of valued contribution, care for well-being, and attentiveness. A sample item is: "The organization values my contribution to its well-being." Several items are reverse-coded.

Perceived Ease of Use of digital technology was measured with a four-item scale adapted from Venkatesh and Davis (1996), a widely used instrument in technology acceptance research (Perwitasari, 2022). This scale assesses the degree to which an individual believes using the technology would be free of mental effort. A sample item is: "Using [the technology] does not require difficult effort." All items were contextualized to the specific digital technology being studied in the research.

3.3. Data analysis

The data analysis for this study was conducted using the Statistical Package for the Social Sciences (SPSS) with the addition of the PROCESS macro version 3.5 developed by Hayes (2018). PROCESS is a computational tool specifically designed for path analysis and mediation modeling using ordinary least squares (OLS) regression.

In this research, Model 6 from the PROCESS macro library was employed to test the proposed sequential mediation hypothesis (H4). Model 6 is specifically designed to test a mediation model with two mediators operating in a sequential chain ($X \rightarrow M1 \rightarrow M2 \rightarrow Y$). This aligns perfectly with our theoretical model, where Perceived Organizational Support (X) influences Job Satisfaction (Y) through the sequential pathway of Intrinsic Motivation (M1) and Perceived Ease of Use (M2).

The analysis proceeded by entering the variables into the predefined model slots in PROCESS: POS as the independent variable (X), Intrinsic Motivation as the first mediator (M1), Perceived Ease of Use as the second mediator (M2), and Job Satisfaction as the dependent variable (Y). The significance of the indirect effect (the sequential mediation pathway) was assessed using bootstrap confidence intervals with 5,000 bootstrap samples. A significant indirect effect is confirmed if the 95% bias-corrected bootstrap confidence interval does not include zero. This bootstrapping method is preferred as it does not rely on the assumption of normal sampling distribution, providing greater statistical power for detecting mediation effects.

4. Conclusion

Based on the theoretical framework and literature review, it can be preliminarily concluded that job satisfaction in the modern, digitalized workplace is not a direct outcome of organizational support, but rather the result of a sequential psychological process. This study posits that Perceived Organizational Support fosters a self-determined work environment that enhances employees' Intrinsic Motivation. This internal drive, in turn, encourages proactive mastery of digital tools, leading to a higher perception of their Ease of Use. Ultimately, when technology is perceived as easy and effortless to use, it consistently fulfills employees' need for competence, thereby culminating in greater Job Satisfaction. This proposed sequential mediation model integrates organizational behavior and technology acceptance theories, offering a more

nuanced understanding of the human element in digital transformation. The empirical testing of this model is expected to provide significant insights for both academic discourse and practical managerial interventions.

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VOLATILITY SPILLOVER EFFECT ANALYSIS DURING PERIODS OF HIGH GEOPOLITICAL TENSION: EVIDENCE FROM BITCOIN, GOLD, THE JCI (IHSG), AND THE S&P 500 USING THE GARCH-BEKK MODEL

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Abstract

This study investigates the bi-directional volatility spillover among four critical assets Bitcoin, Gold, the Jakarta Composite Index (IHSG), and the S&P 500 during a period of high geopolitical tension from 2019 to 2024. This turbulent environment was marked by successive shocks, including the US-China Trade War, the COVID-19 pandemic, the Russia-Ukraine invasion, and the Middle East conflict, creating extreme market uncertainty. The Multivariate GARCH-BEKK model is employed to analyze both short term shock transmission (ARCH) and long-term volatility persistence (GARCH) simultaneously. The research also evaluates the safe haven and hedging properties of Gold and Bitcoin against the equity markets (IHSG and S&P 500). Preliminary findings are expected to show significant volatility spillover, particularly with the S&P 500 acting as the core transmitter to the emerging market (IHSG) and the cryptocurrency market (Bitcoin). Furthermore, Gold is hypothesized to retain its status as a reliable Safe Haven or effective hedge, especially during extreme crises, while Bitcoin's role is expected to be unstable due to its high speculative nature. The results provide practical implications for risk management, optimal portfolio diversification strategies, and dynamic asset allocation for investors facing continuous global geopolitical risks.

Keywords: *Volatility spillover, GARCH-BEKK, geopolitical tension, safe haven*

PENGARUH UKURAN PERUSAHAAN DAN KOMPLEKSITAS OPERASIONAL TERHADAP KETEPATAN WAKTU PELAPORAN KEUANGAN PADA PERUSAHAAN SEKTOR ENERGI DI BEI DENGAN PERGANTIAN CEO SEBAGAI VARIABEL MODERASI

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Abstract

This study aims to analyze the effect of firm size and operational complexity on the timeliness of financial reporting in energy sector companies listed on the Indonesia Stock Exchange (IDX), with Chief Executive Officer (CEO) turnover as a moderating variable. The research is motivated by the importance of timely financial reporting as an indicator of transparency and accountability in public companies, particularly in the energy sector, which is characterized by high capital intensity and complex operations. The study population consists of all energy sector companies listed on the IDX during the 2020–2024 period. The sampling technique used was purposive sampling, resulting in 90 companies that met the research criteria. Data were obtained from annual reports and financial statements published by the IDX. Data analysis was performed using Moderated Regression Analysis (MRA) with SPSS version 26. This research is expected to provide both empirical and theoretical contributions to the understanding of factors influencing the timeliness of financial reporting in the energy sector. Theoretically, the findings are expected to enrich the literature on financial reporting timeliness by incorporating the effects of firm size, operational complexity, and CEO turnover as a moderating variable. Practically, the study is expected to serve as a reference for corporate management to improve the effectiveness of financial reporting systems and for investors and regulators to assess compliance and corporate governance quality within Indonesia's energy sector.

Keywords: *Timeliness of Financial Reporting, Firm Size, Operational Complexity, CEO Turnover, Energy Sector.*

THE EFFECT OF CUSTOMER REVIEW, SOCIAL MEDIA ADVERTISING EFFECTIVENESS, AND VISITOR COMPLAINTS ON PURCHASE DECISION AT DUNIA FANTASI (DUFAN), TAMAN IMPIAN JAYA ANCOL JAKARTA

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Abstract

This study analyzes the influence of customer reviews, social media advertising, and visitor complaints on purchase decisions at Dunia Fantasi (Dufan), Taman Impian Jaya Ancol, Jakarta. The background of this research comes from the changing number of visitors in recent years, showing the need to understand what affects their ticket purchase decisions. In today's digital era, visitors are influenced not only by ticket prices and facilities but also by online reviews, social media content, and service quality. This study uses a quantitative method with a survey of 100 respondents who have visited Dufan and bought tickets at least twice. The data were collected using purposive sampling and analyzed with multiple linear regression through SPSS. The results show that customer reviews have a positive and significant effect on purchase decisions, meaning good and honest reviews can increase visitor trust. Social media advertising also has a positive and significant effect, as creative and interesting content on Instagram and TikTok attracts visitors to buy. On the other hand, visitor complaints have a negative and significant effect, showing that poor service responses reduce satisfaction and interest to return. Overall, these three factors together influence purchase decisions. The results are expected to help Dufan improve marketing, service quality, and customer satisfaction.

Keywords: *Customer Review, Social Media Advertising, Visitor Complaint, Purchase Decision*

THE EFFECT OF SERVICE QUALITY, BRAND IMAGE, AND PRODUCT QUALITY ON CONSUMER SATISFACTION AND ITS IMPACT ON THE MARKETING PERFORMANCE OF BE JUICE BEVERAGES IN PAMULANG, SOUTH TANGERANG

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Abstract

This research was conducted with the aim to prove "The influence of service quality, brand image, and product quality on consumer satisfaction and its impact on the marketing performance of BE Juice Pamulang South Tangerang beverages. The aim in this study was to conduct an analysis related to efforts to improve consumer satisfaction and the performance of BE Juice beverage marketing. Sampling based on the Purposive Sampling technique, as many as 77 respondents using proportional random sampling. The analysis method used is statistical-partial least square using the SEM SMARTPLS 3.0 software analysis tool. The results showed that the quality of service has a positive and significant effect on consumer satisfaction, brand image has a positive but not significant effect on consumer satisfaction, product quality has a positive and positive effect on consumer satisfaction, consumer satisfaction has an effect but not significantly on marketing performance.

Keywords: *service quality, brand image, and product quality on consumer satisfaction, marketing performance*

1. Introduction

During the current Covid-19 pandemic, people are encouraged to maintain their health. People need to adopt a healthy lifestyle with balanced nutrition in order to boost their immune system, because with a strong immune system, a person will not be easily infected with Covid-19. Balanced nutrition consists of consuming a variety of foods, implementing a clean and healthy lifestyle, engaging in physical activity and exercise, and maintaining and monitoring a normal body weight.

Generally, the main factors influencing food consumption are individual characteristics, food characteristics, and environmental characteristics. Individual characteristics include age, gender, education, income, nutrition knowledge, cooking skills, and health. Meanwhile, food characteristics include taste, appearance, texture, price, food type, shape, seasoning, and food combinations.

The results of research by Ni Komang et al. 2020 show that service quality has a positive and significant effect on customer satisfaction at MM Juice & Restaurant, Teuku Umar Branch. Service quality is a level of service mastered by an institution related to customer expectations and needs, which becomes the benchmark for companies in setting service quality standards. From various definitions and meanings, it can be interpreted as suitable for continuous use if the requirements and demands are met and the product is free from defects. Service quality is the customer's evaluation of the overall excellence or

characteristics of a product or service as defined by Ardhana (2010) in Anis, Rahayu, Andini (2022).

2. Methodology

2.1. Theoretical Framework

A theoretical framework is a network that is logically constructed, explained, and elaborated between variables that are considered relevant to the problem situation and identified through processes such as interviews, observations, and literature surveys. (Uma Sekaran, 2007:127)



Figure 1.1
Research Concept

2.2. Problems

Based on the background described above, the problems in this study are as follows:

1. Does service quality affect customer satisfaction?
2. Does brand image affect customer satisfaction?
3. Does product quality affect customer satisfaction?
4. Does customer satisfaction affect marketing performance?

3. Result and Discussion

3.1. Inner Model Evaluation

An evaluation of the inner model in the partial least squares analysis was conducted to determine the suitability of the structural model that had been developed. The inner model evaluation will describe the R-square (R²) value and test the research hypothesis.

R-square Based on data processing with PLS, the coefficient of determination (R² square) values are shown in Table 1.

Table 1
R-square Model Value

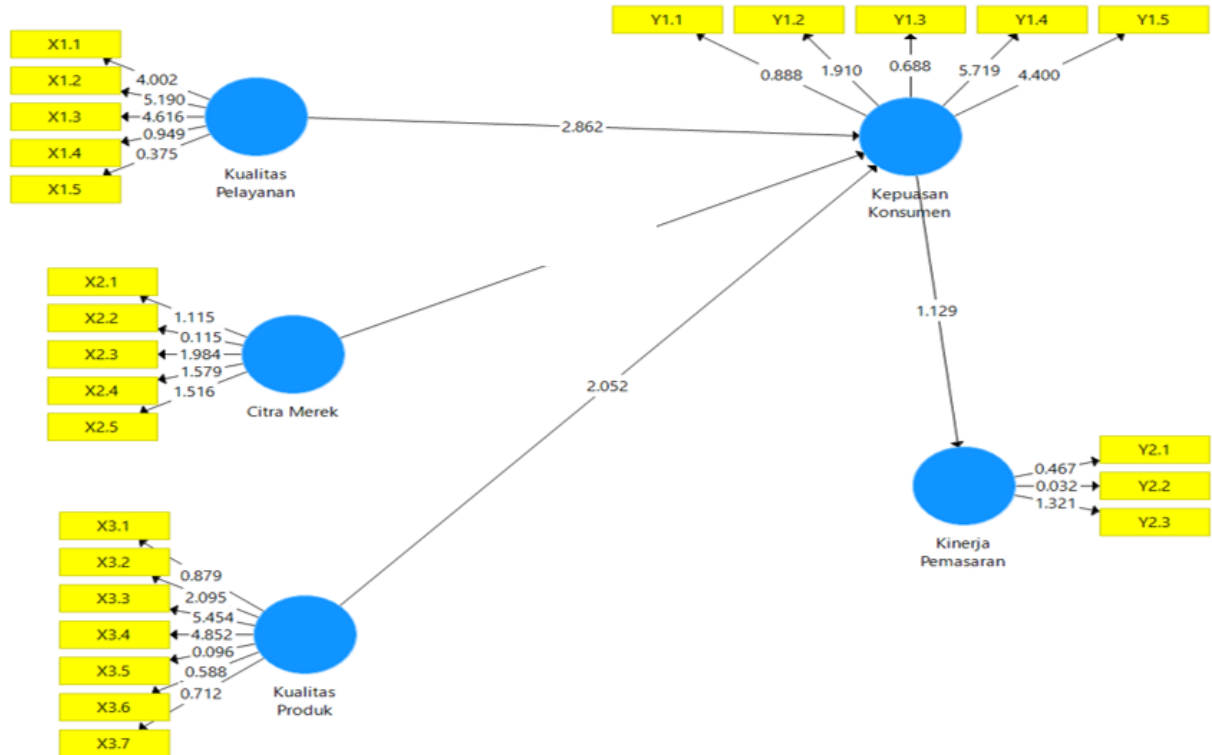
	R-Square	Adjusted R-Square
Consumer satisfaction	0.934	0.932
Marketing performance	0.054	0.043

Source: Data processed by SmartPLS, 2022

R-square is used to determine the goodness of fit of the model of the influence of exogenous variables on endogenous variables, where the higher the R-square value, the more significant the influence (Ghozali 2014). The R-square value for the consumer satisfaction variable is 0.934, which means that service quality, brand image, and product quality can explain 93.4% of marketing performance. The R-square value for the marketing performance variable is 0.054, which means that service quality, brand image, product quality, and consumer satisfaction can explain 5.4% of marketing performance.

3.2.Inner Weight

The evaluation of inner weight is used to see the magnitude of the influence on each structural model path, where the values obtained are the bootstrap results from the existing sample. The evaluation of inner weight is used to see the magnitude of the influence on each structural model path, where the values obtained are the bootstrap results from the existing sample.



Source: Data processed by SmartPLS, 2022

Figure 1. Bootstrap Results
Table 2
Inter-Variable Effects in Structural Equations and Hypothesis Testing

			Original sample	t-Statistics	P Values	Description
H ₁	Service quality→	consumer satisfaction	0.503	2.862	0.004	Accepted
H ₂	Brand image→	consumer satisfaction	0.145	1,433	0.153	Rejected
H ₃	product quality→	consumer satisfaction	0.421	2.052	0.041	Accepted
H ₄	Consumer satisfaction →	marketing performance	0.233	1.129	0.260	Rejected

Source: Data processed by SmartPLS, 2022

3.3.Research Discussion

Based on the research results, the research discussion is as follows:

1) Service quality on customer satisfaction

The research results show that there is a positive and significant effect of service quality on customer satisfaction. These results are not in line with the research by Hasna, Budi (2022),

which found that service quality does not affect customer satisfaction. This is because service and providing service according to the queue are not factors that have an effect on customer satisfaction.

2) Brand image on customer satisfaction

The results show that brand image has a positive but insignificant effect on customer satisfaction. These results are not in line with the research by Hasna, Budi (2022), which found that brand image has a significant effect on customer satisfaction. This is because the easier it is for consumers to remember the Noni Juice brand, the higher the level of customer satisfaction.

3) Product quality on consumer satisfaction

The results show that product quality has a positive and significant effect on consumer satisfaction. These results are not in line with the research by Hasna and Budi (2022), which found that product quality does not impact customer satisfaction. This is because quality and confidence in distinctive flavors are not factors that influence customer satisfaction.

4) Customer satisfaction with marketing performance

The results show that there is a positive but insignificant effect of customer satisfaction on marketing performance. These results are not in line with the research by Akhmad, Sugeng, Rini (2019), which found that there is an effect of Customer Satisfaction (Y1) on Business Performance (Y2), with a structural coefficient of 0.364 and a P-value.

4. Conclusion

4.1. Conclusion

The conclusions of this study are as follows:

1. Service quality on customer satisfaction

The results of this study indicate that there is a positive and significant effect of service quality on customer satisfaction.

2. Brand image on customer satisfaction

The results of this study show that there is a positive but insignificant effect of brand image on customer satisfaction.

3. Product quality on customer satisfaction

The results show that product quality has a positive and significant effect on customer satisfaction.

4. Customer satisfaction on marketing performance

The results show that there is a positive but insignificant effect of consumer satisfaction on marketing performance.

4.2. Recommendations

Based on the conclusions of this study, the following recommendations are made:

1. Companies must further improve service quality in order to maintain and increase customer satisfaction.

2. Brand image should be further enhanced with the hope that consumer satisfaction will be created with this strategy.

3. Product quality should be further improved so that customer satisfaction will increase and the number of satisfied customers will grow.

Customer satisfaction should be further enhanced with the hope of improving marketing performance

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Sample and Data Collection

The object of this study is the marketing performance of Yakult beverage products, which is used as the dependent variable influenced by product quality, price perception, and brand image as independent variables. The subjects of this study are consumers of Yakult beverage products in Kampung Bulak RT 04 Jatiasih. The data source in this study is primary data. The type of data used is quantitative data.

The population in this study included all respondents, namely consumers of Yakult beverage products in Kampung Bulak RT 04 Jatiasih. The researcher used a non-probability sampling approach with a purposive sampling technique with a sample size of 100 respondents. The technique used in this study was a quantitative approach. The method used was a questionnaire method using a Likert scale.

Measurement

Product Quality, Price Perception, Brand Image, and Marketing Performance. All variables were measured using a Likert scale from 1 to 5, which indicates strongly disagree to strongly agree. All variable measurements have passed the validity test with factor analysis and passed the reliability test with Cronbach Alpha. All variable measurements have been fulfilled and declared feasible.

Data Analysis

Descriptive analysis can be used when the aim is only to describe sample data and not to draw conclusions that apply to the population from which the sample was taken (Sugiyono, 2017). The method used in this study was to test the variables that were the focus of the research, namely product quality, price perception, and brand image as independent variables and marketing performance as the dependent variable.

Inferential analysis is an analysis used to analyze sample data and apply the results to the population. Data processing in this study was carried out using the SPSS for Windows Version 25.00 application, starting with multiple linear regression analysis, instrument testing, classical assumption testing, model feasibility testing, and hypothesis testing. This study was designed to analyze the effect of independent variables, namely product quality, price perception, brand image, and dependent variables, namely marketing performance. The multiple linear regression equation used in this study is as follows:

$$KP = b_1 \text{ KPK} + b_2 \text{ PH} + b_3 \text{ CM}$$

Results

The variables of product quality, price perception, brand image, and marketing performance were declared valid. This can be seen from the calculation results that $r_{\text{calculated}} > r_{\text{table}}(0.195)$. Based on Table 1, it can be seen that the Cronbach's Alpha value for the four variables above is 0.6. Thus, the values of the four variables are declared reliable.

Table 1. Reliability Test Results

Variable	Reliability	Alpha	Decision
Product Quality	0.872	0.6	Reliable
Price Perception	0.849	0.6	Reliable
Brand Image	0.835	0.6	Reliable
Marketing Performance	0.877	0.6	Reliable

Source: Data processed using SPSS version 25.00

The Kolmogorov-Smirnov test was conducted as a normality test, with an unstandardized residual Kolmogorov Monte Carlo Sig. (2-tailed) of $0.094 > 0.05$, so it can be concluded that the data is normally distributed. Based on the results of the multicollinearity test, it can be concluded that there is no multicollinearity in the regression equation model, because the VIF value is > 10 and the Tolerance value is > 0.10 for all variables. Meanwhile, the heteroscedasticity test using the Glejser test obtained a significance value > 0.05 , which means that there is no heteroscedasticity problem.

Table 2. Hypothesis Testing Results

Variable	B	t	sig
Constant		-.981	.329
Product Quality	.444	3.868	.000
Price Perception	.006	.063	.950
Brand Image	.342	2.985	.004
Adj R ²	.556		
F	40.151		.000

Source: Processed data, 2021

Based on Table 2, it can be explained that the significance value is $0.000 > 0.05$. This means that the model used in this study is considered significant and feasible so that the study can be continued, and all independent variables have a significant effect on changes in the dependent variable. Meanwhile, the coefficient of determination (R^2) value is 0.556. This means that the independent variables can explain 55.6% of the change in the dependent variable, namely marketing performance, while the remaining 44.4% is explained by other factors outside the scope of this study.

Based on the t-test results in Table 2 above, it can be explained that from the t-calculated for product quality is 3.868 and the significance is $0.000 < 0.05$, the effect of the Product Quality variable on Marketing Performance, H_0 is rejected and H_a is accepted, so it can be concluded that Product Quality has a positive and significant effect on Marketing Performance. The t-value (calculated) for price perception is 0.063 and the significance is $0.950 > 0.05$, so the effect of the Price Perception variable on Marketing Performance, H_0 is accepted and H_a is rejected, so it can be concluded that Price Perception has an effect but is not significant on Marketing Performance. The t-value for brand image is 2.985 and the significance is $0.004 < 0.05$, so the effect of the Brand Image variable on Marketing

Performance, H_0 is rejected and H_a is accepted, so it can be concluded that Brand Image has a positive and significant effect on Marketing Performance.

Discussion

The Influence of Product Quality on Marketing Performance (Kotler & Armstrong, 2015) states that product quality is the value of a product that satisfies consumers both physically and psychologically, which shows the attributes or characteristics contained in the product or result. A product must strive to create product quality that meets consumer desires in order to create effective marketing performance and ultimately benefit the company and the product itself.

Based on the results of hypothesis testing, this study shows that product quality in a company is one of the factors that consumers are interested in, so that quality is one of the things that must be maintained and improved. This is in line with research by (Maulidiyah & Sudarwanto, 2021) which reveals that good quality is expected to meet consumer expectations so that marketing performance improves. In relation to this description, the results of research on product quality prove that it has a positive and significant effect on the marketing performance of Yakult beverage products. This is in line with previous research by (Kasmiruddin, 2016) which states that Product Quality has a positive and significant effect on Marketing Performance.

The Influence of Price Perception on Marketing Performance

(Kotler & Keller, 2016) reveals that price perception is the amount of money charged for a product or service and the value traded consumers to gain benefits from using the product or service. Consumers need to consider price perception as a factor in marketing performance. This is because price perception reflects consumers' tendency to use price as a measure of product quality. Pricing is a crucial factor in increasing business profits. To obtain large profits, it is not necessary to charge high prices. This is in line with research by (Nawangasasi & Friantin, 2020) which reveals that by setting the right price, it will attract consumers, thereby increasing sales volume. Sales volume is a form of marketing performance.

In relation to this, the results of research on price perception show that it has an effect but is not significant on the marketing performance of Yakult beverage products. This is because the price perception factor has not been fully applied and understood by consumers of Yakult beverage products in Kampung Bulak RT 04 Jatiasih. For Yakult beverage consumers who are aware of price perception but do not yet understand how to apply it properly, there is no significant change in improving marketing performance. This research is in line with the research by (Maharani, 2021), which states that price perception has an influence but is not significant on marketing performance.

The Influence of Brand Image on Marketing Performance

(Kotler & Keller, 2016) reveals that brand image describes the external characteristics of a product or service, such as how a brand strives to meet the psychological or social needs of its customers. If a brand is already in the minds of consumers, it will certainly help companies to provide the best, especially to consumers who are loyal to Yakult beverage products. This is in line with research by (Alam, 2015) which reveals that a good company reputation will improve marketing performance, because a good reputation reflects the company's competence and excellence, which will increase customer satisfaction.

In line with the above discussion, the research findings on brand image demonstrate that it has a positive and significant impact on the marketing performance of Yakult beverages.

This aligns with previous research by (Jasmani, 2018), which states that brand image has a positive and significant impact on marketing performance.

Conclusion

Based on the results of the hypothesis test, it shows that Product Quality has a positive and significant effect on Marketing Performance. This means that if a product creates product quality that meets consumer needs, it will create effective marketing performance and bring profits to the company and its products. In addition, the results of the price perception hypothesis test also show that Price Perception has an effect but is not significant on Marketing Performance. This means that consumers do not yet understand how to apply price perception properly. Thus, there is no significant change in improving marketing performance. The results of the brand image hypothesis test also show that Brand Image has a positive and significant effect on Marketing Performance. This means that if a company has a good brand image, its marketing performance will also improve. This is because it reflects the capabilities and strengths of a company that will satisfy consumers.

Research implications

Yakult beverage products must focus on improving product quality to achieve effective marketing performance. Similarly, in terms of price perception, Yakult beverage products must also maximize price perception to improve marketing performance. In addition, Yakult beverage products must also maintain their brand image to improve marketing performance. This is because a good brand image reflects the company's excellence.

Research Limitations and Recommendations

This research is limited to the population of Yakult beverage consumers in Kampung Bulak RT 04 Jatiasih, so the level of generalization is also limited to the Kampung Bulak RT 04 Jatiasih environment only. Therefore, to provide support for a stronger theory, future research should add to or increase the population size and population coverage.

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THE EFFECT OF ARTIFICIAL INTELLIGENCE (AI) IMPLEMENTATION, REMOTE WORK FLEXIBILITY, AND DIGITAL COMPETENCE SUPPORT ON GENERATION Z EMPLOYEE RETENTION AT THE RUANG GURU STARTUP IN SOUTH JAKARTA

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Abstract

This research aims to analyze the effect of Artificial Intelligence (AI) implementation, remote work flexibility, and digital competence support on the employee retention of Generation Z at the Ruang Guru startup in South Jakarta. The background of this research is based on the high employee turnover rate post-pandemic, especially in Indonesia's startup sector, which reached 20.8%. This challenge becomes crucial with the entry of Generation Z, who demand flexibility, and the massive adoption of AI in the workplace. This study uses the Job Demands-Resources (JD-R) Theory, where AI implementation, work flexibility, and digital competence support are positioned as Job Resources expected to increase retention.

The research method used is quantitative with inferential analysis. The population of this study is 1,200 Generation Z employees at Ruang Guru South Jakarta. Using a Probability Sampling technique and the Krejcie and Morgan table, the research sample was set at 291 respondents. Primary data was collected through questionnaires using a Likert Scale. The data analysis technique uses multiple linear regression analysis to test hypotheses partially (t-test) and simultaneously (F-test). The practical benefit of this research is to provide data-driven strategic insights for Ruang Guru and other startup industries in designing effective retention policies for Generation Z talent.

Keywords: *Employee Retention, Generation Z, Artificial Intelligence, Remote Work Flexibility, Digital Competence Support, Startup, Ruang Guru*

THE INFLUENCE OF EXCHANGE RATE VOLATILITY PERCEPTION, HEDGING KNOWLEDGE, AND RISK TOLERANCE ON INVESTMENT DECISIONS OF RETAIL INVESTORS

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Abstract

This study aims to analyze the influence of exchange rate volatility perception, hedging knowledge, and risk tolerance on investment decisions among retail investors aged 30 years and below in Indonesia. The increasing number of young investors in the Indonesian capital market has not been matched by adequate financial literacy and risk management capabilities. Global uncertainty and high exchange rate volatility have created diverse risk perceptions among investors, affecting their investment decision-making patterns. This research employs a quantitative approach with a survey method, using purposive sampling to select respondents. Multiple linear regression analysis is applied to examine both the partial and simultaneous effects of the independent variables on investment decisions. The findings are expected to enrich behavioral finance literature by emphasizing the importance of risk perception, hedging literacy, and risk tolerance in shaping rational investment behavior. Practically, the results serve as a reference for young investors and financial institutions to enhance risk management strategies amid global economic volatility.

Keywords: *exchange rate volatility perception, hedging knowledge, risk tolerance, investment decision, retail investors.*

AI-DRIVEN STORYTELLING AND CONSUMER TRUST: THE ROLE OF VIRTUAL INFLUENCERS IN PROMOTING HEALTH AND FUNCTIONAL FOOD PRODUCTS IN INDONESIA

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Abstract

This study investigates how AI-powered virtual influencers build consumer trust and influence purchase intentions for health and functional food products—particularly sea moss-based supplements—in Indonesia. It emphasizes storytelling as a key factor that bridges technological precision and cultural authenticity. A mixed qualitative exploratory approach was employed, combining three case studies of Indonesian health brands using AI-driven influencer campaigns and 15 semi-structured interviews with marketing and communication professionals. Thematic analysis was conducted using NVivo software. AI-driven storytelling increases consumer trust by creating emotional and cultural resonance. Virtual influencers' narratives—when personalized with Indonesian values—are perceived as authentic and trustworthy. Storytelling also triggers faster purchasing behavior than data-driven or informational content. Health brands should integrate AI storytelling into marketing strategies to humanize digital communication. Localized narratives about wellness, family, and balance enhance both brand credibility and sales effectiveness. This study extends existing research on AI influencer marketing (Allal-Chérif et al., 2024) by situating it in the Indonesian cultural context and highlighting storytelling as a determinant of trust and purchase intention.

Keywords: *AI influencer, storytelling, Indonesia, health food, sea moss, consumer trust, digital marketing*

STRATEGI MANAJEMEN ORGANISASI DALAM MEMBANGUN PERKEMBANGAN DUNIA BISNIS MELALUI BUDAYA INOVASI DI PT BINA SARANA SUKSES TAHUN 2025

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Abstract

Latar belakang: Dunia bisnis bergerak sangat cepat dalam menghadapi Environmental, Social and Governance (ESG) menyebabkan organisasi (Perusahaan) harus beradaptasi dalam meningkatkan daya saing. Strategi pengembangan sistem Cultivating Innovation Culture (CIC) merupakan salah satu cara untuk menciptakan ide-ide baru dari semua level organisasi. Konsep ini menyatu dengan budaya perusahaan dalam menjadikan inovasi sebagai identitas dan keunggulan. Sebagai perusahaan kontraktor tambang, PT Bina Sarana Sukses yang memiliki core value Sinergi Maximize memberlakukan program improvement and innovation management dalam usaha membangun budaya inovasi dalam organisasi. Tujuan: Penelitian ini bertujuan untuk mengeksplorasi dan analisis secara mendalam terhadap budaya inovasi yang di PT Bina Sarana Sukses. Desain penelitian: mixed methode (kuantitatif dan kualitatif) dengan menganalisa keterlibatan karyawan dalam melakukan inovasi di perusahaan. Metode kuantitatif melalui analisa keterlibatan karyawan dalam inovasi secara yearly berjalan dalam ruang lingkup Jobsite maupun Departement. Sedangkan kualitatif untuk menganalisa regresi atau korelasi untuk melihat hubungan antar keterlibatan dengan inovasi yang dihasilkan. Populasi penelitian ini seluruh karyawan PT Bina Sarana Sukses dengan kriteria inklusi karyawan yang mengikuti program Innovation Management dari Januari s/d Oktober 2025 dan jenis sampel Snowball Sampling yaitu 2.508 karyawan (Staff dan Non Staff). Hasil penelitian diperoleh pencapaian program inovasi jenis SS sebesar 50,7% dan QCC sebesar 110%. Kesimpulan terdapat pengaruh antara keterlibatan karyawan dalam budaya inovasi dalam pencapaian target program Innovation Management di PT Bina Sarana Sukses.

Kata kunci: budaya, program, manajemen inovasi, kreativitas

FROM REVIEWS TO RATINGS: THE IMPACT OF DIGITAL FEEDBACK AND PROMOTIONS ON ONLINE PURCHASE DECISIONS IN E-COMMERCE PLATFORMS

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Abstract

This study examines the influence of product reviews, store ratings, and promotions on the purchasing decisions of Glad2Glow products on Shopee. A quantitative research approach was employed, utilizing a survey method that involved distributing questionnaires to 160 respondents who had purchased or intended to purchase Glad2Glow products. The sampling technique used was non-probability purposive sampling, and the data were analyzed using multiple linear regression with the assistance of SPSS version 25. The t-test results reveal that product reviews, store ratings, and promotions each have a positive and significant effect on purchasing decisions, with all p-values below 0.05. Meanwhile, the F-test results show that these three variables collectively have a significant impact on purchasing decisions. The Adjusted R-squared value of 0.605 indicates that the three independent variables explain 60.5% of the variation in purchasing decisions. In contrast, the remaining 39.5% is explained by other factors like price, product quality, influencers, and brand image. All hypotheses were accepted both partially and simultaneously, indicating that reviews, ratings, and promotions influence purchasing decisions. Therefore, it is recommended that Glad2Glow enhance the quality of product reviews, maintain positive store ratings, and optimize promotional strategies to strengthen consumer purchasing behavior on the Shopee platform.

Keywords: Product Reviews, Store Ratings, Promotions, Purchase Decision, E-Commerce

1. Introduction

The development of digital technology has significantly transformed consumer behavior, particularly in terms of purchase decision-making. While purchase decisions were once primarily based on direct experiences in physical stores, the trend has shifted toward e-commerce platforms that offer convenience, speed, and a wide range of product options. Consumers now rely heavily on digital information such as product reviews, store ratings, and online promotions. This shift not only changes how consumers shop but also how they evaluate product quality, credibility, and value.

According to the Indonesian Internet Service Providers Association (APJII), the number of internet users in Indonesia in 2024 reached approximately 225 million, or 79.5% of the total population. This growth directly contributed to the increase in national e-commerce transaction values, projected to reach IDR 487 trillion in the same year. This phenomenon illustrates how digitalization has become a primary driver shaping Indonesian consumer behavior.

A purchase decision represents the final stage in the consumer decision-making process, occurring when an individual decides to buy a product after evaluating information and alternatives. In a digital context, this process is heavily influenced by factors beyond direct product experience, such as other users' reviews, store ratings, and promotional strategies implemented by sellers or e-commerce platforms.

In e-commerce, product reviews and store ratings play essential roles in establishing consumer trust. Consumers tend to rely on the experiences of previous buyers when making purchasing decisions. Positive reviews increase purchase confidence, while negative reviews decrease purchase interest. Similarly, store ratings reflect seller reputation and customer satisfaction levels; higher ratings generally increase the likelihood of a purchase.

Meanwhile, promotion serves as an effective digital marketing strategy to encourage consumers to make immediate purchases. Various promotional tools, including discounts, vouchers, cashback offers, free shipping, and flash sales, have proven effective in stimulating purchase intentions (Septiyadi et al., 2021). Previous research indicates that the interplay of favorable reviews, elevated store ratings, and appealing promotions significantly affects the buying choices of Shopee users (Isnaeini et al., 2024)

However, most studies have examined these variables separately rather than simultaneously. Shopee has emerged as the dominant e-commerce platform in Indonesia. A 2023 Momentum Works report highlights that Shopee captured nearly half of the Southeast Asian e-commerce market share, with total transactions exceeding USD 55 billion. This demonstrates Shopee's substantial impact on consumer behavior in the digital marketplace. Among the many brands competing on the platform, Glad2Glow, a rapidly growing beauty brand, stands out.

The beauty product category is highly dependent on consumer trust and perception. Before making a purchase, prospective customers often read product reviews to confirm the product's safety, quality, and compatibility with their skin type.

Positive reviews foster trust, whereas negative reviews significantly diminish purchase interest. Therefore, product reviews, store ratings, and promotional strategies are critical factors in beauty product purchase decisions.

Although prior studies (Septiyadi et al., 2021; Isnaeini et al., 2024) have found significant partial effects of these variables, few have examined their simultaneous influence in the context of beauty products sold via Shopee. This research gap makes the current study relevant, as beauty product purchases depend heavily on trust and user experiences.

Accordingly, this study aims to analyze the effect of product reviews, store ratings, and promotions on purchase decisions for Glad2Glow products on Shopee. The findings are expected to contribute to consumer behavior literature in the digital era and offer practical implications for businesses and e-commerce managers in shaping marketing and reputation management strategies.

This research offers originality by investigating the interplay between three essential digital elements — reviews, ratings, and promotions — on the purchase of beauty products on Shopee. Thus, it expands understanding of digital consumer decisions and demonstrates how trust and promotional strategies shape purchasing behavior in a competitive e-commerce environment.

2. Hypothesis Development

Marketing Management

According to Budianto et al. (2023), marketing is an activity involving an exchange between two parties, where companies offer products and customers provide payment in return, reflecting mutual needs and desires.

Digital Marketing

Khairunnisa (2022) defines digital marketing as an online marketing strategy conducted through the internet using digital tools and techniques such as social media, search engines, and e-commerce. It enables firms to reach broader audiences at lower costs while fostering two-way interaction between companies and consumers.

Purchase Decision

A purchase decision is a multi-stage process that involves recognizing a need, searching for information, evaluating alternatives, making a purchase choice, and conducting post-purchase evaluation (Solomon & Russell, 2024). Firmansyah (2019, as cited in Rozi and Khuzaini, 2021) notes that consumer satisfaction following an initial purchase increases the likelihood of repeat purchases, indicating that buying behavior is influenced not only by rational factors but also by perception, experience, and emotion.

Product Reviews

Product reviews serve as an electronic word-of-mouth communication medium, providing firsthand user experiences. According to Sari and Realize (2023), product reviews have a positive and meaningful impact on purchase decisions, even if partially. Positive reviews build trust and purchase interest, while negative ones create hesitation (Abdillah & Pramesti, 2024).

Store Rating

Ratings or star evaluations represent a form of assessment that reflects the level of consumer satisfaction with a product or store. If a product receives a full five-star rating, it is considered to be of very high quality or nearly perfect. Conversely, if the number of stars is less than five, consumers typically reconsider their decision before making a purchase (Lackermair et al., 2013, as cited in Nurhayati et al., 2023). Store ratings represent the degree of consumer satisfaction expressed through star evaluations. Higher ratings reflect greater consumer confidence in the seller (Aisyah & Rosydi, 2023).

Promotions

Promotion refers to business activities designed to inform, persuade, and remind consumers about a product or service. According to Firmansyah (2019, as cited in Sasambe et al., 2023), promotion encompasses various activities aimed at introducing products to target markets through diverse media channels. Prior studies have shown that more appealing and frequent promotional strategies positively affect purchase likelihood (Septiyadi et al., 2021).

Relationship between Variables

Based on the robust findings of previous studies conducted by Sari and Realize (2023), Lackermair, Kailer, and Kanmaz (2013) in Setiawan et al. (2023), Mulyana (2021), Shidieq (2020) in Nurhayati et al. (2023), Sari and Kurniawan (2022), Wulandari and Subandiyah (2022), Aisyah and Rosyidi (2023), Almayani and Graciafernandy (2023), Muharam and Soliha (2017) in Ernawati (2021), Mahendra and Edastama (2022), Ramadani and Syahputra (2024), and Supriyanto and Widiyanto (2022), we can confidently state that product reviews, store ratings, and promotions have a positive and significant influence on purchase decisions. This confidence in the research findings leads to the formulation of the following research hypotheses:

H1: Product reviews significantly affect the purchase decisions of Glad2Glow products on Shopee.

H2: Store ratings have a significantly affect the purchase decisions of Glad2Glow products on Shopee.

H3: Promotions significantly affect the purchase decisions of Glad2Glow products on Shopee.

H4: Product reviews, store ratings, and promotions simultaneously affect purchase decisions for Glad2Glow products on Shopee.

Research Model

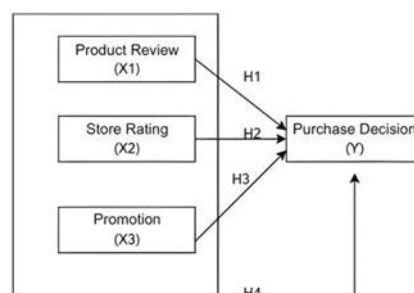


Figure 1 Research model

3. Methodology

Sample and Data Collection

This study employs a quantitative explanatory design. The population includes all consumers who have purchased or plan to purchase Glad2Glow products via Shopee. The sample consisted of 160 respondents selected using a purposive sampling technique. According to Sugiyono

(2023), purposive sampling is a non-probability sampling method used to select respondents who meet specific criteria relevant to the study's objectives. The criteria for this research include consumers aged 16–40 years who have a Shopee account and have either purchased Glad2Glow products or intend to do so.

The number of samples was determined using the formula suggested by Hair and Hengky (2023), which states that if the population size is unknown, the sample can be estimated by multiplying the total number of indicators by five to ten times. Based on this formula, with 28 indicators, this study required 160 respondents. All variables were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), following the guidelines of Sugiono (2023). Data were collected using an online questionnaire (Google Form) and analyzed using SPSS version 25.

Measurement

Product Review

The Product Review variable was measured using four indicators adapted from Lackermair et al. (2013) in Setiawan et al. (2023), consisting of awareness, frequency, comparison, and influence. The statements in the questionnaire were adopted and slightly modified to fit the context of consumer reviews of Glad2Glow products on Shopee. Additional dimensions were also drawn from Lee and Shin (2014) in Harli et al. (2021), covering motivation, source, and content. These indicators were employed to evaluate how consumers perceive and respond to online product reviews when making purchasing decisions.

Store Rating

The Store Rating variable was measured using three indicators adapted from Shidieq (2020) in Nurhayati et al. (2023), namely credibility, expertise, and comfort. The questionnaire items were adjusted to reflect consumer perceptions of store ratings displayed on the Shopee platform. Furthermore, Aji et al. (2023) identified three essential dimensions of store rating—usefulness, controllability, and convenience—which were also incorporated into this study to capture consumer perceptions of the online store's reliability.

Promotion

The Promotion variable was measured using five indicators adapted from Kotler and Keller (2009) in Septiyadi et al. (2021): promotion reach, promotion quality, promotion quantity, promotion timing, and target accuracy. All items were slightly modified to represent Glad2Glow's promotional strategies through Shopee's digital platform. Additionally, Ali (2025) outlined five key promotional dimensions: advertising, sales promotion, public relations, personal selling, and digital or social media marketing. Together, these indicators were used to assess the overall effectiveness and reach of the promotional strategies implemented.

Purchase Decisions

The Purchase Decision variable was measured using four indicators adapted from Muharam and Soliha (2017) in Ernawati (2021): product choice, brand choice, purchase timing, and

payment method. The questionnaire statements were modified to capture how consumers make purchasing decisions for Glad2Glow products on Shopee. Complementarily, dimensions from Nurliyanti et al. (2022) were also applied, emphasizing the stages of product selection, brand preference, purchase scheduling, and payment decision. These indicators collectively describe consumers' purchasing behavior and decision-making process regarding Glad2Glow products on Shopee.

All variables were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), in accordance with Sugiyono (2023) guidelines.

Table 1. Variable and Indicators for Purchase Decisions

Statement	Sources
Variable: Product Review	
Indicator: Awareness	Lackermair et al (2013) in Setiawan et al. (2023)
I always read product reviews before making a purchasing decision on Shopee.	
The content of customer reviews greatly influences my decision before buying a product on Shopee.	
Indicator: Frequency	Lackermair et al (2013) in Setiawan et al. (2023)
Positive reviews from previous buyers make me more confident in purchasing the product.	
The number of reviews and the most recent date of a product review can influence purchasing decisions.	
Indicator: Comparison	Lackermair et al (2013) in Setiawan et al. (2023)
I am more interested in products that have many customer reviews on Shopee.	
My trust in a product increases after reading reviews from experienced users.	
Indicator: Influence	Lackermair et al (2013) in Setiawan et al. (2023)
Products with few negative reviews make me feel more confident in purchasing them.	
I often compare positive and negative reviews to ensure the product's quality,	
Variable: Store Rating	
Indicator: Credibility	Shidieq (2020) in Nurhayati et al. (2023)
I use product ratings on Shopee to avoid purchasing low-quality items.	
I always pay attention to ratings before purchasing from Shopee.	
Indicator: Expertise	Shidieq (2020) in Nurhayati et al. (2023)
Product ratings on Shopee provide an initial overview of product quality before I make a purchase.	
I am more interested in purchasing products that have ratings of four stars or higher.	
Indicator: Convenience	Shidieq (2020) in Nurhayati et al. (2023)
In my opinion, a high rating reflects good product quality.	
I feel more enthusiastic about shopping on Shopee when I find products with high ratings.	
Variable: Promotion	

Indicator: Promotion Reach	Kotler and Keller (2009) in Septiyadi et al. (2021)
Glad2Glow's product promotions reach the digital platforms that I commonly use.	
Indicator: Promotion Quality	Kotler and Keller (2009) in Septiyadi et al. (2021)
I feel that Glad2Glow's promotions provide helpful and relevant information.	
Indicator: Promotion Quantity	Kotler and Keller (2009) in Septiyadi et al. (2021)
I am satisfied with the number of promotions carried out by Glad2Glow.	
I feel that Glad2Glow conducts promotions quite frequently.	
Indicator: Promotion Timing	Kotler and Keller (2009) in Septiyadi et al. (2021)
Glad2Glow's promotions often appear at the right time (for example, before payday or during major discount events).	
I believe that Glad2Glow's promotional schedule is well-planned.	
Indicator: Promotion Target Accuracy	Kotler and Keller (2009) in Septiyadi et al. (2021)
Glad2Glow's promotions align with my needs and interests as a skincare consumer.	
Glad2Glow's promotions effectively reach me as part of their target market.	
Variable: Purchase Decision	
Indicator: Product Choice Decision	Muharam and Soliha (2017) in Ernawati (2021)
I choose Glad2Glow products because they suit my skin's needs.	
I decided to buy Glad2Glow products because others widely use them.	
Indicator: Brand Choice Decision	Muharam and Soliha (2017) in Ernawati (2021)
Recommendations from friends or influencers influence my decision to purchase Glad2Glow products.	
Indicator: Purchase Timing Decision	Muharam and Soliha (2017) in Ernawati (2021)
I feel more comfortable purchasing Glad2Glow products on Shopee.	
I choose to buy Glad2Glow products on Shopee because the process is more practical and efficient.	
Indicator: Payment Method Decision	Muharam and Soliha (2017) in Ernawati (2021)
I prefer using an easy payment method when purchasing Glad2Glow products on Shopee, such as digital wallets.	

(Source: modified by author 2025)

Data analysis

The analysis techniques used in the research include validity and reliability testing, multiple linear regression analysis, hypothesis testing (t-test and F-test), and the coefficient of determination (R^2).

4. Result and Discussion

Result

Validity Test Results

Validity refers to the extent to which an instrument accurately measures the concept it intends to measure (Sekaran & Bougie, 2016). The validity test in this study was carried out using the Pearson correlation, comparing the correlation coefficient of each item (r-count) with the critical value (r-table). According to Sugiyono (2023), an item is declared valid if the r-count value is greater than the r-table value at a significance level of 0.05. Based on the test results, all questionnaire items show r-count values higher than both the r-table (0.3610), indicating that all items are valid and capable of accurately representing each research variable.

Table 2. Reliability Test Results

Variable	Number of Items	Cronbach's Alpha	Description
Product Review	8	0.728	Reliable
Store Rating	6	0.815	Reliable
Promotion	8	0.810	Reliable
Purchase Decisions	6	0.872	Reliable

(Source: Processed data SPSS v.25, 2025)

The reliability test was conducted to assess the consistency of measurement results for the same object, ensuring that the measurement produces stable and dependable data (Sekaran & Bougie, 2016). Reliability is evaluated using Cronbach's Alpha, where a coefficient value greater than 0.70 indicates that the instrument has good internal consistency (Ghozali, 2018). The results show that all variables have Cronbach's Alpha values exceeding 0.70, meaning they meet the reliability criteria and can therefore be considered reliable.

Based on these findings, it can be concluded that all measurement items for the variables of store rating, product review, promotion, and purchase decision are both valid and reliable.

Multiple Linear Regression Results

Table 3. Multiple Linear Regression Test Results

Variable	B	t	Sig	Description
Constant	11.738	2.849	.155	
Product Review	.258	3.633	.007	Supported
Store Rating	.181	2.584	.004	Supported
Promotion	.313	3.562	.000	Supported
Adj R ²	.605			
F	7.202		.000	

(Source: Processed data SPSS v.25, 2025)

Based on Table 3, the multiple regression analysis shows that all independent variables—product reviews, store ratings, and promotions—have significance values below 0.05, indicating a significant influence on purchase decisions. The constant (α) of 11.738 is positive, meaning that when all independent variables are zero, the purchase decision value remains at 11.738. Product reviews have a significant positive effect on purchase decisions ($p = 0.007 < 0.05$), with a regression coefficient ($\beta = 0.258$), suggesting that a one-unit increase in positive

perception of reviews leads to a 0.258-unit increase in purchase decisions. Store ratings also show a significant influence ($p = 0.004 < 0.05$; $\beta = 0.181$), indicating that higher store ratings lead to greater purchase decisions. Among the three variables, promotions have the most decisive influence ($p = 0.000 < 0.05$; $\beta = 0.313$), confirming that promotional activities are the most dominant factor affecting purchase decisions.

Coefficient of Determination Results

Based on Table 2, the adjusted R^2 value of 0.605 means that these three variables can explain 60.5% of the variation in purchase decisions. This indicates that the variation in the model, simultaneously explained by the independent variables product review (X1), store rating (X2), and promotion (X3) on the dependent variable, purchase decision, is 60.5%. The remaining 39.5% is explained by other variables not examined in this study, such as price, discounts, product quality, influencers, and brand image.

Hypothesis Testing Results

Table 4: Hypothesis Testing Results

Hypothesis	Value	Effect
Product reviews significantly affect the purchase decisions on Glad2Glow products on Shopee	β : 0.258	Positive
	<i>P-value</i> : 0.007	Significant
Store ratings have a significant impact on the purchase decisions of Glad2Glow products on Shopee	β : 0.181	Positive
	<i>P-value</i> : 0.004	Significant
Promotions have a significant impact on the purchase decisions of Glad2Glow products on Shopee.	β : 0.313	Positive
	<i>P-value</i> : 0.000	Significant
Product reviews, store ratings, and promotions simultaneously affect purchase decisions for Glad2Glow products on Shopee	F: 7.202	Positive
	<i>P-value</i> : 0.000	Significant

(Source: Processed data SPSS v.25, 2025)

Hypothesis 1 (H1): Product reviews have a significant impact on the purchase decisions of Glad2Glow products on Shopee. This hypothesis is supported. The p -value of 0.007, which is below the 0.05 significance level, indicates a significant relationship. The β coefficient of 0.258 indicates a strong and positive effect, suggesting that more favorable product reviews substantially increase the likelihood of making a purchase decision. Hypothesis 2 (H2): Store ratings have a significant impact on the purchase decisions of Glad2Glow products on Shopee. This hypothesis is supported. The p -value of 0.004, lower than the 0.05 threshold, confirms statistical significance. The β coefficient of 0.181 indicates a moderate yet significant positive influence, suggesting that higher store ratings have a positive impact on consumer confidence and purchase decisions. Hypothesis 3 (H3): Promotions have a significant impact on the

purchase decisions of Glad2Glow products on Shopee. This hypothesis is supported. The p-value of 0.000, far below 0.05, demonstrates a highly significant effect. The β coefficient of 0.313 indicates a relatively strong impact, confirming that promotional activities exert the most dominant influence on purchase decisions among the tested variables. Hypothesis 4 (H4): Simultaneous effects of product reviews, store ratings, and promotions on the purchase decisions of Glad2Glow products on Shopee. The simultaneous test results ($F = 7.202$; $p = 0.000 < 0.05$) show that all independent variables collectively have a significant influence on purchase decisions, confirming that these factors jointly shape consumer behavior in the e-commerce context.

Discussion

The Influence of Product Reviews on Purchase Decisions

The regression coefficient (B) of 0.258 indicates that a one-unit increase in positive perception toward product reviews will result in a 0.258 unit increase in purchase decisions. Thus, product reviews have a positive and significant effect on purchase decisions. This means that the more positive reviews Glad2Glow receives on Shopee, the higher the likelihood that consumers will decide to purchase the product.

Regarding the indicators, respondents were more attracted to products with a large number of customer reviews on Shopee (comparison indicator), as this enhances their trust in the product. For the frequency indicator, respondents reported feeling more confident in purchasing after reading recent positive reviews from previous buyers. Meanwhile, in the awareness indicator, respondents realized that their purchasing decisions on Shopee were highly influenced by customer review content.

When linked to the dimensions of product reviews, the findings indicate that motivation arises because skincare products have varying effects on different individuals. As a result, consumers seek information from other users who have previously tried the product. The source dimension refers to reviews written directly by verified buyers on Shopee, which are considered more credible and influential compared to unclear sources such as advertisements or influencer endorsements. The content dimension highlights that detailed and comprehensive reviews play a crucial role in influencing purchase decisions for Glad2Glow products. Elements such as personal experiences, usage photos, before-and-after results, and product usage duration provide valuable insights that build consumer confidence and drive purchasing behavior.

These findings are consistent with previous research conducted by Sari & Realize (2023), Mulyana (2021), Sari & Kurniawan (2022), Wulandari & Subandiyah (2022), Mahendra & Edastama (2022), Ramadani & Syahputra (2024), and Supriyanto & Widiyanto (2022). All of these studies demonstrated that product reviews have a positive and significant influence on purchase decisions, particularly within the same e-commerce platform context, namely Shopee.

The Influence of Store Ratings on Purchase Decisions

The regression coefficient of 0.181 indicates that a one-unit increase in store ratings will result in a 0.181-unit increase in purchase decisions. Thus, store ratings have a positive and significant

effect on purchase decisions. This means that if Glad2Glow improves its store rating, it will have a positive impact on consumers' purchase decisions for Glad2Glow products on Shopee.

For the credibility indicator, most respondents relied on store ratings to avoid the risk of purchasing low-quality products. Glad2Glow's Shopee store rating of 4.9 out of 5, with over 4.6 million reviews, reflects its credibility and consistent seller performance. In the expertise indicator, consumers tend to prefer products with ratings of four stars or higher. Lastly, in the comfort indicator, high ratings are perceived as reflecting the quality and reliability of the store's service.

In relation to the dimensions of store ratings, the usefulness dimension reflects the extent to which potential buyers perceive Shopee's store ratings as informative and relevant in their decision-making process. The control dimension refers to consumers' ability to use rating information to make more directed purchasing decisions and to reduce the risk of dissatisfaction. Lastly, the comfort dimension illustrates how the ease of access and presentation of rating information affects shopping convenience. The rating feature enables consumers to quickly assess a store's credibility without needing to read all reviews individually.

These findings are consistent with previous studies conducted by Aisyah & Rosyidi (2023), Mahendra & Edastama (2022), Almayani and Graciafernandy (2023), and Ramadani & Syahputra (2024). All of these studies found that store ratings have a positive and significant effect on purchase decisions, especially on the Shopee platform.

The Influence of Promotion on Purchase Decisions

The regression coefficient (B) of 0.313 indicates that a one-unit increase in promotion effectiveness will result in a 0.313-unit increase in purchase decisions. Thus, promotion has a positive and significant effect on purchase decisions and is the most dominant variable among the predictors. This means that if Glad2Glow enhances its promotional strategies, it will have a positive impact on consumers' purchase decisions for Glad2Glow products on Shopee. Among all the independent variables analyzed, promotion is the most dominant factor influencing purchase decisions.

In the promotion quality indicator, most respondents agreed that Glad2Glow's promotions provide valuable and timely information, particularly before payday or during major sales campaigns. In the target accuracy indicator, promotions were considered relevant to consumer needs and skincare interests.

Currently, Glad2Glow conducts various promotional activities on Shopee, including direct price discounts on specific products, store vouchers (granted to users who follow the store or meet minimum purchase requirements), flash sales offering special prices for a limited time and featured on Shopee's Flash Sale page, and exclusive bundle promotions, where product packages are offered at lower prices compared to individual purchases. Additionally, Glad2Glow actively participates in double-date campaigns (e.g., 8.8, 9.9, 10.10, etc.), which are large-scale promotional events organized in collaboration with Shopee.

Related to the dimensions of promotion, the findings show that: The advertising dimension captures consumer attention through Shopee Ads and product recommendations. The sales promotion dimension (discounts, vouchers, flash sales, and exclusive bundling) serves as the primary driver of purchase decisions. The public relations dimension is reflected in positive consumer feedback and a strong store reputation. The direct selling dimension, facilitated through Shopee Live and live chat, enables potential buyers to obtain real-time product information. The digital and social media marketing dimension reinforces purchasing decisions through cross- platform promotional links on Instagram and TikTok, effectively leveraging these platforms to drive sales.

These findings are consistent with previous studies conducted by Sari & Realize (2023), Sari & Kurniawan (2022), Aisyah & Rosyidi (2023), Almayani and Graciafernandy (2023), Supriyanto & Widiyanto (2023), and Aditya & Catur (2021). All of these studies demonstrated that promotion has a positive and significant effect on purchase decisions on Shopee.

The Influence of Product Reviews, Store Ratings, and Promotions on Purchase Decisions

Based on the F-test conducted through ANOVA, the significance value was found to be $0.000 < 0.05$. Therefore, it can be concluded that H4 is accepted, meaning that simultaneously, the independent variables—product reviews (X1), store ratings (X2), and promotions (X3) have a positive and significant effect on the dependent variable, namely purchase decisions for Glad2Glow products on Shopee.

For the purchase decision variable, the purchase timing indicator had the highest mean score, suggesting that respondents prefer buying Glad2Glow products on Shopee due to its practicality and efficiency. Brand choice decisions were also influenced by recommendations from friends or influencers, while digital payment methods supported faster purchasing decisions.

Based on the results of the coefficient of determination (R Square) test. The adjusted R^2 value of 0.605 indicates that the three independent variables collectively explain 60.5% of the variation in purchase decisions. In contrast, the remaining 39,5% is explained by other variables not examined in this study, such as price, discounts, product quality, influencers, and brand image.

These findings are consistent with previous studies conducted by Sari & Realize (2023), Mulyana (2021), Sari & Kurniawan (2022), Wulandari & Subandiyah (2022), Aisyah & Rosyidi (2023), Almayani and Graciafernandy (2023), Mahendra & Edastama (2022), Ramadani & Syahputra (2024), and Supriyanto & Widiyanto (2022). All of these studies demonstrated that product reviews, store ratings, and promotions have a positive and significant influence on purchase decisions, particularly within the same e-commerce platform context, namely Shopee.

5. Conclusions

Based on the analysis results, it can be concluded that product reviews, store ratings, and promotional activities have both partial and simultaneous positive and significant effects on

consumers' purchase decisions for Glad2Glow products on Shopee. Among these variables, promotions demonstrate the most decisive influence, highlighting the importance of effective marketing communication strategies in shaping consumer behavior. The findings further indicate that the higher the quality and quantity of product reviews, the better the store ratings, and the more appealing the promotional strategies implemented, the greater the likelihood that consumers will proceed with a purchase. These results are consistent with previous studies, confirming that online reviews, store reputation, and promotional efforts are critical determinants of consumer trust, purchase intention, and final purchasing decisions in e-commerce environments.

Research implications

The results of this study provide practical insights for both businesses and platform managers. For Glad2Glow, strengthening digital trust and engagement is essential. The company should encourage consumers to rely on authentic product reviews by actively responding to feedback and maintaining transparency. Enhancing store ratings through consistent product quality, responsive service, and incentives for customer feedback can further improve credibility. Given that promotions have the most substantial impact, marketing strategies should focus on targeted campaigns, such as collaborations with Shopee Live influencers, product bundling, and time-limited discounts. Additionally, Shopee could enhance user trust by featuring relevant reviews and refining rating categories related to delivery, packaging, and authenticity.

Limitations of Research and Suggestions

This study offers valuable insights, but it has certain limitations. The analysis focused solely on the Glad2Glow brand within Shopee, limiting its generalizability to other e-commerce platforms, such as Tokopedia, Lazada, or TikTok Shop. Future research could include cross-platform comparisons to explore similar consumer behavior patterns. Moreover, this study examined only three variables—product reviews, store ratings, and promotions. Subsequent studies should consider additional factors, such as consumer trust, price perception, brand image, and influencer marketing, to gain a broader understanding. Ultimately, employing mixed-methods approaches that integrate quantitative and qualitative insights could better capture the emotional and perceptual aspects of online purchase decisions.

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PENGELOLAAN DESTINASI WISATA BERBASIS KOMUNITAS DIKAWASAN RIPARIAN CILIWUNG MT HARYONO

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Abstract

Isu utama dalam pengelolaan pariwisata berbasis komunitas di Kawasan Riparian Ciliwung MT Haryono berkaitan dengan keseimbangan antara manfaat ekonomi, kelestarian lingkungan, dan peran aktif masyarakat. Di satu sisi, keterlibatan komunitas lokal seperti Masyarakat Peduli Ciliwung (MAT PEGI) menjadi faktor kunci dalam menjaga kebersihan sungai, melaksanakan konservasi, serta menciptakan aktivitas wisata yang edukatif. Namun, di sisi lain, terdapat kendala berupa keterbatasan infrastruktur, ketergantungan pada dana donasi, serta kondisi lingkungan yang rentan banjir dan pencemaran. Tantangan ini diperburuk dengan adanya perbedaan persepsi antara pemerintah, masyarakat, dan stakeholder lain dalam melihat potensi kawasan tersebut. Dengan demikian, isu utama yang muncul adalah bagaimana mengelola kawasan Riparian Ciliwung MT Haryono sebagai destinasi wisata berbasis komunitas yang mampu memberikan manfaat ekonomi tanpa mengorbankan fungsi ekologis dan sosial budaya.

Penelitian menemukan bahwa faktor pendukung utama adalah keterlibatan aktif masyarakat, keberadaan sumber daya alam sungai Ciliwung, serta strategi keberlanjutan melalui reboisasi, konservasi, dan program edukasi lingkungan. Faktor penghambat meliputi keterbatasan fasilitas, ketergantungan pada relawan dan dana terbatas, kondisi lingkungan seperti banjir dan pencemaran, serta perbedaan pandangan antar pihak. Pengelolaan wisata berbasis komunitas terbukti memberikan dampak positif pada aspek ekonomi dengan memberdayakan UMKM lokal, membuka peluang usaha baru, menyediakan lapangan kerja alternatif, serta mendorong pemerataan manfaat di kalangan warga. Di sisi lain, dari aspek lingkungan dan sosial budaya, kegiatan wisata ini berkontribusi terhadap peningkatan kesadaran ekologis, partisipasi dalam pengelolaan sampah, konservasi keanekaragaman hayati, serta pelestarian budaya lokal melalui kegiatan komunitas. Secara keseluruhan, temuan ini menegaskan bahwa partisipasi komunitas merupakan pilar utama keberhasilan pengelolaan destinasi wisata berkelanjutan, di mana manfaat ekonomi, sosial, budaya, dan lingkungan dapat berjalan beriringan.

Kata kunci: Pengelolaan, Komunitas, Ekonomi, Keberlanjutan, ecoriparian

INDUSTRY CLASSIFICATION AS A MODERATOR OF THE PROFITABILITY FIRM VALUE RELATIONSHIP: AN MRA

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Abstract

This study examines the effect of profitability on firm value and investigates whether industry type (manufacturing vs. non-manufacturing) moderates this relationship. The motivation stems from structural differences across industries—such as asset tangibility, capital intensity, and earnings persistence—that may shape how markets translate profitability into valuation. While higher profitability is generally expected to raise firm value, the strength of this association may not be uniform across sectors. Using firm-level secondary financial data and estimating multiple regression models in SPSS, we specify an interaction between profitability and industry (PI) to capture moderation. The results show that profitability has a significant positive effect on firm value ($B = 0.496$; $p < .001$). The industry dummy is significant and negative ($B = -1.313$; $p = .023$), indicating a lower baseline valuation for manufacturing firms at low profitability levels. Crucially, the interaction term is positive and significant ($B = 0.256$; $p < .001$), revealing that the influence of profitability on firm value is stronger in manufacturing than in non-manufacturing. Simple-slope checks are consistent with this pattern: the explanatory power of profitability is higher in manufacturing ($R^2 = 0.149$) than in non-manufacturing ($R^2 = 0.075$). Overall, the study contributes to the corporate valuation literature by showing that the value relevance of profitability is industry-contingent, offering practical implications for managers and investors when benchmarking performance across sectors.

Keyword: firm value; industry classification; moderated regression analysis; profitability.

1. Introduction

Capital markets routinely translate accounting profitability into firm value, using metrics such as return on assets (ROA) and profit margins as signals of operating efficiency, competitive advantage, and the capacity to generate future cash flows. However, the global economy has undergone a structural bifurcation between asset-heavy manufacturing sectors and asset-light service ecosystems. This shift raises a fundamental question: does the market reward a given level of profitability equally across industries? Structural heterogeneity in asset tangibility, capital intensity, and earnings persistence suggests that a universal mapping from profitability to valuation may not hold.

Stylized facts (2020–2024) indicate that industry patterns are far from uniform. Non-manufacturing firm value spikes early in the sample before trending downward, while manufacturing firm value exhibits more pronounced fluctuations, even dipping below its baseline in the final year. Profitability trajectories also diverge: non-manufacturing profitability displays high volatility with a sharp mid-period increase, whereas manufacturing profitability climbs steadily until 2022 before softening. Taken together (see Figure 1), these contrasts imply that the capital market may translate a given unit of profitability into firm value differently across industries.



Figure 1

Prior empirical research consistently reports a positive relationship between profitability and market-based valuation measures. Nevertheless, most studies estimate average effects at the aggregate market level or treat industry merely as a control variable—absorbed through fixed effects or coarse classification. Such approaches adjust for intercept differences across industries but implicitly assume a homogeneous slope linking profitability to value. A parallel literature examines specific industries in isolation, offering depth but sacrificing comparability. Consequently, the literature provides limited insight into whether profitability’s value relevance is truly consistent across sectors, or whether certain industries experience systematically steeper valuation responses.

To address this gap, we adopt a contingency perspective: the profitability–value linkage is not universal but industry-dependent. Manufacturing and non-manufacturing sectors represent a theoretically meaningful contrast. Manufacturing firms typically deploy tangible assets and exhibit high capital intensity; in such contexts, profitability may reflect superior asset utilization and scalable operational efficiency—attributes investors tend to reward more strongly (Xie et al., 2024; Gao et al., 2023; Kanike, 2023). In contrast, non-manufacturing firms often depend on intangible resources—brand equity, human capital, and digital assets—whose valuation is mediated by disclosure quality, growth options, or risk narratives (Azeem et al., 2022; Harahap et al., 2023). This structural asymmetry may attenuate the observable pricing of current profitability.

Our study contributes in three primary ways. Conceptually, we position industry type as a first-order contingency shaping how markets interpret profitability signals. Empirically, we provide a unified test of slope heterogeneity through moderation analysis rather than relying solely on intercept shifts or isolated sectoral models. Practically, we offer guidance for managerial and analytical practice: managers should align performance targets and investor narratives with industry-specific valuation sensitivities, while analysts should avoid naïve cross-sector comparisons that ignore heterogeneous profitability–value elasticities.

2. Literature Review

2.1. Profitability

Profitability refers to a company’s ability to generate profit from its available resources and assets within a specific period. One of the most widely used indicators of profitability is Return

on Assets (ROA), which measures the efficiency of management in utilizing total assets to produce net income (Alarussi & Gao, 2023; Lim & Rokhim, 2021). ROA provides a comprehensive picture of financial performance by linking net profit to total assets, reflecting both operational efficiency and managerial effectiveness (Sinițin & Socol, 2020; Munteanu & Ilie, 2021).

According to Nguyen and Nguyen (2020), ROA not only captures the internal performance of a firm but also reflects its competitive capability in the market, as firms that can generate higher profits from limited assets demonstrate superior managerial efficiency. Similarly, Sasongko and Rachma (2021) emphasized that profitability projected by ROA serves as a central indicator for evaluating overall financial performance and for guiding investment decisions. From a market perspective, Jonnius and Marsudi (2021) asserted that higher ROA values positively influence firm value, while Nadyayani and Suarjaya (2021) found that profitability measured by ROA significantly affects stock returns.

Therefore, profitability measured by ROA can be defined as the company's ability to optimize its total assets to generate net profit, reflecting its operational efficiency, managerial performance, and overall financial sustainability (Alarussi & Gao, 2023; Lim & Rokhim, 2021; Sinițin & Socol, 2020; Nguyen & Nguyen, 2020; Sasongko & Rachma, 2021).

2.2 firm value

Firm value represents the overall market perception of a company's worth as reflected through its stock price performance and financial fundamentals. It indicates how effectively a company creates wealth for its shareholders and how the market values its future growth potential (Marc, Suciwati, & Karma, 2022; Husain & Sunardi, 2020). One of the most widely adopted market-based indicators to assess firm value is the Price Earning Ratio (PER), which measures the relationship between a company's market price per share and its earnings per share (Ngo, 2023; Surjanto & Sugiharto, 2021).

According to Saputra (2022), PER reflects investors' expectations regarding future profitability and serves as a critical signal of market confidence. A higher PER generally indicates that investors anticipate stronger earnings growth, implying a higher valuation of the firm. Similarly, Sihaloho and PS (2021) emphasize that PER not only captures the profitability aspect but also incorporates investors' sentiment and risk perception regarding future earnings. Arsal (2021) and Dang et al. (2020) further explain that PER serves as a bridge between accounting performance and market valuation, demonstrating how efficiently a company's financial results translate into shareholder value.

From a theoretical perspective, Margono and Gantino (2021) argue that firm value is maximized when managerial policies—such as profitability, leverage, and dividend decisions—align with market expectations, and PER becomes a concise reflection of that alignment. Thus, firm value measured by Price Earning Ratio (PER) can be defined as the market's assessment of a company's financial performance and future growth prospects, represented by the multiple investors are willing to pay for each unit of earnings per share, reflecting both internal financial strength and external investor confidence (Ngo, 2023; Marc et al., 2022; Saputra, 2022; Husain & Sunardi, 2020).

2.3 Classification of Industries: Manufacturing and Non-Manufacturing

Industrial sectors are commonly categorized into manufacturing and non-manufacturing industries based on the nature of their economic activities and production processes. The manufacturing industry refers to sectors that transform raw materials or components into

finished goods through mechanical, chemical, or digital processes (Xie et al., 2024; Gao et al., 2023). Manufacturing involves activities that add tangible value to materials through processes such as assembly, fabrication, and production, often supported by automation and digital technologies (Anaam et al., 2022; Kanike, 2023). According to Harahap et al. (2023), manufacturing industries in Indonesia encompass sub-sectors such as food and beverage, automotive, textiles, electronics, and metal processing, all contributing significantly to industrial output and economic growth.

The scope of manufacturing continues to expand with the integration of Industry 4.0 technologies, including additive manufacturing, big data analytics, and sustainable production systems (Azeem et al., 2022; Sandeep et al., 2021). Alami et al. (2023) highlight that additive manufacturing, or 3D printing, plays a transformative role in high-value sectors like aerospace and automotive industries, enabling efficiency and sustainability. Similarly, Ma et al. (2020) emphasize the transition toward intelligent and energy-efficient manufacturing in response to global sustainability goals.

In contrast, the non-manufacturing industry includes sectors that do not directly produce physical goods but instead provide services or support production activities. These include industries such as finance, telecommunications, healthcare, logistics, education, and information technology services (Harahap et al., 2023). While non-manufacturing sectors contribute indirectly to industrial growth, their outputs are typically intangible and service-oriented, emphasizing knowledge, innovation, and information exchange rather than material transformation.

Therefore, manufacturing industries can be defined as economic sectors engaged in the transformation of raw materials into finished goods through physical or chemical processes, whereas non-manufacturing industries comprise sectors that provide services or support activities essential to the functioning of the overall economy (Xie et al., 2024; Harahap et al., 2023; Ma et al., 2020)

3. Material and Method

This study adopts a quantitative research approach using secondary data obtained from the Indonesia Stock Exchange (IDX) for the period 2020–2024. The main objective is to analyze whether the relationship between profitability and firm value differs across industry classifications (manufacturing and non-manufacturing firms).

The dependent variable, firm value (Y), is measured using the Price Earnings Ratio (PER), which reflects how investors value a company's earnings and indicates market expectations of its future growth. The independent variable, profitability (X), is measured using Return on Assets (ROA), representing the company's efficiency in generating net income from its total assets. The moderating variable, industry classification (Z), distinguishes firms based on their core business operations—either manufacturing or non-manufacturing.

The industry classification was determined based on the operational characteristics of each firm. Companies in sectors such as automotive, textiles, chemicals, and food and beverages are categorized as manufacturing firms, while those operating in finance, telecommunications, property, trade, and services are classified as non-manufacturing firms.

The study population includes all companies listed on the IDX during the 2020–2024 period. A purposive sampling technique was applied with the following inclusion criteria:

- The company remained consistently listed on the IDX during the observation period.
- Complete financial statements were available for each year.
- Data required to calculate ROA and PER were fully disclosed.

After applying these criteria, a total of 4,193 firm-year observations were obtained, covering both manufacturing and non-manufacturing sectors.

Data analysis was conducted using Moderated Regression Analysis (MRA) to test the moderating role of industry classification in the relationship between profitability and firm value.

3.1 Design Study

The structural design model to be used in this study is as follows:

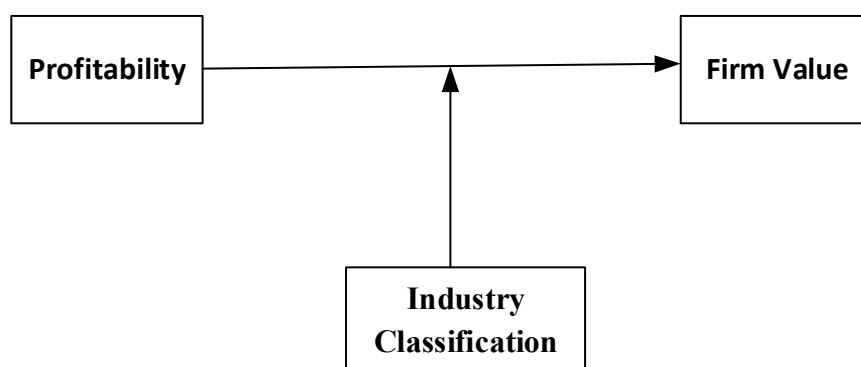


Figure 2. conceptual model

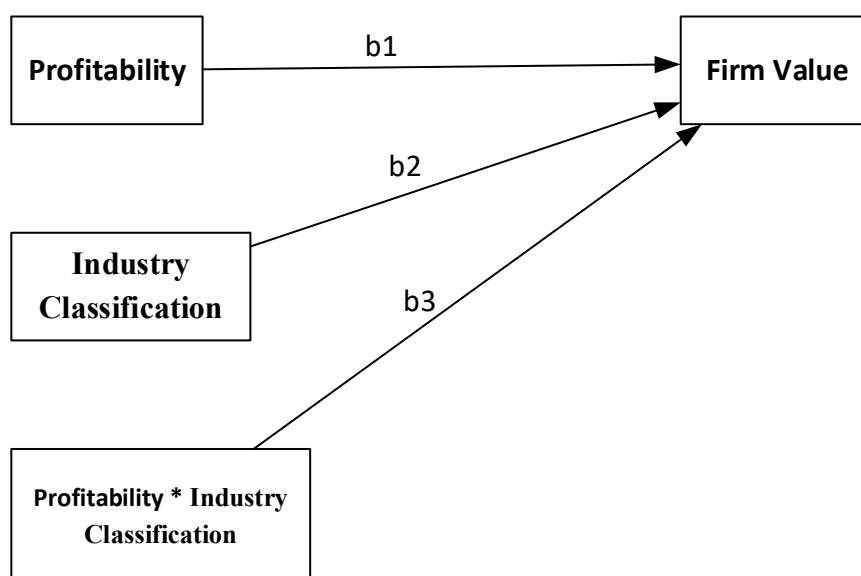


Figure 3. statistical model

Formulation

$$\text{Firm Value} = C + b_1(\text{Profitability}) + b_2(\text{Industry Classification}) + b_3(\text{Profitability} * \text{Industry Classification})$$

C = constant

b1 = coefficient of Profitability

b2 = coefficient of Industry

b3 = coefficient of the interaction variable (Profitability $\times$ Industry)

3.2 Data Analysis

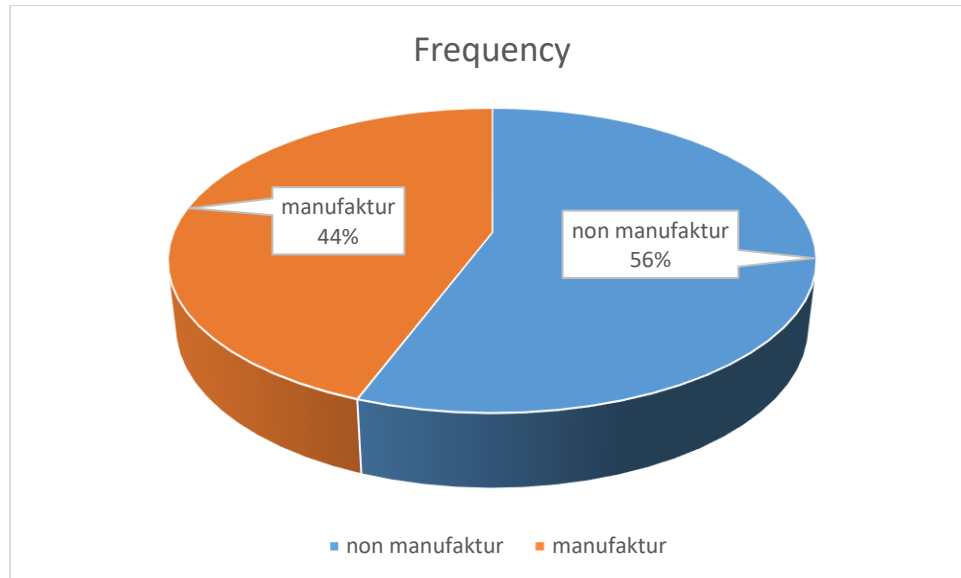


Figure 4. Frequency Distribution

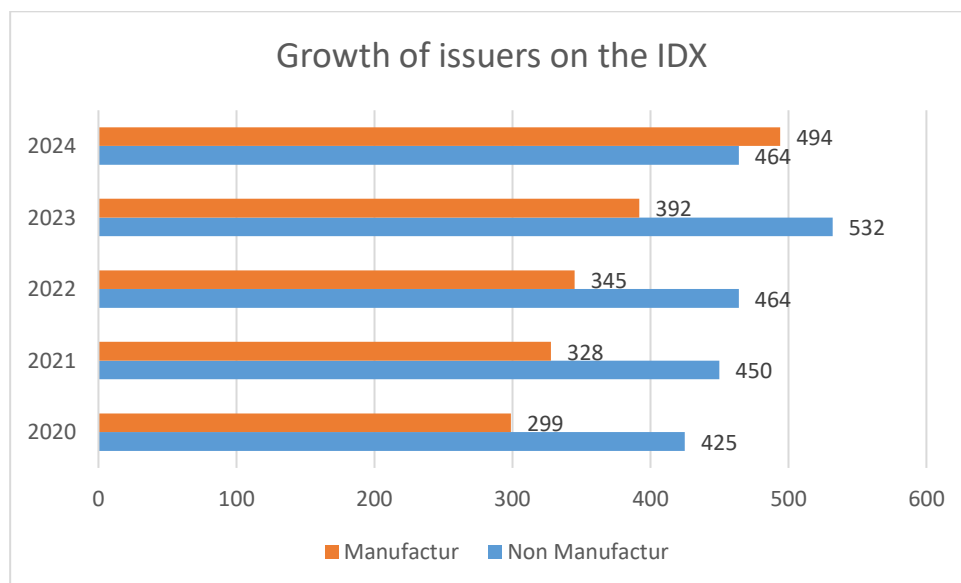


Figure 5 Growth of issuers on the IDX

The distribution of firms listed on the Indonesia Stock Exchange (IDX) during 2020–2024 indicates that non-manufacturing companies dominate the market. As shown in Figure 4, non-manufacturing issuers account for 2,335 firm-year observations (55.7%), while manufacturing issuers represent 1,858 firm-year observations (44.3%).

This composition reflects the structural characteristics of the Indonesian capital market, where service-oriented and trading sectors—such as finance, telecommunications, and property—constitute a larger share of listed firms compared to capital-intensive manufacturing industries. Figure 5 illustrates the annual growth trend of issuers by industry classification. Both sectors show an overall increase from 2020 to 2024, although the pace and pattern differ. Manufacturing issuers rose steadily from 299 in 2020 to 494 in 2024, reflecting gradual industrial expansion. Meanwhile, non-manufacturing issuers exhibited higher volatility, peaking at 532 in 2023 before slightly declining to 464 in 2024.

These patterns suggest that while manufacturing firms are expanding consistently, non-manufacturing sectors remain more sensitive to market dynamics, possibly influenced by regulatory changes, digital transformation, or post-pandemic structural adjustments. Overall, the dominance of non-manufacturing issuers underscores the growing importance of service-based industries in Indonesia’s capital market.

4. Result

Table 4.1. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.332	0.110	0.109	16.07375

Predictors: (Constant), prof_inds, Industry, Profitability

Table 4.2 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	105,259.128	3	35,086.376	135.801	0.000
Residual	850,539.012	3,292	258.365		
Total	955,798.140	3,295			

Dependent Variable: Firm Value (Nilai Perusahaan)

Predictors: (Constant), prof_inds, Industry, Profitability

Table 4.3 Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	6.103	0.390	—	15.639	0.000
Profitability	0.496	0.041	0.265	12.212	0.000
Industry	-1.313	0.579	-0.038	-2.267	0.023
prof_inds	0.256	0.062	0.090	4.117	0.000

Dependent Variable: Firm Value (Nilai Perusahaan)

The regression analysis was conducted to examine the influence of profitability, industry, and the interaction variable (*prof_inds*) on firm value. The results of the Model Summary indicate that the R Square value is 0.110, meaning that approximately 11.0% of the variation in firm value can be explained by the three independent variables, while the remaining 89.0% is influenced by other factors not included in the model.

The ANOVA results further show that the regression model is statistically significant, with an F-value of 135.801 and a significance level of $p < 0.001$. This finding suggests that, collectively, profitability, industry, and the interaction variable have a significant simultaneous impact on firm value.

In the Coefficients output, profitability exhibits a positive and significant relationship with firm value ($\beta = 0.265$; $t = 12.212$; $p < 0.001$), implying that firms with higher profitability tend to have higher firm value. Conversely, the industry variable shows a negative and significant effect ($\beta = -0.038$; $t = -2.267$; $p = 0.023$), indicating that differences across industry sectors may reduce firm value in certain contexts. Meanwhile, the interaction variable (*prof_inds*) demonstrates a positive and significant effect ($\beta = 0.090$; $t = 4.117$; $p < 0.001$), suggesting that the combined effect of profitability and industry characteristics enhances firm value.

Overall, the results indicate that profitability is the most influential factor in determining firm value among the variables examined, reaffirming its central role in financial performance analysis.

5. Discussion

The results of this study provide strong empirical support for the theoretical framework described in the literature review, specifically concerning the relationship between profitability (ROA), firm value (PER), and the moderating role of industry classification (manufacturing vs. non-manufacturing).

The positive and significant effect of profitability on firm value ($\beta = 0.265$; $t = 12.212$; $p < 0.001$) reinforces the arguments presented in the literature review that firms with higher profitability tend to achieve higher market valuations. This finding aligns with Alarussi and Gao (2023), Lim and Rokhim (2021), and Nguyen and Nguyen (2020), who describe profitability as an indicator of managerial efficiency and operational effectiveness. Firms with higher ROA demonstrate the ability to generate income efficiently from their assets, signaling financial strength and managerial competence to investors. As Jonnius and Marsudi (2021) and Nadyayani and Suarjaya (2021) also observed, such profitability serves as a key determinant of firm value because it enhances investor confidence and reflects sustainable financial performance. From a theoretical standpoint, this supports Signaling Theory (Spence, 1973), suggesting that profitability acts as a credible signal to the market regarding the firm's future prospects, and Agency Theory (Jensen & Meckling, 1976), in which effective management performance aligns with shareholder interests through higher returns.

Conversely, the negative and significant effect of industry classification ($\beta = -0.038$; $t = -2.267$; $p = 0.023$) indicates that firm value differs across sectors. This supports the literature in Section 2.3, where the manufacturing and non-manufacturing sectors are described as structurally distinct in terms of production processes, capital intensity, and market exposure (Xie et al., 2024; Harahap et al., 2023). Firms in capital-intensive manufacturing sectors may face higher operational risks and cyclical demand, which could reduce investor perceptions of stability and thus lower firm value. This finding echoes the Industrial Organization Theory (Porter, 1980), which emphasizes that market structure and industry competition shape firm profitability and valuation potential. Studies by Chen and Zhang (2007) and Widodo (2020)

also support this notion, noting that firms in industries with high volatility tend to exhibit lower price-earning ratios due to greater earnings uncertainty.

The positive and significant moderating effect of the interaction between profitability and industry (prof_inds ; $\beta = 0.090$; $t = 4.117$; $p < 0.001$) further demonstrates that the strength of the profitability–firm value relationship depends on the industry context. This finding resonates with Contingency Theory (Donaldson, 2001), which posits that organizational performance outcomes depend on the fit between internal capabilities and external environmental conditions. In this context, profitability contributes more effectively to firm value when industry conditions—such as technological advancement, production efficiency, or service differentiation—support sustainable growth. This interpretation is consistent with empirical findings by Al-Najjar and Hussainey (2011) and Hermuningsih (2013), who found that the impact of profitability on firm value tends to be stronger in stable industries with predictable demand patterns.

Overall, the findings bridge theory and empirical evidence by confirming that profitability remains the primary determinant of firm value, consistent with prior studies and theoretical frameworks. However, industry classification significantly shapes how profitability translates into market valuation, highlighting the need to consider sectoral dynamics when assessing firm performance. This integrated view strengthens the argument that firm value, as measured by Price Earning Ratio (PER), reflects not only internal financial efficiency (ROA) but also external industrial and structural conditions that moderate the profitability–firm value relationship.

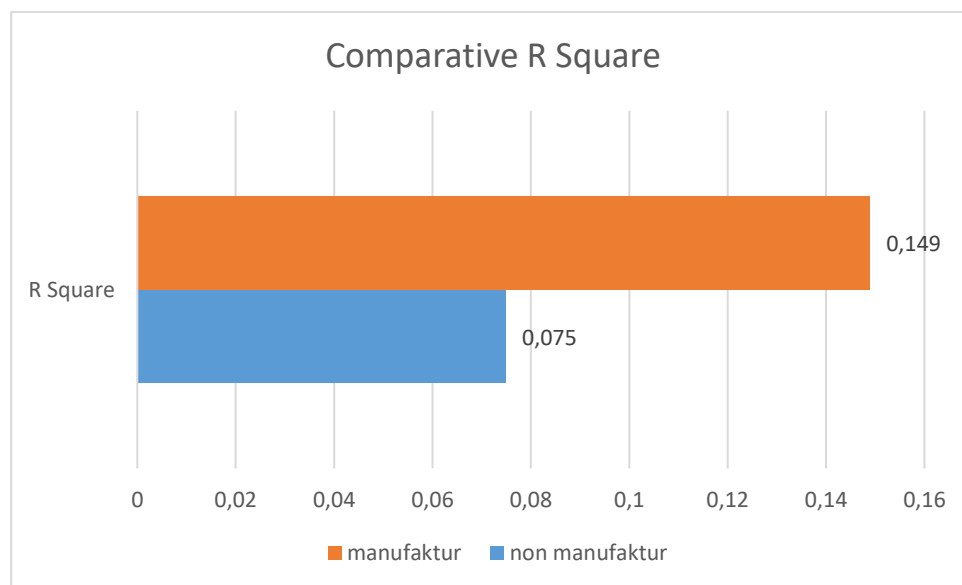


Figure 6. Comparative R square

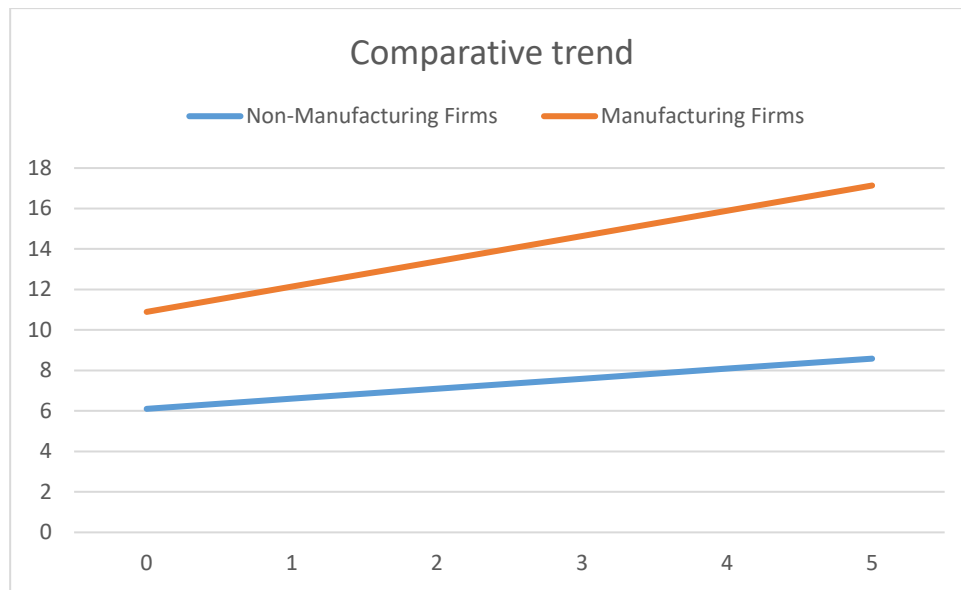


Figure 7. Comparative trend

The empirical results highlight a distinctive financial behavior between manufacturing and non-manufacturing firms in Indonesia concerning the effect of profitability on firm value. For non-manufacturing firms, the regression model

$Y=6.103+0.496X$ with an $R^2=0.075$ demonstrates that profitability explains only 7.5% of the variation in firm value. This relatively weak explanatory power indicates that firm valuation within service-oriented industries is more influenced by qualitative, non-financial drivers—such as service quality, innovation, managerial capability, and brand reputation—than by traditional financial ratios. In contrast, manufacturing firms exhibit a stronger relationship, represented by

$Y=4.790+0.753X$ with an $R^2=0.149$ suggesting that profitability accounts for 14.9% of firm value variation. This finding implies that investors and market participants in Indonesia tend to place greater weight on profitability metrics when assessing firms in the manufacturing sector.

From a financial management perspective, this divergence can be explained by the inherent structural and operational characteristics of each industry. Manufacturing firms in Indonesia are capital-intensive, requiring substantial investment in fixed assets such as machinery, plants, and production technology. Therefore, profitability—measured through ratios like Return on Assets (ROA)—serves as a critical indicator of managerial efficiency and asset productivity. High profitability reflects optimal asset utilization and sound cost management, which directly enhances firm value. Additionally, the manufacturing sector is subject to stricter regulatory frameworks and more standardized financial disclosures, increasing the credibility of profitability figures as a basis for market valuation. Conversely, non-manufacturing firms—predominantly in the service, finance, or technology industries—generate value from intangible resources such as intellectual capital, customer loyalty, and service innovation. These intangible elements are not fully captured in traditional profitability measures, thereby weakening the linear relationship between profitability and firm value.

Investor behavior and market perception in Indonesia further strengthen this asymmetry. Manufacturing firms are often perceived as stable, growth-oriented entities with tangible operational outputs and export potential, making profitability a visible and credible signal of financial health. Improvements in profitability are quickly interpreted by investors as indicators

of enhanced competitiveness and sustainable growth. On the other hand, the valuation of non-manufacturing firms tends to rely more heavily on qualitative factors such as strategic agility, brand strength, and digital transformation capability rather than on short-term profitability performance.

Furthermore, from a macro-financial policy standpoint, the Indonesian government has historically prioritized the manufacturing sector through fiscal incentives, industrial upgrading programs, and infrastructure investment. Such policies create a supportive environment where profitability improvements are more effectively translated into market value, reflecting both operational performance and institutional confidence.

In summary, the analysis affirms that profitability remains a significant determinant of firm value across both industrial classifications; however, its magnitude of influence is more pronounced in manufacturing firms. This finding aligns with the theoretical premise of financial management that in asset-intensive industries, profitability acts as a principal driver of firm value by signaling efficiency in resource allocation and asset turnover. In the broader context of Indonesia's developing economy, this underscores that tangible production performance continues to dominate investor sentiment and corporate valuation, while service-based sectors increasingly depend on non-financial, strategic factors for value creation.

6. Conclusion, Implication, and Recommendation

This study concludes that profitability, industry classification, and the interaction between them significantly influence firm value among companies listed on the Indonesia Stock Exchange (IDX) during 2020–2024. The regression results reveal that profitability (ROA) has a strong positive and significant effect on firm value (PER), confirming that firms with higher profitability tend to achieve higher market valuations. Industry classification shows a negative and significant effect, indicating that structural differences between manufacturing and non-manufacturing sectors shape how profitability is perceived in the market. The moderating variable (*prof_inds*) demonstrates that the strength of the profitability–firm value relationship depends on the industrial context, with manufacturing firms showing a stronger explanatory power ($R^2 = 0.149$) compared to non-manufacturing firms ($R^2 = 0.075$).

These findings highlight that manufacturing firms—being more capital-intensive and regulated—translate profitability into firm value more effectively than service-oriented, non-manufacturing firms whose valuations are often influenced by intangible assets and qualitative factors. Thus, profitability remains the key financial driver of firm value, but its magnitude varies according to sectoral characteristics and market expectations in Indonesia's evolving economic landscape.

Implication

Theoretically, this research reinforces Signaling Theory and Agency Theory by showing that profitability functions as a credible signal of managerial efficiency and financial strength, aligning management's performance with shareholder interests. It also validates Contingency Theory, demonstrating that the effect of profitability on firm value is contingent upon industry structure and market dynamics. From a financial management perspective, the findings imply that corporate valuation in Indonesia must integrate both quantitative (profit-based) and qualitative (industry-specific) considerations to capture the full dimensions of firm performance.

Practically, the results hold implications for three key stakeholders.

For managers, the study underscores the need to strengthen profitability strategies that enhance operational efficiency, especially in manufacturing, while integrating innovation and service differentiation in non-manufacturing firms to improve intangible value.

For investors, the findings suggest that investment evaluation should consider industry characteristics when interpreting profitability ratios, as the same level of profitability may convey different value signals across sectors.

For policymakers, the results indicate that promoting balanced industrial growth requires policy interventions that strengthen both tangible productivity in manufacturing and intangible capability development in non-manufacturing sectors to ensure a more resilient and diversified capital market.

Recommendation

The recommendation of this study is to increase the number of observations and extend the time span in future research. By adding more observations, the analysis results will become more representative and better reflect general conditions across different periods and sectors. Furthermore, a longer observation period will allow researchers to capture long-term dynamics, including changes in financial behavior, the effects of economic cycles, and policy trends that may influence the studied variables. This approach would enhance the external validity of the findings and provide a more comprehensive understanding of the relationships among variables within a broader context.

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ANALYSIS OF COMPANY SIZE, PROFITABILITY, AND GOOD CORPORATE GOVERNANCE ON FRAUDULENT FINANCIAL STATEMENTS WITH AUDIT OPINION AS A MODERATING VARIABLE

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Abstract

This study aims to analyze the effect of company size, profitability, and corporate governance on fraudulent financial statements and whether audit opinions moderate the relationship between independent and dependent variables. This study is a quantitative study of secondary data with a population of 87 energy sector companies listed on the Indonesia Stock Exchange from 2021 to 2024.

Keywords: Company Size, Profitability, Corporate Governance, Audit Opinion and fraudulent financial statement.

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh ukuran perusahaan, profitabilitas, dan tata kelola perusahaan terhadap laporan keuangan yang fraudulen, serta untuk menguji peran moderasi opini audit dalam hubungan antara variabel independen dan variabel dependen. Penelitian ini bersifat kuantitatif dengan menggunakan data sekunder dari populasi yang terdiri atas 87 perusahaan sektor energi yang tercatat di Bursa Efek Indonesia sepanjang periode 2021 hingga 2024

Kata Kunci: GCG, Ukuran Perusahaan, Fraudulent Financial Reporting, Opini Audit, Profitabilitas.

1. Pendahuluan

Dalam kajian mengenai penyusunan dan penyajian laporan keuangan, teori Fraud Triangle dan pengembangannya seperti Fraud Hexagon Theory serta Fraud Pentagon Theory memberikan kerangka konseptual penting untuk memahami bagaimana suatu entitas dapat melakukan manipulasi laporan keuangan secara sengaja (fraudulent financial statements). Fraud Triangle menjelaskan tiga elemen utama yang mendorong terjadinya kecurangan, yaitu tekanan (pressure), kesempatan (opportunity), dan rasionalisasi (rationalization) (Urbach & Alfian, 2025). Sementara itu, teori Fraud Hexagon dan Fraud Pentagon memperluas konsep tersebut dengan menambahkan unsur kapabilitas pelaku, ego atau sifat angkuh (arrogance), serta kolusi (collusion) yang memperkuat peluang terjadinya manipulasi pelaporan keuangan.

Sejalan dengan kerangka teori tersebut, Otoritas Jasa Keuangan (OJK) telah mengatur kewajiban bagi institusi keuangan untuk memiliki sistem pengendalian internal dan mekanisme anti-fraud yang kuat guna mencegah serta mendeteksi rekayasa laporan keuangan. Salah satu regulasi terbaru yang mengatur hal tersebut adalah POJK No. 15 Tahun 2024 tentang Integritas Pelaporan Keuangan Bank, yang menegaskan bahwa setiap bank wajib memiliki kebijakan dan prosedur pengendalian internal dalam proses pelaporan keuangan serta menunjuk pejabat atau unit yang bertanggung jawab terhadap pencegahan manipulasi laporan keuangan (Aryani & Andesto, 2025). Regulasi ini menekankan pentingnya integritas dan transparansi dalam penyajian informasi keuangan agar laporan keuangan dapat digunakan sebagai dasar pengambilan keputusan yang andal.

Namun demikian, praktik penyimpangan dalam pelaporan keuangan masih kerap terjadi dan menarik perhatian publik maupun regulator di Indonesia. Misalnya, laporan dari Danantara Indonesia mengungkap bahwa sejumlah Badan Usaha Milik Negara (BUMN) diduga melakukan praktik “mempercantik buku” atau memperindah laporan keuangan demi menampilkan profitabilitas tinggi, bahkan dengan cara yang tidak sesuai dengan prinsip akuntansi yang berlaku (detik.com). Fenomena ini menunjukkan bahwa pengawasan internal dan eksternal yang telah diterapkan masih belum sepenuhnya efektif. Hal tersebut memperlihatkan adanya kesenjangan antara konsep Good Corporate Governance (GCG) yang ideal dan penerapannya di lapangan.

Hasil pengukuran Beneish M-Score pada perusahaan sektor energi periode 2021–2024 menunjukkan bahwa potensi praktik manipulasi laba masih cukup signifikan. Nilai M-Score ABMM dan AKRA yang positif di atas ambang batas mengindikasikan adanya indikasi manajemen laba, sementara penurunan M-Score ADRO yang drastis dari tahun 2021 hingga 2024 menunjukkan adanya perbaikan transparansi pelaporan keuangan. Variasi ini mengindikasikan bahwa strategi pelaporan keuangan antarperusahaan berbeda-beda dalam menghadapi tekanan pasar dan ekonomi (Aprilia & Furqani, 2021). Faktor-faktor seperti ukuran perusahaan, profitabilitas, dan penerapan GCG menjadi elemen penting yang dapat memengaruhi potensi terjadinya fraudulent financial statement.

Secara teoretis, ukuran perusahaan, profitabilitas, dan GCG diyakini sebagai determinan utama yang memengaruhi kemungkinan terjadinya laporan keuangan yang menyesatkan (Utami & Sinaga, 2024). Perusahaan besar umumnya menghadapi pengawasan ketat, namun tidak menutup kemungkinan terjadinya manipulasi karena kompleksitas operasionalnya (Aziz et al., 2021). Profitabilitas yang tinggi dapat menjadi insentif bagi manajemen untuk mempertahankan citra positif, sementara lemahnya penerapan GCG dapat membuka peluang terjadinya penyimpangan. Di sisi lain, opini audit yang diberikan oleh auditor independen berfungsi sebagai moderator yang dapat memperkuat atau melemahkan hubungan antara variabel-variabel tersebut dan terjadinya kecurangan laporan keuangan (Sanulika & Hidayati, 2021).

Opini audit menurut Urbach dan Alfian (2025) merupakan pernyataan profesional auditor independen mengenai kewajaran penyajian laporan keuangan berdasarkan standar akuntansi yang berlaku umum. Opini ini tidak hanya menjadi bentuk penilaian objektif atas kewajaran laporan keuangan, tetapi juga instrumen penting bagi pemangku kepentingan untuk menilai kredibilitas dan transparansi entitas yang diaudit. Namun, hasil penelitian sebelumnya menunjukkan temuan yang tidak konsisten mengenai pengaruh opini audit terhadap fraudulent financial statement (Furqani & Felicia, 2021; Paramitalaksmi & Bakade, 2024; Inawati et al., 2023), sehingga menunjukkan adanya celah penelitian yang perlu dikaji lebih lanjut.

Berdasarkan fenomena empiris dan ketidakkonsistenan hasil penelitian sebelumnya, penelitian ini bermaksud mengkaji kembali faktor-faktor yang memengaruhi fraudulent financial statement dengan menggunakan variabel ukuran perusahaan, profitabilitas, dan GCG sebagai variabel independen, serta opini audit sebagai variabel moderasi. Penelitian ini juga memperbarui periode pengamatan pada tahun 2021–2024 agar mampu mencerminkan kondisi terkini praktik pelaporan keuangan di Indonesia.

Fraud Triangle Teory

Fraud triangle pertama kali diperkenalkan oleh Donald R. Cressey, seorang mahasiswa dokoral kriminologi di Indiana University pada tahun 1950an yang tertarik dengan perilaku fraud.

Dalam disertasi doktoralnya, Cressey melakukan wawancara terhadap 200 narapidana yang dihukum karena melakukan kecurangan. Berdasarkan hasil dari penelitian Cressey, muncullah konsep yang disebut fraud triangle (Alfian & Urbach, 2025)

Ukuran Perusahaan

Ukuran perusahaan dijelaskan oleh (Nathania, 2021) sebagai bayangan dari besar kecilnya sebuah korporasi. Ukuran perusahaan merupakan salah satu faktor penting dalam analisis keuangan karena mencerminkan kapasitas operasional dan daya saing suatu perusahaan di pasar. Ukuran perusahaan biasanya diukur melalui total aset, total penjualan, maupun nilai kapitalisasi pasar yang dimiliki perusahaan.

Profitabilitas

Profitabilitas merupakan rasio yang digunakan dalam melakukan analisis kinerja yang ada di perusahaan. Rasio profitabilitas digunakan untuk menilai tujuan dan target yang dimiliki perusahaan. Semakin tinggi laba bersih dan asset yang ada di perusahaan, maka akan semakin lengkap penyajian, pelaporan dan pengungkapan informasi yang terjadi di Perusahaan (Rivandi & Putra, 2021, p. 3).

Good Corporate Governance

GCG merupakan satu set hubungan antara manajemen perusahaan, dewan komisaris, pemegang saham, dan pemangku kepentingan lainnya (OECD, 2004; Lastanti & Fadhilah, 2024). Melalui hubungan yang terkoordinasi dengan baik, setiap pihak memiliki tanggung jawab dan kepentingan yang selaras dalam menjaga integritas dan keakuratan laporan keuangan. Dewan komisaris berperan dalam mengawasi pelaksanaan fungsi manajemen, sementara pemegang saham memiliki hak untuk memastikan bahwa perusahaan dikelola secara etis dan efisien.

Opini Audit

Opini audit yaitu pertimbangan yang diperoleh klien dari auditor berdasarkan hasil pelaporan keuangan yang diperiksa untuk menetapkan apakah mereka memenuhi syarat atau tidak, (Purwantoro & Maulana (2024). Opini audit memberikan gambaran mengenai tingkat kewajaran laporan keuangan suatu perusahaan berdasarkan standar akuntansi yang berlaku umum. Jenis opini yang diterima perusahaan dapat memengaruhi persepsi publik serta kepercayaan investor terhadap kredibilitas dan kinerja perusahaan tersebut.

Fraudulent Financial Statement

Financial statement fraud adalah suatu perbuatan atau kegiatan yang disengaja maupun tidak sengaja dalam laporan keuangan yang bisa membuat susah para pengguna informasi laporan keuangan dalam pengambilan keputusan dan kebijakan ekonomi, (Setiawati & Nuraisyah, 2024).

Hubungan Antara ukuran perusahaan dan fraudulent financial statement

Penelitian terdahulu menunjukkan hasil yang beragam terkait hubungan antara ukuran perusahaan dan kecenderungan terjadinya fraudulent financial statement. Menurut Utami & Sinaga (2024), ukuran perusahaan berpengaruh terhadap kecurangan laporan keuangan karena perusahaan besar memiliki kompleksitas operasional dan transaksi yang tinggi, sehingga membuka peluang lebih besar bagi manajemen untuk melakukan manipulasi laporan keuangan.

Hubungan Antara profitabilitas dan fraudulent financial statement

Penelitian terdahulu menunjukkan hasil yang bervariasi mengenai pengaruh profitabilitas terhadap fraudulent financial statement. Tanusdjaja & Felicia (2020) menemukan bahwa profitabilitas berpengaruh positif terhadap kecurangan laporan keuangan, karena manajemen dengan tingkat laba tinggi cenderung berusaha mempertahankan kinerja positif di mata investor dan publik, bahkan dengan cara memanipulasi laporan keuangan.

Hubungan Antara GCG dan fraudulent financial statement

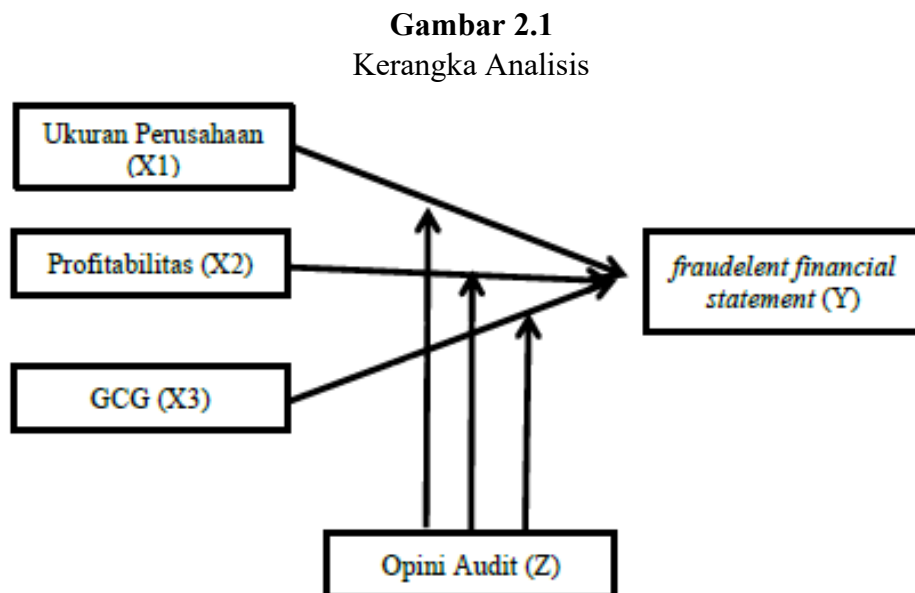
Hasil penelitian terdahulu menunjukkan bahwa penerapan Good Corporate Governance (GCG) memiliki peran penting dalam mencegah terjadinya kecurangan laporan keuangan. Setiawati & Nuraisyah (2024) menemukan bahwa GCG berpengaruh signifikan terhadap fraudulent financial statement, di mana penerapan prinsip transparansi, akuntabilitas, dan independensi dapat menekan peluang terjadinya manipulasi laporan keuangan.

Hubungan Antara opini audit dan fraudulent financial statement

Penelitian terdahulu menunjukkan bahwa opini audit memiliki peran penting dalam mendeteksi maupun mengindikasikan adanya fraudulent financial statement. Furqani & Felicia (2021) menemukan bahwa opini audit berpengaruh signifikan terhadap kecurangan laporan keuangan karena auditor eksternal berfungsi sebagai pihak independen yang menilai kewajaran laporan keuangan sesuai standar akuntansi yang berlaku.

2. Research Model

Berdasarkan penelitian dan teori diatas, kerangka pemikiran teoritis dalam penelitian ini adalah sebagai berikut:



3. Metodologi Penelitian

Sampel dan pengumpulan data

Penelitian ini merupakan penelitian kuantitatif dengan pengambilan data sekunder dari laporan keuangan yang terdaftar di BEI tahun 2021-2024. Populasi yang diambil peneliti yaitu

perusahaan sektor energi yang terdaftar di BEI sejumlah 87 perusahaan. Metode analisis data menggunakan STATA dengan analisis regresi berganda dan MRA.

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PERFORMANCE PLANNING AS A MEDIATOR OF THE RELATIONSHIP BETWEEN TRAINING AND COMPENSATION AND THE PERFORMANCE OF EMPLOYEES OF THE INDONESIAN QUARANTINE AGENCY

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Abstract

This study aims to analyze the role of performance planning as a mediating variable in the relationship between training and compensation on employee performance at the Indonesian Quarantine Agency. The background of the study is based on the challenges of public organizations in improving the quality of human resources amidst global dynamics, digitalization, and increasingly complex public service demands. The research method uses a quantitative approach with an explanatory design and data collection through questionnaires to 150 respondents selected purposively. Data analysis was conducted using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) method. The results show that training and compensation have a positive and significant effect on employee performance, both directly and indirectly through performance planning. Training is proven to have the strongest influence on performance planning, which in turn increases employee effectiveness and productivity. Fair and appropriate compensation also encourages employees to develop more focused performance plans, which impacts on achieving better performance. Performance planning plays an important mediator that clarifies the mechanism of the relationship between training, compensation, and employee performance. These findings strengthen Vroom's (1964) Expectancy Theory, which states that employee efforts will produce optimal performance if followed by clear planning and given appropriate rewards. This research provides theoretical contributions to the human resource management literature as well as practical implications for public agencies to integrate training and compensation programs with systematic performance planning in order to improve organizational effectiveness.

Keywords: training, compensation, performance planning, employee performance, SEM-PLS.

1. INTRODUCTION

Over the past two decades, global dynamics in the workplace and human resource management have undergone significant transformation. These changes are driven by globalization, the development of digital technology, and the increasing demands of organizations to adapt to external environmental uncertainty. This phenomenon has directly impacted the performance management paradigm, shifting from a conventional approach to a more strategic, adaptive, and data-driven one. Modern organizations, both in the public and private sectors, increasingly emphasize the importance of employee capacity development through continuous training, fair compensation, and structured performance planning as instruments for improving individual and organizational performance. According to a 2023 World Economic Forum report, more than 60% of organizations worldwide stated that competency improvement through reskilling and upskilling would be a top priority in the next five years, given the acceleration of automation and artificial intelligence that are drastically changing the work landscape. This global phenomenon also shows that organizations that successfully integrate performance management systems with appropriate training and

compensation strategies have proven to have up to 30% higher productivity than organizations that still use traditional approaches (Smith, 2022).

Globally, both public and private organizations are facing a "talent war," where competition to acquire and retain a qualified workforce is intensifying. According to a 2022 McKinsey report, more than 50% of multinational organizations report difficulty retaining highly competent employees, despite offering competitive compensation packages. This demonstrates that compensation is not the sole determinant of employee performance and loyalty; it must be integrated with performance planning that provides direction, meaning, and opportunities for personal development. In other words, training and compensation will only significantly impact performance if managed within a strategic performance planning framework.

In the national context, Indonesia, with a workforce of over 140 million people, faces similar challenges. A report by the Central Statistics Agency (BPS, 2023) shows that Indonesia's labor productivity remains below the average for ASEAN countries, especially compared to Singapore, Malaysia, and Thailand. This indicates the need for a more systematic strategy to improve employee capacity and performance, particularly in the public sector, which plays a strategic role in supporting state functions. Furthermore, the bureaucratic transformation being promoted by the Indonesian government through the 2025 Bureaucratic Reform emphasizes the importance of improving the quality of civil servant (ASN) resources, which are required not only to be technically professional but also to be adaptive to global changes, the digitalization of public services, and increasingly complex societal needs (Ministry of Administrative and Bureaucratic Reform, 2022). Therefore, strengthening the training system, providing fair compensation, and performance planning are crucial to ensuring optimal performance in the public sector.

Within the context of specific phenomena, the Indonesian Quarantine Agency, as a government agency tasked with safeguarding public, animal, and plant health from disease threats and disruptions to international trade, faces increasingly complex challenges. The globalization of trade, increasing import-export volumes, and the potential threat of increasingly difficult-to-control pests require Quarantine Agency employees to possess high competency, a strong work ethic, and the support of a well-planned performance system. According to a 2022 report from the Ministry of Agriculture, the volume of Indonesian agricultural product exports increased by more than 14% in the 2020–2022 period, which directly impacted the increasing workload of Quarantine Agency employees at all entry points. However, initial findings in the field indicate a gap between increasing work demands and the quality of service provided. Several internal evaluations indicate that existing training programs have not fully met employee competency needs in the digital era, while the existing compensation system is still perceived as not fully reflecting employee workload and contributions. This has implications for low work motivation and suboptimal employee performance. Therefore, a more systematic performance planning strategy is needed to bridge the gap between training programs, compensation, and expected performance achievement.

The problem that arises from this phenomenon is how to ensure that the training and compensation provided to employees actually impact performance improvement. Several previous studies have shown that training and compensation do have a positive effect on performance, but this relationship is often inconsistent and influenced by certain mediating

factors. For example, good training does not always result in optimal performance if it is not accompanied by a clear performance planning system that can align training outcomes to organizational goals (Brown & Green, 2020). Similarly, high compensation does not always increase productivity without a measurable and realistic performance evaluation mechanism (Lee & Kim, 2021). Thus, the research gap lies in the lack of research explicitly examining the role of performance planning as a mediator in the relationship between training, compensation, and employee performance, particularly in the Indonesian public sector. This research is important because it addresses the empirical need to explore how performance management systems can be optimized to increase the effectiveness of organizational investments in training and compensation.

Several relevant previous studies support the urgency of this research. For example, Ahmad and Manzoor (2021) found that training significantly impacts employee performance, but this effect is stronger when supported by a clear performance evaluation system. A similar study by Sudiardhita et al. (2018) in Indonesia demonstrated a positive relationship between compensation and performance, but still found differences in perceptions between management and employees regarding compensation fairness. Meanwhile, a study by Zainal et al. (2020) emphasized the crucial role of performance planning as a connecting mechanism between organizational inputs (such as training and compensation) and outputs in the form of employee performance. Another study by Priansa (2021) in the Indonesian public sector also showed that many organizations lack an integrated performance planning system, thus the benefits of training and compensation programs are not fully optimized. Internationally, research by Park and Kim (2022) revealed that organizations in East Asia that integrated performance planning with training and compensation systems managed to increase employee productivity by up to 25% in the medium term. However, most of these studies focused on the private sector, while studies in the public sector, particularly government institutions in Indonesia, are still limited.

The concept of mediation in HR management research is also in line with Expectancy Theory (Vroom, 1964), which explains that a person's motivation to perform high is influenced by the expectation that effort (training) will result in performance (through performance planning), and that performance will be rewarded (compensation). Without clear performance planning, the relationship between training and compensation with performance becomes unclear, resulting in unmet employee expectations and decreased motivation. Therefore, this study offers a theoretical contribution by examining performance planning as a mediator, which has not been widely studied in depth, especially in the Indonesian public sector.

Empirically, several recent studies provide a basis for this study. Priansa (2021) found that in many public agencies in Indonesia, training does not always improve performance because it is not accompanied by measurable performance planning. Meanwhile, a study by Park and Kim (2022) in South Korea showed that integrating a performance planning system with training and compensation can increase employee productivity by up to 25%. Another study by Jaya and Rahayu (2021) highlighted the importance of compensation equity in improving civil servant performance but emphasized that compensation must be linked to objective performance achievements. A limitation of these studies is the lack of focus on the mediating role of performance planning, so this study is expected to provide a new perspective.

The weakness of previous research lies in the lack of exploration of the role of performance planning as a mediating variable that can clarify the relationship between training

and compensation on employee performance. Most studies only examine the direct relationship without emphasizing the process aspects underlying that relationship. Furthermore, research in the Indonesian public sector is relatively rare, so the results of previous studies cannot be fully generalized to the context of government organizations. This study seeks to make a new contribution by examining the role of performance planning as a mediator, thereby providing a more comprehensive understanding of how training and compensation strategies can translate into improved employee performance.

2. HYPOTHESIS DEVELOPMENT

Training is one of the essential factors influencing employee performance. Through structured and effective training, employees acquire knowledge, skills, and work attitudes that align with organizational goals. In the context of the Indonesian Quarantine Agency, training enhances technical competencies related to supervision, inspection, and public service. According to Human Capital Theory (Becker, 1993) and Noe (2020), training acts as an investment that leads to improved productivity and work quality. Therefore, it is assumed that better training will result in higher employee performance.

H1: Training has a positive effect on Employee Performance.

Compensation serves as a reward for employee contributions and a crucial driver of motivation and performance. Within public institutions such as the Indonesian Quarantine Agency, fair and transparent compensation fosters employee commitment, satisfaction, and loyalty. Drawing upon Expectancy Theory (Vroom, 1964), employees are motivated to perform better when they believe that their efforts will yield desirable rewards. Empirical studies by Milkovich et al. (2019) also demonstrate that competitive compensation significantly improves job performance.

H2: Compensation has a positive effect on Employee Performance.

Training not only develops technical abilities but also enhances employees' capacity to plan, manage, and evaluate their performance. Employees who receive proper training are more capable of setting realistic targets and aligning their goals with organizational strategies. In the Indonesian Quarantine Agency, training contributes to improving planning skills necessary for effective performance execution. According to Organizational Learning Theory (Argyris & Schön, 1996), training drives behavioral changes that support better work planning and decision-making.

H3: Training has a positive effect on Performance Planning.

Adequate compensation can influence employees' engagement in the performance planning process. Employees who feel fairly compensated are more motivated to participate in setting goals and designing performance strategies. According to Equity Theory (Adams, 1963), when employees perceive fairness in compensation, they tend to demonstrate more positive behaviors, including proactive involvement in organizational planning. In the case of the Indonesian Quarantine Agency, compensation transparency can encourage stronger participation in performance planning.

H4: Compensation has a positive effect on Performance Planning.

Performance planning plays a crucial role in performance management, encompassing goal setting, performance indicators, and strategic alignment. Clear and measurable performance plans provide direction and accountability for employees, thereby improving effectiveness.

Based on Goal Setting Theory (Locke & Latham, 2002), well-defined objectives enhance motivation and performance outcomes. Within the Indonesian Quarantine Agency, effective performance planning ensures alignment between individual contributions and institutional objectives.

H5: Performance Planning has a positive effect on Employee Performance.

Training improves employee performance not only directly but also indirectly through better performance planning. Well-designed training programs equip employees with the skills and mindset to plan and manage their work effectively, translating learned competencies into tangible performance improvements. In this sense, performance planning acts as a mechanism that channels the positive impact of training into enhanced job outcomes.

H6: Performance Planning mediates the relationship between Training and Employee Performance.

Compensation influences employee performance both directly and indirectly by shaping employees' engagement in performance planning. When employees perceive their compensation as fair and rewarding, they are more likely to commit to planning, monitoring, and achieving their performance targets. Performance planning, therefore, serves as a bridge that links compensation satisfaction with improved work outcomes. Thus, performance planning mediates the relationship between compensation and employee performance.

H7: Performance Planning mediates the relationship between Compensation and Employee Performance.

3. METHOD

This study uses a quantitative approach with an *explanatory research design*, which aims to explain causal relationships between variables through hypothesis testing based on empirical data. The quantitative approach was chosen because this study attempts to measure the influence of training and compensation variables on employee performance, with performance planning as a mediating variable. Therefore, it requires data that can be analyzed statistically with an adequate level of generalizability.

Population and Sample

The study population was all employees of the Indonesian Quarantine Agency spread across various central and regional work units. Given the limited time and resources, this study used a purposive sampling technique, namely selecting samples based on certain criteria relevant to the research objectives. The respondent criteria were: (1) employees who have worked for at least two years, (2) have participated in training programs organized by the agency, and (3) receive fixed compensation from the organization. Based on these criteria, a sample size of 150 respondents was obtained, which was considered adequate for analysis using SEM-PLS because according to Hair et al. (2021), the minimum sample size for PLS-SEM is 10 times the number of indicators in the construct with the most indicators, and in this study the number of indicators was still within reasonable limits.

Data collection technique

Primary data were collected through a questionnaire using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The questionnaire instrument was developed based on theoretical indicators tested in previous research, with adjustments to the organizational context of the Indonesian Quarantine Agency. Prior to distribution, the questionnaire was tested for

content validity through expert judgment from academics and practitioners in the field of human resource management. A pilot test was conducted with 30 respondents to ensure the instrument's clarity.

Research Variables and Indicators

This research involves four main variables:

1. Training (X1) – measured through indicators: suitability of material to work needs, instructor quality, delivery method, training facilities, and the usefulness of training for improving skills (Noe, 2017).
2. Compensation (X2) – measured through indicators: compensation fairness, suitability of compensation to workload, regularity of payments, compliance with industry standards, and satisfaction with the compensation system (Milkovich et al., 2020).
3. Performance Planning (Z) – measured through indicators: clarity of work objectives, employee involvement in planning, suitability of targets to capacity, integration of individual and organizational targets, and performance monitoring mechanisms (Aguinis, 2019).
4. Employee Performance (Y) – measured through indicators: work quality, output quantity, punctuality, discipline, and ability to work in a team (Mangkunegara, 2017).

Data Analysis Methods

Data analysis was performed using *Structural Equation Modeling–Partial Least Squares* (SEM-PLS) with the help of SmartPLS 4.0 software. The SEM-PLS method was chosen because it has several advantages, including: (1) being able to analyze complex models with latent variables and multiple indicators, (2) not requiring strict normal distribution assumptions, (3) being suitable for relatively small to medium sample sizes, and (4) focusing on predicting relationships between variables (Hair et al., 2021).

4. RESULTS AND DISCUSSION

A. Outer Model Measurement Analysis

Figure 1 shows the outer model, which shows the relationship between constructs and indicators for each variable. In the reflective outer model, the arrow points from the latent variable to the indicator. This means that the indicator is a reflection or manifestation of the latent variable. The reflective outer model is used to measure variables such as training, compensation, performance planning, and employee performance. In the formative outer model, the arrow points from the indicator to the latent variable. This means that these indicators shape or cause the emergence of the latent variable. In the reflective outer model, the parameters evaluated are the significance and relevance of the indicator weights (outer weights). Indicators with insignificant outer weights ($p\text{-value} > 0.05$) can be retained if their outer loading is significant (> 0.50).

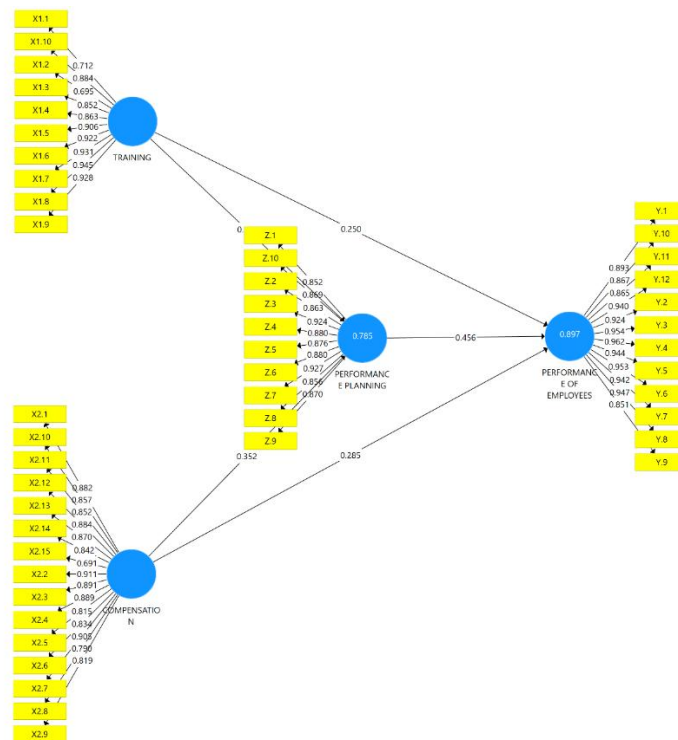


Figure 1. Outer Model Test Results

Source: SmartPLS 3.0 Processing Results (2025)

1. Convergent Validity

An indicator is considered valid if its loading factor is positive and exceeds 0.7. The loading factor values are listed in Table 1 below:

Table 1. Convergent Validity Test Results

Variables	Indicator	Loading Factor	Information
Training	X1.1	0.712	Valid
	X1.2	0.795	Valid
	X1.3	0.852	Valid
	X1.4	0.863	Valid
	X1.5	0.906	Valid
	X1.6	0.922	Valid
	X1.7	0.931	Valid
	X1.8	0.945	Valid
	X1.9	0.928	Valid
	X1.10	0.884	Valid
Compensation	X2.1	0.882	Valid
	X2.2	0.911	Valid

	X2.3	0.891	Valid
	X2.4	0.889	Valid
	X2.5	0.815	Valid
	X2.6	0.834	Valid
	X2.7	0.905	Valid
	X2.8	0.790	Valid
	X2.9	0.819	Valid
	X2.10	0.857	Valid
	X2.11	0.852	Valid
	X2.12	0.884	Valid
	X2.13	0.870	Valid
	X2.14	0.842	Valid
	X2.15	0.791	Valid
Performance Planning	Z1	0.852	Valid
	Z2	0.863	Valid
	Z3	0.924	Valid
	Z4	0.880	Valid
	Z5	0.876	Valid
	Z6	0.880	Valid
	Z7	0.927	Valid
	Z8	0.856	Valid
	Z9	0.870	Valid
	Z10	0.869	Valid
Employee Performance	Y.1	0.893	Valid
	Y.2	0.924	Valid
	Y.3	0.954	Valid
	Y.4	0.962	Valid
	Y.5	0.944	Valid
	Y.6	0.953	Valid
	Y.7	0.942	Valid
	Y.8	0.947	Valid
	Y.9	0.851	Valid
	Y.10	0.867	Valid
	Y.11	0.865	Valid
	Y.12	0.940	Valid

Source: Processed data 2025

Based on table 1 above, it can be seen that not all indicators of each variable have a value > 0.70 , but it can be maintained with further evaluation by looking at the AVE value which is greater than 0.5 (Malhotra, 2016). Looking at the results of the data processing above, all variables in this study have an AVE value > 0.5 and it can be concluded that the indicators used in this study can be considered valid and reliable to

measure each construct or latent variable.

2. Discriminant Validity

Discriminant Validity can be seen from the cross-loading factor calculation with truck concepts and the comparison of AVE with the correlation of latent variables. The cross-loading values are presented as follows:

Table 2. Results of the Cross Loading Test of Factors

	Compensation	Employee Performance	Performance Planning	Training
X1.1	0.588	0.551	0.580	0.712
X1.10	0.831	0.816	0.780	0.884
X1.2	0.557	0.606	0.569	0.795
X1.3	0.787	0.726	0.725	0.852
X1.4	0.788	0.818	0.775	0.863
X1.5	0.775	0.797	0.787	0.906
X1.6	0.821	0.857	0.835	0.922
X1.7	0.827	0.855	0.814	0.931
X1.8	0.841	0.851	0.815	0.945
X1.9	0.837	0.861	0.823	0.928
X2.1	0.882	0.865	0.799	0.872
X2.10	0.857	0.698	0.670	0.722
X2.11	0.852	0.735	0.695	0.765
X2.12	0.884	0.819	0.790	0.817
X2.13	0.870	0.850	0.824	0.805
X2.14	0.842	0.789	0.742	0.749
X2.15	0.791	0.632	0.680	0.561
X2.2	0.911	0.857	0.806	0.865
X2.3	0.891	0.758	0.710	0.820
X2.4	0.889	0.779	0.719	0.786
X2.5	0.815	0.717	0.645	0.681
X2.6	0.834	0.740	0.645	0.695
X2.7	0.905	0.795	0.757	0.811
X2.8	0.790	0.639	0.622	0.646
X2.9	0.819	0.651	0.657	0.666
Y.1	0.801	0.893	0.876	0.810
Y.10	0.721	0.867	0.755	0.753
Y.11	0.772	0.865	0.750	0.805
Y.12	0.844	0.940	0.878	0.838
Y.2	0.812	0.924	0.835	0.837
Y.3	0.883	0.954	0.850	0.888
Y.4	0.862	0.962	0.873	0.864
Y.5	0.848	0.944	0.869	0.859
Y.6	0.858	0.953	0.874	0.879

Y.7	0.852	0.942	0.877	0.841
Y.8	0.832	0.947	0.869	0.820
Y.9	0.776	0.851	0.791	0.742
Z.1	0.704	0.742	0.852	0.691
Z.10	0.784	0.852	0.869	0.824
Z.2	0.745	0.786	0.863	0.762
Z.3	0.808	0.847	0.924	0.831
Z.4	0.736	0.789	0.880	0.744
Z.5	0.663	0.795	0.876	0.702
Z.6	0.701	0.779	0.880	0.709
Z.7	0.756	0.839	0.927	0.783
Z.8	0.824	0.851	0.856	0.849
Z.9	0.723	0.756	0.870	0.747

Source: Processed data 2025

Based on the PLS software results table above, it can be seen that the cross loading factor correlation value for each latent construct for the corresponding indicator is higher. than other constructs, so it can be concluded that the indicators used to measure latent variables have met the requirements.

3. Reliability

The following are the Composite Reliability and Cronbach Alpha values of the variables in this study.

Table 3. Reliability Test

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Compensation	0.972	0.975	0.975	0.723
Employee Performance	0.984	0.985	0.985	0.848
Performance Planning	0.968	0.969	0.972	0.774
Training	0.962	0.969	0.968	0.754

Source: Processed data 2025

Based on the data listed in Table 3 above, it can be identified that all composite reliability values of the research variables have values greater than 0.7, and Cronbach's Alpha values exceed 0.6. These results indicate that each variable in this study has met the requirements for composite reliability and Cronbach's Alpha, indicating that all variables have a high level of reliability.

B. Inner Model Measurement Analysis

Inner model testing, also known as structural modeling, aims to analyze the relationship between constructs, evaluate significance values, and measure the R-square value of the research model. The range of determination coefficient values is between 0 and 1, where values closer to 1 indicate a stronger level of explanation. The determination coefficient (R^2) indicates the extent to which the independent variables in the equation have the ability to explain the variation of the dependent variable. The approach by Yamin & Kurniawan (2011) divides the R^2 value criteria into three categories: values of 0.67, 0.33, and 0.19, respectively representing substantial, moderate, and weak in the model's explanatory ability.

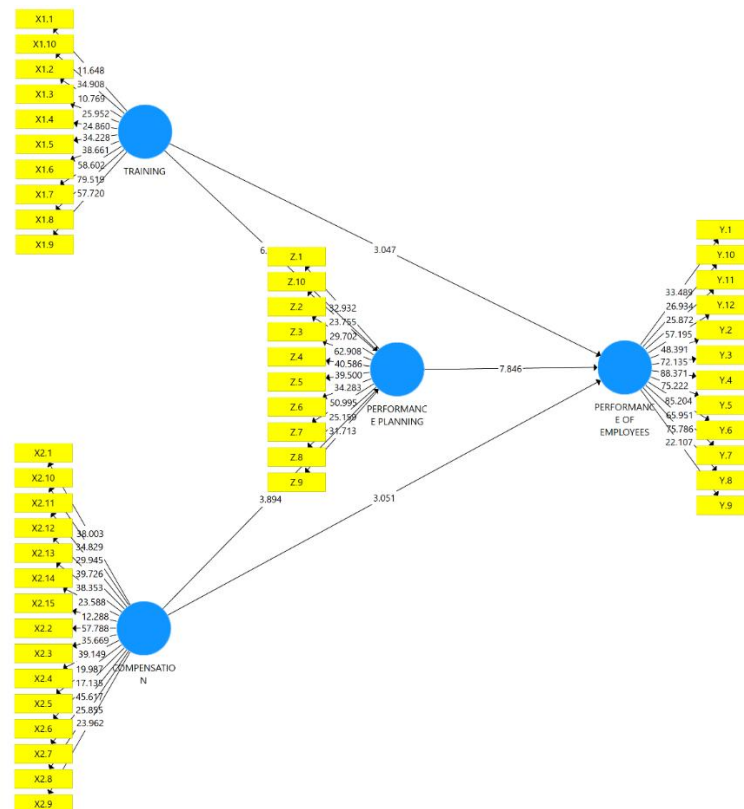


Figure 2. Inner Model Test Results
Source: Processed data 2025

1. Goodness of Fit

The evaluation of the PLS structural model begins by examining the R-square of each dependent latent variable. Table 4 shows the estimated R-square results using PLS.

Tabel 4. Results Testing *Goodness of Fit*

V a r i a b e l	R - Square	R - Square A dju s t e d
Employee performance	0.897	0.895
Performance Planning	0.785	0.782

Source: Processed data 2025

Based on table 4 above, the adjusted R-Square value of the Employee Performance variable is 0.897, this value means that the Employee Performance variable can be explained by the training, compensation and performance planning variables by 89.7% and the remaining 10.3% can be explained by other variables not included in this study, while the Performance Planning variable is 0.785, this value means that the Performance Planning variable can be explained by the training, compensation variables by 78.5% and the remaining 21.5% can be explained by other variables not included in this study.

2. Predictive Relevance (Q Square)

If the Q-square value is > 0 , it can be said to have a good observation value, whereas if the Q-square value is < 0 , it can be said that the observation value is not good. Q-Square predictive relevance for structural models, measures how well the conservation value is generated by the model and also its parameter estimates.

Table 5. Predictive Relevance

Variables	Q ² (=1-SSE/SSO)	Information
Employee performance	0.754	Has predictive relevance value
Performance Planning	0.599	Has predictive relevance value

Source: Processed data 2025

Q² value for the Employee Performance variable yields 0.754. Since the Q² value is > 0 , it can be concluded that there is a predictive correlation between training, compensation, and performance planning on employee performance. Furthermore, since Q² = 0.754, which is greater than 0.36, it can be stated as an indication of significant or strong relevance. Furthermore, the Q² value for the Performance Planning variable yields 0.599. Since the Q² value is > 0 , it can be concluded that there is a predictive correlation between training, compensation, and Performance Planning. Furthermore, since Q² = 0.599, which is greater than 0.36, it can be stated as an indication of significant or strong relevance.

3. Hypothesis Testing

The structural model testing procedure is carried out using PLS (Partial Least Squares) software. Direct hypothesis testing is based on the output results displayed in the form of images and the values indicated by the output path coefficients. This hypothesis evaluation technique is based on the guideline that if the p-value is < 0.05 (significance level = 5%), then it can be assumed that there is a significant influence of the exogenous variable on the endogenous variable.

Table 6. Hypothesis Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Val ues
Compensation → Employee Performance	0.285	0.275	0.093	3,051	0.002
Compensation → Performance Planning	0.352	0.363	0.090	3,894	0.000
Performance Planning → Employee Performance	0.456	0.460	0.058	7,846	0.000
Training → Employee Performance	0.250	0.257	0.082	3,047	0.002
Training → Performance Planning	0.559	0.547	0.089	6,298	0.000
Compensation → Performance Planning → Employee Performance	0.160	0.169	0.053	3,006	0.003
Training → Performance Planning → Employee Performance	0.255	0.250	0.043	5,867	0.000

Source: Processed data 2025

C. Discussion

The Effect of Compensation on the Performance of Indonesian Quarantine Agency Employees

The results of the study showed that compensation had a positive and significant effect on employee performance ($\alpha = 0.285$; $p = 0.002$). This finding indicates that the higher the compensation provided, both financial and non-financial, the higher the performance of Indonesian Quarantine Agency employees. Compensation serves as a motivational factor that makes employees feel valued and encouraged to contribute their best. This supports research by Sutanto & Kurniawan (2021) and Hakim (2020), which confirms that fair and appropriate compensation can maintain and improve employee performance in both public and private organizations.

The Influence of Compensation on the Performance Planning of the Indonesian Quarantine Agency

Data analysis shows that compensation has a positive and significant effect on performance planning ($O = 0.352$; $p = 0.000$). This means that Indonesian Quarantine Agency employees who receive compensation according to expectations tend to be more focused in developing work plans. Adequate compensation creates a sense of security and certainty, thus motivating employees to establish performance achievement strategies. This finding is consistent with Rahmawati (2019) and Widodo (2020), who stated that compensation not only acts as a reward but also as a driver of employee orientation in designing short-term and long-term work plans.

The Influence of Performance Planning on the Performance of Indonesian Quarantine Agency Employees

Performance planning has been shown to have a positive and significant impact on employee performance ($\alpha = 0.456$; $p = 0.000$). With sound performance planning, Indonesian Quarantine Agency employees have clear work guidelines regarding targets, strategies, and operational steps to be taken. These results align with research by Sari & Nugroho (2021) and Pratama (2018), which states that structured planning clarifies the direction of performance achievement. Therefore, performance planning is an important instrument for increasing employee effectiveness and productivity in carrying out quarantine duties.

The Impact of Training on the Performance of Indonesian Quarantine Agency Employees

Research shows that training has a positive and significant impact on employee performance ($\alpha = 0.250$; $p = 0.002$). The training provided to Indonesian Quarantine Agency employees, both in the form of improving technical competencies and soft skills, has been shown to improve their work abilities. Training helps employees adapt to changing policies, regulations, and technological developments in the quarantine sector. These findings support research by Putri (2019) and Ginting & Sembiring (2020), which emphasizes the importance of training as an organizational strategy to improve employee performance.

The Impact of Training on the Performance Planning of the Indonesian Quarantine Agency

The research results demonstrate that training has a positive and significant impact on performance planning ($\alpha = 0.559$; $p = 0.000$), even representing the strongest relationship in the research model. This indicates that the training employees receive not only improves knowledge and skills but also fosters analytical skills in developing work plans. This finding supports research by Nurhayati (2020) and Yuliana (2021), which states that effective training can help employees develop strategies to achieve work goals more efficiently.

The Influence of Compensation on Employee Performance is Mediated by Performance Planning

Performance planning has been shown to significantly mediate the effect of compensation on employee performance ($\alpha = 0.160$; $p = 0.003$). This means that compensation provided by the organization not only directly impacts performance but also increases employee motivation to develop better work plans, ultimately driving performance improvement. This supports Arifin's (2019) research, which emphasized that compensation motivates employees to create targeted work plans to optimally achieve organizational targets.

The Influence of Training on Employee Performance Mediated by Performance Planning

This study also demonstrated that performance planning significantly mediated the effect of training on employee performance ($\alpha = 0.255$; $p = 0.000$). This means that the training provided to Indonesian Quarantine Agency employees not only improved skills but also strengthened strategic thinking in developing effective work plans, resulting

in higher performance. This finding is consistent with research by Wulandari (2020) and Utami & Hartono (2019), which emphasized that performance planning is a crucial mechanism in bridging the relationship between training and work performance.

5. CONCLUSION

Based on the research results and discussion, it can be concluded that training, compensation, and performance planning have a positive and significant influence on the performance of Indonesian Quarantine Agency employees. Training has been proven not only to improve employees' technical and non-technical competencies but also to strengthen their ability to develop systematic performance plans. Fair and appropriate compensation can encourage employees to work more optimally, both directly on performance and through more targeted performance planning. Furthermore, performance planning has been proven to be a crucial mediating variable, clarifying the relationship between training and compensation and improved employee performance. This indicates that organizational efforts in providing training and compensation will be more effective when integrated with structured performance planning, thereby overall improving employee work effectiveness, productivity, and contribution to achieving organizational goals.

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UNDERSTANDING THE IMPACT OF FDI, GOVERNMENT SPENDING, AND INFLATION ON LOCAL TAX RATIO: THE ROLE OF CORRUPTION IN INDONESIA

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Abstract

This study examines the effects of Foreign Direct Investment (FDI), government expenditure, and inflation on the local tax ratio in Indonesia, and further investigates the moderating role of corruption in this relationship. Local tax ratio has become an essential indicator of regional fiscal capacity, reflecting the ability of local governments to generate their own-source revenue to support public services and development. Using panel data from 33 provinces in Indonesia over the period 2015–2024, this research employs a Moderated Regression Analysis (MRA) to assess both the direct and interaction effects among variables. The findings reveal that FDI and government expenditure exert a positive and significant influence on the local tax ratio, while inflation shows a negative and significant effect. Moreover, corruption is found to significantly moderate the relationship between government expenditure and local tax ratio, weakening the positive impact on local tax ratio. In contrast, the moderating effect of corruption on FDI and inflation is statistically insignificant. These results highlight the importance of improving governance quality to enhance regional fiscal capacity. Strengthening anti-corruption measures, increasing transparency, and promoting effective public financial management are crucial to ensuring that local governments can optimize the benefits of investment and public spending on tax revenue generation.

Keywords: Foreign Direct Investment, Government Expenditure, Inflation, Local Tax Ratio, Corruption

1. INTRODUCTION

Regional autonomy demands that local governments strengthen their own-source revenue to reduce reliance on central transfers (Miswar et al., 2021). However, the capacity of Indonesian provinces to generate local revenue, particularly from local taxes, remains weak. Data from the Ministry of Finance shows that 42.11% of provinces still have low fiscal capacity, reflecting continued dependence on central government funding. The local tax ratio, as an indicator of regional fiscal capacity, remains low at around 0.7–1.5% between 2015 and 2023, far below the national tax ratio of 10.31% in 2023, signaling the urgency to enhance provincial tax mobilization.



Figure 1. Local Tax Ratio in Indonesia

Source: Ministry of Finance

Foreign direct investment (FDI) is expected to stimulate regional economic activity and broaden the tax base (Fazaaloh, 2024). Although Indonesia's FDI inflows surged from IDR 403 trillion in 2015 to IDR 940 trillion in 2024, provincial tax revenues did not grow proportionately. This suggests a weak transmission of FDI benefits into fiscal outcomes at the local level. Similarly, government expenditure should theoretically support tax growth through infrastructure, public services, and economic development (Nguyen & Bui, 2022). Yet, many high-spending provinces still report low local tax ratios, indicating inefficiencies and weak fiscal governance. Inflation further affects fiscal performance by eroding purchasing power and reducing business productivity, potentially narrowing the tax base (Puspasari & Gazali, 2022). Its net impact on the local tax ratio remains uncertain due to the dual effect of rising prices and declining real tax capacity.

Institutional quality may influence how FDI, government spending, and inflation affect local tax performance. Corruption remains a persistent challenge, Indonesia's CPI score of 37 in 2024 reflects governance weaknesses that undermine tax compliance, distort budget allocation, and weaken investor trust. Corruption can limit the fiscal benefits of FDI, reduce the effectiveness of public expenditure, and directly decrease tax revenue through illicit practices (Wiguna & Wijaya, 2024). While prior studies have analyzed tax determinants and the impact of corruption on fiscal outcomes, limited research has examined corruption as a moderating factor at the provincial level, partly due to limited regional-level corruption data.

To address this gap, this study investigates the influence of FDI, government expenditure, and inflation on the local tax ratio in Indonesian provinces, with corruption as a moderating variable. Strengthening provincial fiscal capacity requires not only attracting quality investment and improving spending effectiveness but also ensuring good governance and inflation stability. This research provides a more comprehensive provincial-level analysis to better understand these dynamics and support strategies for reducing regional fiscal dependence on the central government.

2. LITERATURE REVIEW

Theoretical Literature Review

Spillover theory explains the indirect transmission of knowledge, technology, and managerial skills from multinational enterprises to domestic firms (Surbakti & Wijaya, 2023). FDI can enhance productivity, expand employment, and strengthen economic competitiveness, thereby increasing the tax base. However, the fiscal impact of FDI depends on the host economy's capacity to absorb spillovers; low-productivity sectors may face crowding-out effects, while weak institutional capacity may cause foreign investors to contribute minimally to tax revenues. Therefore, the quality of FDI and institutional strength determine whether spillovers positively affect the local tax ratio.

The spend-tax hypothesis posits that rising government spending leads to higher tax revenues as public tolerance toward taxation increases when spending is perceived as necessary and beneficial (Adigbole et al., 2023). Increased fiscal expenditure, particularly during economic shocks, may initially be financed through borrowing or stable tax rates; however, in the medium to long term, tax revenue must adjust upward to sustain spending. Thus, efficient and productive government spending can stimulate economic activity and expand the tax base, while inefficient spending may fail to yield corresponding increases in local tax revenue.

Local tax ratio measures the contribution of regional tax revenues to Gross Regional Domestic Product (GRDP), indicating the effectiveness of subnational governments in mobilizing fiscal resources (Ikidi & Okoh, 2024). A higher ratio reflects greater fiscal capacity and reduced

dependence on central transfers. As a key indicator of local fiscal performance, it captures the extent to which economic activity translates into tax revenue and serves as a basis for evaluating regional tax policy effectiveness and autonomy in public finance (Surbakti & Wijaya, 2023).

Foreign Direct Investment represents cross-border capital inflows accompanied by technology transfer, managerial know-how, and international production networks. FDI supports capital accumulation, productivity growth, and employment, with its benefits varying across sectors and depending on local absorptive capacity (Wahyuni & Wijaya, 2023). In the provincial context, FDI can stimulate formal economic activity, broaden the tax base, and generate spillovers that support local revenue performance, provided that regional institutions effectively regulate and leverage foreign investment.

Government spending constitutes a key fiscal policy tool influencing economic activity and public service provision (Nan S, 2022). It includes expenditures on public goods, services, and social programs at multiple levels of government and aims to enhance welfare and stimulate growth. Efficient and well-targeted spending can stimulate local economic activity, increase taxable transactions, and support revenue generation, whereas poorly managed expenditure weakens fiscal outcomes and undermines tax performance (Maryantika & Wijaya, 2022).

Inflation reflects sustained increases in the general price level and affects purchasing power, production costs, and tax revenues (Andini & Wijaya, 2024). Moderate inflation may increase nominal tax receipts by raising transaction values, yet high and persistent inflation reduces real income, suppresses economic activity, and narrows the tax base (Puspasari & Gazali, 2022). Its impact on local tax ratio depends on regional tax structures and fiscal policy responses, provinces with adaptive tax systems benefit more, while those relying on rigid or fixed-rate levies face erosion of real revenue.

Corruption diverts public resources for private gain, weakens institutions, and diminishes public trust, thereby undermining fiscal capacity. High discretion, monopoly of power, and weak accountability increase corruption risk (Gaspereine et al, 2022). At the local level, corruption reduces tax morale, distorts public spending, and weakens revenue administration. It can impede the positive effects of FDI, government spending, and inflation management on local tax ratio, making it a relevant moderating factor in assessing provincial fiscal performance (Eng & Lim, 2024).

Empirical Literature Review

Prior empirical studies generally report a positive association between FDI and tax revenue. Surbakti and Wijaya (2023), for instance, showed that FDI significantly increases tax revenue in ASEAN countries by expanding business activities, enhancing productivity, and creating employment. Similar results were found in the European Union, where FDI contributed to higher tax revenues through technology transfer and efficiency gains (Gaspereine et al, 2022). In Southeast Asia, Eng and Lim (2024) confirmed that FDI strengthens the formal sector and tax base. However, in Nigeria and Kenya, Ikidi & Okoh (2024) reported a non-significant effect of FDI on tax revenue, suggesting that the impact of FDI may vary depending on institutional capacity and regional absorptive ability. Given these mixed findings, further investigation is needed at the provincial level to understand whether FDI effectively enhances the local tax ratio, which reflects regional tax collection performance.

H1: Foreign Direct Investment (FDI) positively affects the Local Tax Ratio

Government spending is widely recognized as a driver of economic growth and tax capacity. Nan S (2022) found that government expenditure significantly increases tax revenue in China, supporting the spend–tax hypothesis. Maryantika and Wijaya (2022) further showed that spending affects tax revenue both directly and indirectly through economic growth. In

ECOWAS countries, Adigbole et al. (2023) reported that spending on education and infrastructure increases tax ratios, while health expenditure was insignificant, indicating sector-specific effects. Overall, prior studies imply that productive, transparent, and well-targeted spending can expand the tax base and improve tax collection. Therefore, the present study examines whether this relationship also holds at the provincial level in Indonesia.

H2: Government Expenditure positively affects the Local Tax Ratio

Inflation has been shown to weaken tax revenue performance across developing economies. Andini and Wijaya (2024) found that higher inflation reduces purchasing power and consumption, thereby lowering tax revenue. Serin and Demir (2025) demonstrated the Olivera–Tanzi effect in Turkey, where inflation erodes the real value of tax revenue due to collection lags. Shrivastava (2021) highlighted tax system distortions under inflation, reducing economic productivity and tax potential. In ASEAN, Silfiani and Febyansyah (2022) confirmed that inflation negatively affects tax ratios by suppressing household consumption and corporate income. These findings consistently indicate that inflation reduces real tax revenue and narrows the tax base. Therefore, inflation is expected to negatively influence the local tax ratio in Indonesia.

H3: Inflation negatively affects the Local Tax Ratio

Although FDI generally enhances tax revenue, its effectiveness depends on institutional quality. FDI can increase tax capacity through economic expansion and productivity gains (Surbakti & Wijaya, 2023). However, in countries with weak governance, corruption often undermines these benefits. Ikidi and Okoh (2024) found that corruption weakens the positive effect of FDI on tax performance in Nigeria. Similarly, Wiguna and Wijaya (2024) reported that corruption reduces the impact of FDI on corporate tax revenue in the United States by enabling tax avoidance, informal incentives, and collusion. Thus, corruption may limit the fiscal benefits of FDI at the provincial level in Indonesia by reducing transparency and tax compliance.

H4: Corruption weakens the positive effect of Foreign Direct Investment on the Local Tax Ratio

Government spending can increase the tax ratio by stimulating economic growth and improving public services; however, its effectiveness relies heavily on governance quality. Evidence suggests that corruption distorts public expenditure, leading to inefficiency, budget leakages, and poor fiscal outcomes (Nan S, 2022). When corruption is high, public funds are less likely to translate into productive activities that expand the tax base. While prior studies support the positive effect of spending on tax capacity, limited research explicitly examines corruption's moderating role (Nguyen & Bui, 2022). Given the potential for corruption to reduce the productivity of public spending, it may weaken the relationship between government expenditure and the local tax ratio.

H5: Corruption weakens the positive effect of Government Expenditure on the Local Tax Ratio

Corruption affects fiscal policy effectiveness and tax performance, particularly during inflationary periods. In Indonesia, corruption increases inflation and reduces fiscal policy effectiveness (Kurniasih et al., 2024). Similarly, Margaryan and Terzyan (2023) found that corruption amplifies inflation and weakens institutional capacity for tax collection in developing countries. Peixoto et al. (2022) showed that corruption exacerbates inflation's negative effects on sectoral productivity, increasing economic distortions and reducing taxable activity. Santos and Menezes (2024) also demonstrated that corruption undermines fiscal and monetary policy credibility, making it more difficult for governments to recover tax revenue losses caused by inflation. Thus, corruption is expected to intensify the negative effect of inflation on the local tax ratio.

H6: Corruption strengthens the negative effect of Inflation on the Local Tax Ratio

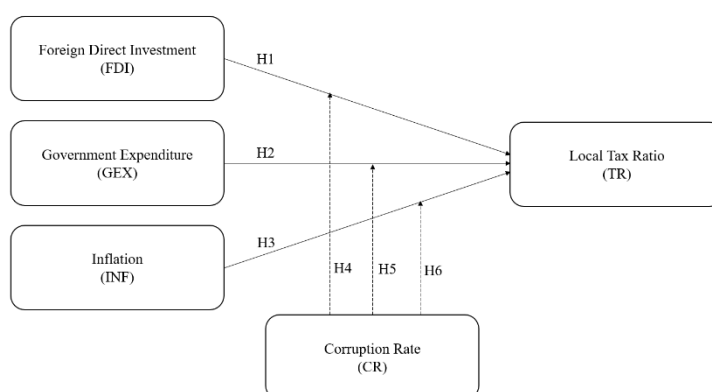


Figure 2. Conceptual Model

3. METHODOLOGY

Research Design

This study employs a quantitative research design using panel data analysis to examine the determinants of the Local Tax Ratio across Indonesian provinces. A hierarchical moderated regression analysis (HMRA) is applied to assess the direct effects of Foreign Direct Investment (FDI), government expenditure, and inflation on the Local Tax Ratio, as well as the moderating role of corruption. The analysis covers the period 2015–2024 and focuses on 33 provinces in Indonesia, excluding newly established provinces to maintain data consistency and comparability over the observation period.

Definition and Operationalization of Variables

The definitions and operational measurements of each variable used in this study are presented in Table 1.

Table 1. Operational Definition of Variables

Variable	Measurement/Indicator	
Dependent		
Local Tax Ratio (LTR)	Local Tax and Retribution Revenue / GRDP	Adigbole et al. (2023)
Independent		
Foreign Direct Investment (FDI)	Realized FDI Inflow/ GRDP	Wiguna & Wijaya (2024)
Government Expenditure (GEX)	Annual government expenditure / GRDP	Adigbole et al. (2023)
Inflation (INF)	Annual provincial inflation rate (%)	Silfiani & Febyansyah (2022)
Moderating		
Corruption (CR)	Number of corruption cases per 10.000 population	Pertiwi & Haryanto, (2022)

Model Specification

This study adopts a hierarchical moderated regression analysis (HMRA) approach consisting of three sequential models to examine both the direct and moderating effects among variables. The models are specified as follows:

Model 1: Assesses the influence of control variable(s) on the Local Tax Ratio

$$TR = \beta_0 + \beta_1 FDI + \beta_2 GEX + \beta_3 INF \dots\dots\dots(1)$$

Model 2: Examines the effect of FDI, government expenditure, and inflation on the Local Tax Ratio

$$TR = \beta_0 + \beta_1 FDI + \beta_2 GEX + \beta_3 INF + \beta_4 CR \dots\dots\dots(2)$$

Model 2: Tests whether corruption moderates the relationship between the independent variables and the Local Tax Ratio by adding interaction terms.

$$TR = \beta_0 + \beta_1 FDI + \beta_2 GEX + \beta_3 INF + \beta_4 CR + \beta_5 FDI\_CR + \beta_6 GEX\_CR + \beta_7 INF\_CR \dots\dots\dots(3)$$

4. RESULT

Regression Model Selection Test

To select the appropriate panel data estimation method, a series of tests (Chow, Hausman, and Lagrange Multiplier) were conducted. Based on the results in Table 4, the Random Effect Model (REM) was identified as the most suitable estimator for all regression models.

Table 2. Regression Model Selection

Model	Test	Prob.	Conclusion
1	Chow Test	Prob = 0.0000	FEM
	Hausman Test	Prob = 0.0618	REM
	Lagrange Multiplier Test	Prob = 0.0022	REM
2	Chow Test	Prob = 0.0000	FEM
	Hausman Test	Prob = 0.1846	REM
	Lagrange Multiplier test	Prob = 0.0022	REM
3	Chow Test	Prob = 0.0000	FEM
	Hausman Test	Prob = 0.0163	FEM
	Lagrange Multiplier test	Prob = 0.1618	CEM

Hypothesis Testing

The F-test results across all three models indicate that the independent variables collectively exert a statistically significant influence on the Local Tax Ratio. Model 1 records an F-statistic of 2.760304 ($p = 0.0000$), while Model 2 shows a similar significant value of 2.651892 ($p = 0.0000$), confirming that the inclusion of FDI, government expenditure, and inflation jointly enhances the model's explanatory power. Model 3, which incorporates interaction terms to assess the moderating role of corruption, exhibits a substantially higher F-statistic of 18.19118 ($p = 0.0000$), indicating a stronger model fit when moderation is considered. In terms of coefficient of determination, the R^2 increases progressively across models, from 0.202562 in Model 1 to 0.246072 in Model 2, and further to 0.283391 in Model 3, demonstrating that the full model with interaction effects explains 28.34% of the variation in the Local Tax Ratio.

Table 3. Result of T-Test and F-Test

Variables	Model 1		Model 2		Model 3	
	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.
C	0.023210	0.0000***	0.025899	0.0000***	0.022062	0.0000***

Variables	Model 1		Model 2		Model 3	
	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.
FDI	0.012017	0.0000***	0.012337	0.0000***	0.005283	0.3317
GEX	0.039751	0.0000***	0.039318	0.0000***	0.062962	0.0000***
-					-0.000646	0.0619*
INF	0.000478	0.0118**	-0.000359	0.0545*		
CR			-0.022084	0.0000***	-0.003945	0.7175
FDI_CR					0.027637	0.1556
GEX_CR					-0.096968	0.0002***
INF_CR					0.002262	0.2878
R2	0.202562		0.246072		0.283391	
Adj. R2	0.195223		0.236793		0.267812	
		0.000000**		0.000000**		
F-Statistic	2.760304	*	2.651892	*	18.19118	0.0000***

Note: *** $p < 1\%$, ** $p < 5\%$, * $p < 10\%$

Table 3 shows that FDI has a positive and significant effect on the local tax ratio in Models 1 and 2, supporting H1, indicating that higher foreign investment contributes to improved local tax performance. Government expenditure (GEX) also demonstrates a consistently positive and significant effect across all models, supporting H2, meaning increased provincial spending enhances tax revenue. Inflation (INF) has a negative and significant effect, at the 5% level in Model 1 and 10% in Models 2 and 3, supporting H3, confirming that rising inflation weakens provincial tax performance. The interaction term between FDI and corruption (FDI_CR) is positive but insignificant, indicating corruption does not moderate the FDI–tax ratio relationship (H4 rejected). Conversely, the interaction between GEX and corruption (GEX_CR) is negative and significant, supporting H5, meaning corruption weakens the positive effect of government spending on the local tax ratio. Meanwhile, the interaction between INF and corruption (INF_CR) is positive but insignificant, suggesting corruption does not moderate the inflation–tax ratio relationship (H6 rejected).

5. DISCUSSION

FDI on Local Tax Ratio

The results show that Foreign Direct Investment (FDI) has a significant positive effect on the Local Tax Ratio, indicating that greater inflows of foreign capital strengthen local fiscal capacity. FDI stimulates regional economic activity through increased production, employment, and income, which broadens the local tax base (Wahyuni & Wijaya, 2023). The entry of foreign firms also introduces capital, technology, and managerial skills that enhance productivity and support the growth of local industries and services. As regional economic output expands, tax revenue tends to grow at a faster rate than GRDP, resulting in an improved Local Tax Ratio (Ikidi & Okoh, 2024).

In line with spillover theory, the presence of foreign firms generates positive externalities for local economies, including the development of supply chains, growth of domestic businesses, and rising consumption, all of which contribute to higher tax collection (Surbakti & Wijaya, 2023). FDI does not only generate direct tax revenue from foreign companies, but also indirectly increases local tax sources through supplier networks, job creation, and business expansion. These findings suggest that strengthening an attractive, transparent, and stable investment climate remains essential for maximizing the fiscal benefits of FDI at the provincial level.

Government Expenditure on Local tax

The findings consistently show that Government Expenditure (GEX) has a significant positive effect on the Local Tax Ratio, indicating that public spending contributes to strengthening local fiscal performance. Government expenditure stimulates economic activity by increasing income, consumption, and productivity through investments in infrastructure, education, health, and social assistance (Nan S, 2022). These expenditures create a multiplier effect that expands the tax base, particularly through higher household consumption and business income, which ultimately increases local tax revenues at a rate that outpaces GRDP growth.

This result aligns with the spend–tax hypothesis and the fiscal synchronization perspective, suggesting that higher public spending encourages economic expansion that is later supported by increased tax collection to maintain fiscal balance (Maryantika & Wijaya, 2022). Efficient and productive allocation of public expenditure enhances regional economic capacity, supports sustainable growth, and strengthens provincial tax-raising ability (Kirikkaleli, & Ozbeser, 2023). These findings highlight the importance of effective budget management, as well-targeted and transparent government spending is essential to maximizing its fiscal return and improving the Local Tax Ratio over time.

Inflation on Local Tax Ratio

Inflation (INF) consistently shows a negative and significant effect on the local tax ratio (LTR) across all regression models. Higher inflation erodes household purchasing power, reducing consumption levels and thereby lowering revenue from consumption-based local taxes such as hotel, restaurant, and entertainment taxes (Andini & Wijaya, 2024). At the same time, inflation raises production costs and weakens business profitability, resulting in a decline in taxable income and, consequently, lower regional tax collections. As tax revenue decreases without a proportional increase in GRDP, the overall LTR declines (Silfiani & Febyansyah, 2022). Additionally, inflation creates distortions in the tax system. Shrivastava (2021) highlights that inflation induces fiscal drag, where taxpayers are pushed into higher tax brackets without real income growth. This reduces real disposable income and further suppresses economic activity, reinforcing the negative impact of inflation on local tax performance.

Corruption as Moderator in the effect of FDI on local tax ratio

The results indicate that corruption does not moderate the relationship between Foreign Direct Investment (FDI) and the local tax ratio. This suggests that the level of corruption does not strengthen nor weaken the effect of FDI on local tax ratio (Surbakti & Wijaya, 2023). The tax contribution generated from FDI inflows is often centralized at the national level rather than directly captured as regional tax revenue, making local tax performance less sensitive to changes in corruption levels (Eng & Lim, 2024). Even in environments with varying corruption intensity, the structure of tax allocation in Indonesia limits the extent to which corruption can influence the transmission of FDI into local tax revenue.

Another explanation is that investors, particularly large foreign firms, typically adopt robust internal compliance systems and tax planning strategies to safeguard their investments from local bureaucratic inefficiencies (Wiguna & Wijaya, 2024). As a result, the presence or absence of corruption does not substantially alter how FDI contributes to taxable economic activities at the regional level. In some cases, investors may even bypass local government interactions by dealing directly with central authorities, reducing the relevance of local corruption intensity. Consequently, corruption fails to serve as an effective moderating factor in the FDI–LTR relationship.

Corruption as Moderator in the impact of Government Expenditure on Local tax Ratio

The results indicate that corruption weakens the positive effect of government expenditure on the local tax ratio. Ideally, higher government spending, particularly on public services, infrastructure, and economic development, should stimulate economic activity, increase business productivity, and enhance household income. This expansion of the tax base is expected to translate into higher local tax revenues and, consequently, a higher LTR (Maryantika & Wijaya, 2022). However, when corruption is prevalent, a portion of government spending is diverted through rent-seeking, mark-up practices, or misallocation of funds. As a result, the effectiveness of government expenditure in generating economic growth and increasing taxable activities becomes significantly reduced (Nguyen & Bui, 2022).

In high-corruption environments, public spending tends to be less productive and fails to deliver the intended public goods and services that support local economic activity. Infrastructure projects may be low quality or unfinished, social assistance may not reach intended beneficiaries, and local economic programs may be distorted by patronage networks. These inefficiencies diminish the capacity of government spending to stimulate the local economy and broaden the tax base, thereby weakening its impact on tax revenue performance (Nguyen & Bui, 2022). Consequently, corruption erodes public trust, discourages compliance, and undermines the fiscal multiplier effect of government expenditure, making the positive relationship between government spending and LTR substantially weaker.

Corruption as Moderator in the effect of Inflation on Local tax Ratio

The findings show that corruption does not moderate the relationship between inflation and the local tax ratio. This implies that the adverse impact of inflation on local tax performance remains consistent regardless of the level of corruption. Inflation directly weakens purchasing power and reduces household consumption, which subsequently lowers regional tax revenue, particularly from consumption-based local taxes such as hotel, restaurant, and entertainment taxes (Kurniasih, et al., 2024). Because this mechanism occurs as a macroeconomic effect, the influence of inflation on LTR is largely automatic and not contingent on the quality of governance or corruption levels.

Moreover, during inflationary periods, both taxpayers and local governments prioritize economic stability rather than compliance enforcement or governance improvements (Margaryan & Terzyan, 2023). Even in regions with lower corruption, inflation-driven decreases in consumption and business profitability still lead to reduced taxable activities, making corruption ineffective in altering the inflation–tax revenue transmission. Conversely, in areas with higher corruption, inflation may already have reduced the taxable base to a point where corruption can no longer exacerbate the decline (Santos & Menezes, 2023). As a result, corruption fails to either amplify or diminish the effect of inflation on local tax ratio, rendering the moderating role statistically insignificant.

6. CONCLUSION AND RECOMMENDATION

This study concludes that foreign direct investment (FDI) and government expenditure (GEX) play a significant role in strengthening local fiscal capacity, as both variables positively and significantly increase the Local Tax Ratio (LTR). FDI enhances economic activity, productivity, and job creation, which collectively broaden the regional tax base. Likewise, government expenditure stimulates economic growth and increases taxable activities through improved infrastructure, public services, and social welfare. In contrast, inflation (INF) consistently weakens local tax performance by reducing purchasing power, suppressing consumption, and lowering business profitability, which ultimately decreases regional tax revenue relative to GRDP.

The moderating analysis shows that corruption weakens the positive effect of government expenditure on LTR, indicating that poor governance undermines the fiscal benefits of public spending. Misallocation, inefficiency, and rent-seeking practices limit the ability of government expenditure to stimulate the economy and expand tax revenue. Meanwhile, corruption does not moderate the relationships between FDI and LTR or between inflation and LTR. This suggests that the fiscal contributions of FDI and the adverse effects of inflation occur regardless of corruption levels due to structural characteristics of tax allocation and macroeconomic mechanisms.

To improve local tax performance, policymakers should prioritize strengthening the investment climate and ensuring efficient and transparent public spending. Enhancing governance quality and reducing corruption are crucial to maximizing the fiscal return of government expenditure. Local governments should implement stricter monitoring, digital transparency systems, and performance-based budgeting. Additionally, macroeconomic stability policies aimed at controlling inflation are essential to safeguard purchasing power and sustain tax revenue. Strengthening coordination between central and local governments in tax administration and public financial management will further enhance local fiscal capacity and support sustainable regional development.

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THE INFLUENCE OF COMPETENCY, TRAINING, AND BUREAUCRATIC CULTURE ON THE PROFESSIONALISM OF ASN EMPLOYEES IN THE DEPOK CITY GOVERNMENT

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Abstract

This study aims to analyze the influence of competence, training, and bureaucratic culture on the professionalism of State Civil Apparatus (ASN) employees in the Depok City Government. This study uses a quantitative approach with a survey method, where data is obtained through a Likert-scale questionnaire and analyzed using multiple linear regression with the help of SPSS version 26.0. The results of the study are expected to provide theoretical contributions to the development of human resource management science as well as practical benefits for the Depok City Government in improving the professionalism of ASN through strengthening competence, training effectiveness, and the formation of an adaptive and service-oriented bureaucratic culture.

Keywords: *the influence of competence, training, and bureaucratic culture on the professionalism of ASN employees*

1. INTRODUCTION

Human resources (HR) are a crucial asset in any organization, particularly in government agencies responsible for providing public services. Civil servants (ASN) are required to possess a high level of professionalism to work effectively, with integrity, and with a focus on the public interest. This level of professionalism is influenced by several factors, including competence, training, and the bureaucratic culture within the workplace. However, the Depok City Government still faces challenges, including suboptimal employee competency development, uneven training that is not aligned with job requirements, and a bureaucratic culture that remains rigid and less adaptable to change. These conditions contribute to decreased work effectiveness and suboptimal public services. Therefore, this study was conducted to determine the extent to which competence, training, and bureaucratic culture influence the professionalism of ASN employees in the Depok City Government. The results are expected to provide input for local governments in improving employee performance through the development of professional and highly competitive HR.

The purpose of this research is to answer the questions formulated above, thus providing a detailed and clear understanding of the purpose of this research. In writing this thesis, the author has the following objectives:

- a. To determine the influence of competence on the professionalism of Depok City Government ASN employees.
- b. To determine the influence of training on the professionalism of Depok City Government ASN employees.
- c. To determine the influence of bureaucratic culture on the professionalism of Depok City Government ASN employees.

Formulation of the problem:

- a. Does competence influence the professionalism of Depok City Government Civil Servants (ASN)?

- b. Does training influence the professionalism of Depok City Government Civil Servants (ASN)?
- c. Does bureaucratic culture influence the professionalism of Depok City Government Civil Servants (ASN)?

2. LITERATURE REVIEW

2.1 Human Resource Management

Mathis and Jackson (2006) HR is the design of formal systems within an organization to ensure the effective and efficient use of human talent to achieve organizational goals.

2.2 Competence (X1)

The definition of competence according to Spencer and Spencer (2016) and Ruky (2015), competence is a basic characteristic of a person (individual) that influences the way they think and act, make generalizations about all situations they face, and lasts for a long time in humans.

2.3 Training (X2)

According to Sinaga and Sitinjak (2021), training is a learning activity organized by government agencies, non-governmental organizations, or organizations or companies with the aim of meeting organizational needs and achieving predetermined goals.

2.4 Bureaucratic Culture (X2)

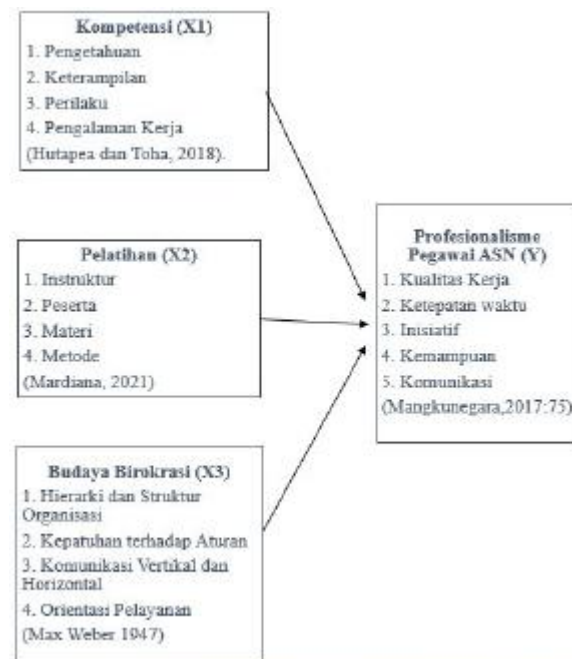
According to Aneta et al. (2024), bureaucratic culture reflects the values, norms, and attitudes held by its members, thus forming a specific and directed framework that can influence the effectiveness and productivity of employee performance.

2.5 Professionalism of ASN Employees (Y)

Kurniawan (2005:74) stated that professionalism concerns the suitability (fitness) between the abilities of the apparatus and the needs of the tasks that must be carried out.

3. RESEARCH METHODS

3.1 Analytical Framework



3.2 Hypothesis

Hypothesis is a tentative answer to the research problem formulation, written in the form of a question. Based on the framework and research objectives, the research hypotheses are as follows:

H1: Competence has a positive and significant influence on the professionalism of civil servants in the Depok City Government
H2: Training has a positive and significant influence on the professionalism of civil servants in the Depok City Government
H3: Bureaucratic Culture has a positive and significant influence on the professionalism of civil servants in the Depok City Government

3.3 Research Object

The object of this research is the professionalism of ASN employees which is influenced by the influence of competence, training and bureaucratic culture. The location of this research is the Depok City Government.

Data Sources and Data Types

This study used primary and secondary data. Primary data was obtained through questionnaires to civil servants (ASN) of the Depok City Government, while secondary data came from literature, journals, books, and related agency documents. The data type used was quantitative data measured using a Likert scale to determine the relationship between the research variables.

Population & Sample

The population in this study was all civil servants (ASN) in the Depok City Government who had characteristics consistent with the research variables. The sample was a subset of the population used as the research object and was selected using the Taro Yamane formula with a 5% margin of error, resulting in a proportionally representative number of respondents.

$$n = \frac{N}{N.d^2 + 1}$$

Dimana

n = Jumlah Sampel

N = Jumlah Populasi

d² = Presisi yang ditetapkan (5%)

Perhitungan

$$\frac{136}{136.(0,005)^2 + 1}$$

$$n = 101,49$$

Data Collection Techniques

Data collection was conducted through a Likert-sized questionnaire given to ASN employees of the Depok City Government to measure the variables of competence, training, bureaucratic culture, and professionalism, and supported by literature studies from journals, books, and documents of related agencies.

Analysis Method

- Descriptive analysis method
- Inferential analysis method
- Multiple linear regression analysis method

Classical Assumption Testing

- Normality Test
- Multicollinearity Test
- Heteroscedasticity Test

Instrumental Testing

- Validity Testing
- Reliability Testing

Model Fitness Test

- F-Test
- Coefficient of Determination(R^2)
- Hypothesis Test (t-Test)

No	Rencana Kegiatan	Oktober 2025	November 2025	Desember 2025	Januari 2025
1.	Penyusunan Proposal				
2.	Seminar Proposal				
3.	Pengumpulan Data				
4.	Pengolahan Data Dan Analisis				
5.	Penyusunan Laporan dan Tugas Akhir				

THE INFLUENCE OF PRODUCT QUALITY, BRAND IMAGE AND PRICE PERCEPTION ON PURCHASING DECISIONS FOR ADIDAS SNEAKERS AMONG PERSIJA SUPPORTERS IN SOUTH JAKARTA

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Abstract

This research aims to examine the influence of product quality, brand image, and price perception on the purchase decisions of Adidas sneakers among Persija football supporters in South Jakarta. The background of this study is the growing trend of sneaker culture among urban football fans in Indonesia, where sneakers serve not only as functional footwear but also as expressions of identity and lifestyle. Despite Adidas's global reputation and strategic collaborations with football clubs and public figures, preliminary survey results indicate low consumer agreement regarding product durability, brand relevance, and price fairness within the Persija supporter community. This study employs a quantitative approach using an online questionnaire distributed via Google Forms.

Respondents are selected through purposive sampling, with criteria including being a Persija supporter residing in South Jakarta, aged 20 years or older, and having purchased and used Adidas sneakers. The data collected are measured using a Likert scale and analyzed through multiple linear regression using IBM SPSS Statistics version 25. Theoretically, this research contributes to marketing and consumer behavior literature by exploring how product attributes and brand perception influence purchase decisions in a sports based community context. Practically, the findings are expected to assist Adidas and other sportswear brands in refining their local marketing strategies, enhancing product relevance, and aligning brand positioning with the preferences and loyalty dynamics of football supporter segments in Indonesia.

1. RESEARCH PURPOSES

This study aims to empirically examine the influence of product quality, brand image, and price perception on Adidas shoe purchasing decisions among Persija supporters residing in South Jakarta. Specifically, this study focuses on analyzing the relationship between each independent variable and the dependent variable, and assessing the extent to which product quality, brand image, and price perception contribute to consumer purchasing decisions within the context of the Persija supporter community in South Jakarta.

2. RESEARCH LOCATION

In the context of this study, the object of research is product quality, brand image, price perception on consumer purchasing decisions for Adidas sneakers products, with the specific target of the Persija Supporters group who live in the South Jakarta area as the object and location of the research.

3. SAMPLE COLLECTION TECHNIQUES AND SAMPLE MANAGEMENT

This study used primary data sources in the form of an online questionnaire distributed through the Google Form platform to Adidas sneaker consumers, particularly Persija supporters residing in South Jakarta. Sampling was conducted using a non-probability sampling method. The sampling technique used in this study was purposive sampling, with respondents selected based on specific criteria relevant to the research objectives. The data

obtained were then processed using SPSS version 25.

4. CRITERIA AND SAMPLE SIZE

The researcher has established specific criteria for sample selection in this study. Respondents are required to meet the following conditions:

- a. They must be Persija supporters residing in South Jakarta.
- b. They must have purchased Adidas sneakers at least once.
- c. They must be users of Adidas sneakers.
- d. They must be at least 20 years old

Based on these criteria, a total of 100 respondents were selected as the sample for this research, with the help of google form in collecting respondent data.

THE EFFECT OF RETURN ON ASSETS (ROA), DEBT TO EQUITY RATIO (DER), AND INTEREST RATES ON STOCK PRICES OF PROPERTY AND REAL ESTATE SECTOR COMPANIES ON THE INDONESIA STOCK EXCHANGE 2020-2024

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Abstract

The purpose of this study is to analyze the effect of Return on Assets, Debt to Equity Ratio, and Interest Rates on stock prices in Property and Real Estate sector companies listed on the Indonesia Stock Exchange (IDX) for the 2020-2024 period. This study uses a quantitative approach with secondary data collection methods in the form of annual financial reports and stock prices at the closing period at the end of the year obtained from the official website of the Indonesia Stock Exchange. Data collection on interest rates at the closing period at the end of the year was also obtained from the official website of Bank Indonesia.

THE INFLUENCE OF FINANCIAL LITERACY, HERDING BEHAVIOR, AND SOCIAL MEDIA ON INVESTMENT DECISIONS AMONG THE PRODUCTIVE AGE GROUP

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Abstract

This study aims to analyze the influence of financial literacy, herding behavior, and social media on investment decisions among the productive group in Indonesia. The increasing number of investors is not always accompanied by rational investment decision-making, as social and emotional factors play a role. This research employs a quantitative approach using a survey method. The sample size was determined using the Lemeshow formula, involving 100 respondents aged 20–45 years. Primary data collected through an online questionnaire and analyzed using a multiple linear regression model with the SPSS. This model was applied to examine the extent of influence of each independent variable on the dependent variable, investment decision-making. The results are expected to show that financial literacy has a positive and significant effect on investment decisions, herding behavior has a negative and significant effect, while social media has a positive and significant influence. The findings contribute to enhancing financial literacy and investor awareness to encourage more rational investment decisions in the digital era.

Keywords: *Financial literacy, herding behavior, social media, investment decisions*

THE EFFECT OF RETURN ON ASSETS, TOTAL ASSETS TURNOVER, DEBT TO EQUITY RATIO, AND ENVIRONMENTAL COSTS ON THE FINANCIAL PERFORMANCE OF MANUFACTURING COMPANIES IN THE CONSUMER GOODS INDUSTRY LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD 2021–2024

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Abstract

Indonesia's consumer goods industry in 2024 demonstrated stable growth with significant contribution to the Gross Domestic Product of the manufacturing sector, reaching approximately 18,3% of total processing industry output. This industry plays a vital role in Indonesia's economy as the largest employer and contributor to state tax revenue. Financial performance serves as a crucial indicator for the consumer goods industry as it reflects companies' ability to generate returns for investors, maintain competitiveness, and ensure operational sustainability amid intense market competition. However, there is a phenomenon of financial performance fluctuations among companies during the 2021-2024 period, indicating problems in the financial performance of companies in this sector. This study aims to analyze the effect of Return on Assets (ROA), Total Assets Turnover (TATO), Debt to Equity Ratio (DER), and Environmental Costs on the Financial Performance of consumer goods manufacturing companies listed on the Indonesia Stock Exchange during the 2021–2024 period. The research hypotheses state that ROA, TATO, and Environmental Costs have positive and significant effects on Financial Performance, while DER has a negative and significant effect on Financial Performance. This study employs a quantitative approach with purposive sampling technique. Secondary data were obtained from annual financial reports, then analyzed using multiple linear regression with Eviews software.

Keywords: ROA, TATO, DER, Environmental Costs, Financial Performance

PENGARUH INFLASI, NILAI TUKAR RUPIAH, DAN SUKU BUNGA TERHADAP RETURN SAHAM PADA PERUSAHAAN SEKTOR ENERGI DI BURSA EFEK INDONESIA PERIODE 2020-2024

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1. INTRODUCTION

Pasar modal berperan penting dalam perekonomian karena menjadi sarana pendanaan dan investasi. Keuntungan berinvestasi di pasar modal paling baik dicontohkan dari pendapatan return yang dihasilkan dari saham-saham yang dipilih dengan cermat. Perusahaan di sektor energi di BEI telah menarik perhatian karena mencatat fluktuasi return saham tinggi selama 2020 – 2024. Faktor makroekonomi seperti inflasi, nilai tukar rupiah, dan suku bunga berpotensi memengaruhi return saham perusahaan sektor energi.

Berdasarkan statistik tersebut, nilai rata-rata return saham pada sektor energi mengalami fluktuasi yang sangat signifikan selama periode 2020-2024.

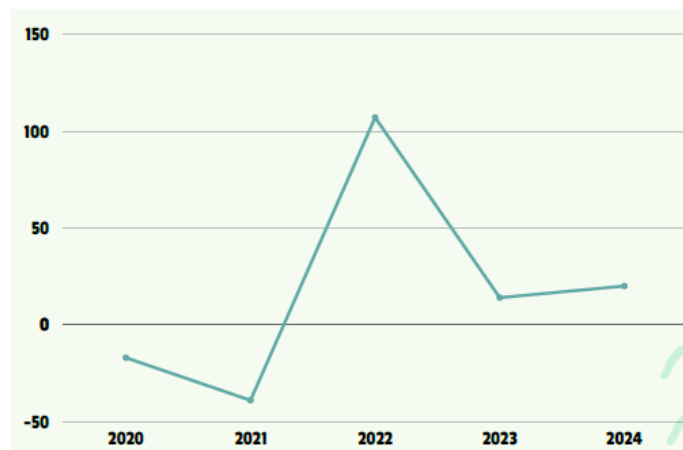


Figure 1.

Ringkasannya sebagai berikut:

- Return saham bernilai negatif pada tahun 2020 (-17%) dan 2021 (-39%), terutama akibat dampak pandemi COVID-19.
- Terjadi lonjakan yang sangat tinggi pada tahun 2022 (107%), yang didorong oleh kenaikan harga komoditas global seperti batu bara dan minyak.
- Return kembali stabil di level positif pada tahun 2023 (14%) dan 2024 (20%), yang mengindikasikan stabilisasi harga dan perbaikan sentimen investor.

Rumusan Masalah:

- Apakah inflasi berpengaruh terhadap return saham pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020-2024?

- b. Apakah nilai tukar rupiah berpengaruh terhadap return saham pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020-2024?
- c. Apakah suku bunga berpengaruh terhadap return saham perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020-2024?

Tujuan Penelitian:

- a. Untuk mengetahui dan menganalisis pengaruh inflasi terhadap return saham pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020-2024.
- b. Untuk mengetahui dan menganalisis pengaruh nilai tukar rupiah terhadap return saham pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia.
- c. Untuk mengetahui dan menganalisis pengaruh suku bunga terhadap return saham pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020-2024.

2. LITERATURE REVIEW

2.1 Landasan Teori

Teori Sinyal (Signaling Theory)

Teori ini menjelaskan bahwa manajemen perusahaan memiliki informasi internal yang tidak dimiliki oleh pihak luar (investor atau calon investor). Informasi merupakan elemen krusial yang diperlukan oleh investor mengenai keadaan perusahaan dan sebaiknya para pelaku industri menyediakan data tersebut.

Arbitrage Pricing Theory

Teori ini menyatakan bahwa return saham dipengaruhi oleh berbagai faktor makroekonomi secara simultan, bukan hanya satu faktor seperti pada model CAPM. Model APT menggunakan banyak variabel pengukur risiko untuk melihat hubungan antara risiko dan return.

Teori Efisiensi Pasar (Efficient Market Hypothesis)

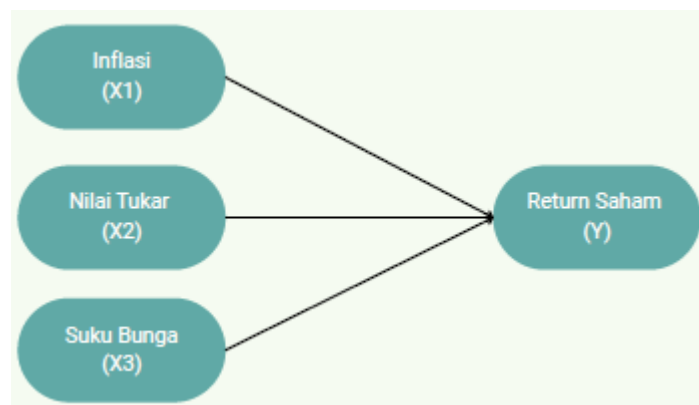
Teori ini menyatakan bahwa harga saham di pasar modal mencerminkan semua informasi yang tersedia secara instan dan akurat, sehingga investor tidak dapat secara konsisten memperoleh return abnormal dengan menganalisis informasi masa lalu atau publik.

Penelitian Terdahulu

Nama Peneliti, Judul/Tahun	Variabel & Metode Penelitian	Hasil Penelitian
Pindonta Nalsal Pengaruh Inflasi, Suku Bunga, dan	X1 = Inflasi X2 = Suku Bunga	Secara parsial ROA yang hanya memiliki pengaruh terhadap

Profitabilitas Terhadap Return Saham (Studi Pada Industri Keuangan Non Bank Yang Terdaftar di BEI Tahun 2019-2021) (2023)	X3 = Profitabilitas Y = Return Saham Metode Regresi Linier Berganda	return saham sedangkan inflasi dan suku bunga tidak berpengaruh terhadap return saham
Muhammad Naufal Alim Pengaruh Inflasi, Suku Bunga, dan Nilai Tukar Rupiah Terhadap Return Saham Pada Perusahaan Sektor Keuangan yang Terdaftar di Bursa Efek Indonesia (2025)	X1 = Inflasi X2 = Suku Bunga X3 = Nilai Tukar Y = Return Saham Metode Regresi Panel	Hasil penelitian menunjukkan bahwa inflasi, suku bunga dan nilai tukar rupiah berpengaruh signifikan terhadap return saham pada Perusahaan Sektor Keuangan Yang Terdaftar di Bursa Efek Indonesia
Monika Budiman, Villia Premana, dan Adi Maryadi Pengaruh Suku Bunga, Inflasi, dan Nilai Tukar Terhadap Return Saham (2023)	X1 = Suku Bunga X2 = Inflasi X3 = Nilai Tukar Y = Return Saham Metode Regresi Panel	Secara parsial, variabel suku bunga dan nilai tukar berpengaruh negatif terhadap return saham, sedangkan inflasi berpengaruh positif terhadap return saham
Afvan Aquino, Elpa Utari Pengaruh Tingkat Inflasi, Suku Bunga dan Nilai Tukar Terhadap Return Saham Syariah di Bursa Efek Indonesia (2021)	X1 = Inflasi X2 = Suku Bunga X3 = Nilai Tukar Y = Return Saham Metode analisis linier berganda	Inflasi, suku bunga, nilai tukar rupiah tidak berpengaruh signifikan terhadap return saham secara parsial maupun simultan

2.2 Kerangka Berpikir



2.3 Hipotesis

H1: Inflasi berpengaruh positif dan signifikan terhadap return saham pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020 – 2024

H2: Nilai Tukar berpengaruh negatif dan tidak signifikan terhadap return saham pada

perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020 – 2024

H3: Suku Bunga berpengaruh positif dan signifikan terhadap return saham pada perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia periode 2020 – 2024

3. METHODS

3.1 Sumber Data & Jenis Data

Sumber data yang digunakan peneliti adalah laporan keuangan perusahaan sektor energi yang di publikasikan oleh Bursa Efek Indonesia periode 2020-2024 yang dapat di akses melalui www.idx.co.id.

Penelitian ini menggunakan jenis data kuantitatif. Pengujian dilakukan menggunakan data panel. Secara umum, regresi data panel adalah analisis regresi yang dilakukan pada gabungan data antara data time series (data runtut waktu) dan data cross-section (data silang)

3.2 Populasi & Sampel

Populasi dalam penelitian ini adalah perusahaan sektor energi yang terdaftar di Bursa Efek Indonesia dalam periode 2020-2024 dengan jumlah sebanyak 89 perusahaan.

Sampel merupakan wakil atau sebagian dari populasi yang akan diteliti. sampel yang digunakan dalam penelitian ini berjumlah 40 perusahaan sektor energi yang sesuai dan dipilih menggunakan teknik purposive sampling.

3.3 Definisi Operasional Variabel

Return Saham

Pendapatan saham yang dinyatakan dalam satuan persentase dari modal awal investasi saham yang diperoleh dari jual beli saham perusahaan di Bursa Efek Indonesia.

Inflasi

Naiknya harga-harga komoditas secara umum yang disebabkan ketidakselarasan oleh antara program pengadaan komoditas dengan pendapatan masyarakat.

Nilai Tukar

Nilai dari satu mata uang rupiah dibandingkan dengan nilai mata uang dollar Amerika.

Suku Bunga

Suku bunga kebijakan yang telah ditetapkan oleh Bank Indonesia sebagai acuan untuk mencapai stabilitas ekonomi dan mengendalikan inf.

3.4 Metode & Alat Pengumpulan Data

Teknik yang digunakan untuk mengumpulkan data dalam penelitian ini adalah dokumentasi. Metode dokumentasi adalah teknik pengumpulan data dengan cara menelusuri berbagai bentuk dokumen tertulis, gambar, atau rekaman yang berhubungan dengan objek penelitian.

Proses pengumpulan data ini diperoleh dari situs web Bursa Efek Indonesia atau laman resmi perusahaan yang bersangkutan. Kemudian, pencatatan dan kajian diperoleh dari berbagai buku, jurnal, literatur dan sumber lain yang berkaitan dengan topik penelitian.

3.5 Teknik Analisis

Dalam mengelola data, peneliti menggunakan aplikasi Microsoft Excel untuk memulai dengan memasukkan variabel penelitian. Lalu, data tersebut diolah menggunakan program STATA 17 yang menghasilkan hasil sesuai metode analisa yang telah ditetapkan.

Serta metode analisis data statistik deskriptif atau lainnya, uji asumsi klasik, analisis data panel, dan uji hipotesis.

THE EFFECT OF THE FED'S INTEREST RATE, INFLATION, AND GOLD PRICES ON THE COMPOSITE STOCK PRICE INDEX (IHSG) DURING THE PERIOD OF GLOBAL ECONOMIC UNCERTAINTY (2020-2024)

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Abstract

This research was motivated by fluctuations in the Composite Stock Price Index (IHSG) during the 2020-2024 period, which began with the Covid-19 pandemic and was followed by geopolitical conflicts such as the Russia-Ukraine war and trade tensions between the United States and China. During the same period, the Fed interest rate and inflation rate also fluctuated, while gold prices showed a sustained upward trend. These three factors are believed to be macroeconomic variables that influence investors in the Indonesian capital market, which ultimately affect the movement of the IHSG. The purpose of this research is to determine and analyse the effect of the Fed interest rate, inflation, and gold prices on the IHSG during a period of global economic uncertainty from 2020 to 2024. This study also aims to provide an empirical overview for investors, capital market participants, and policymakers in formulating investment strategies and economic policies that are more adaptive to global changes. The research method used a quantitative approach with two stages of data analysis, namely descriptive analysis to describe data trends, and inferential analysis using multiple linear regression to test the influence between variables. The data source used was secondary data in the form of time series obtained through literature studies from reliable sources such as Trading Economics and the Federal Reserve Board. The sampling technique used saturated sampling because all available population data during the research period, namely from January 2020 to December 2024, was used in its entirety without exception. Data processing was carried out using Microsoft Excel and SPSS.

Keywords: Fed interest rates, inflation, gold prices, global economic uncertainty

COSTLY PARASITIC BORROWING IN INDONESIA, ITS IMPACT TO THE REAL SECTOR

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Abstract

This study examines the quality of debt in Indonesia from 2014 to 2024, and its relationship with the stages of development in the real sector. It uses quantitative estimation for exploring debt lead development aimed to improve the real sector. With this approach, we indicate the formation of the problems in real sector growth, focusing on how costly parasitic borrowing. A country can experience Dutch diseases, currency depreciation and several possible problems from a parasitic borrowing. Macroeconomic and social indicators that play a significant role in the relevant process are used in the process of finding debt impacts. The research empirically confirms that the Indonesian people experienced tougher problems in the real formal sector and in increasing its welfare from borrowing more. The relationship between debt and real sector problems can serve as a baseline for further research studies in this context. The findings of this study can be used to solve the barriers to growth in Indonesia's real sector and the welfare of its people. The study observes relationships of the real sector and debt with detailed growth causes and consequences.

Keywords: F31, F34, H63, H81, Q01

THE INFLUENCE OF PRICE PERCEPTION, PROMOTION, AND WORD OF MOUTH ON PURCHASE DECISIONS OF GORIDE ONLINE TRANSPORTATION SERVICES AMONG STUDENTS OF SMK NEGERI 8 JAKARTA

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Abstract

This study aims to analyze the influence of price perception (X1), promotion (X2), and word of mouth (X3) on the purchase decision (Y) of the GoRide online transportation service among students at SMK Negeri 8 Jakarta. In the current digital era, online transportation like GoRide has become the primary choice for students due to its accessibility, but purchase decisions are influenced by various factors such as price perception encompassing price availability, price-quality fit, price competitiveness, and price-benefit fit; promotion including reach, quality, quantity, timing, and target accuracy; and word of mouth covering influence from others, personal nature, and timeliness. This research is based on service marketing theory and consumer purchase decision theory, where these independent variables are believed to have a positive relationship with purchase decisions. The research objectives are to deeply analyze the influence of each independent variable on GoRide purchase decisions and provide strategic recommendations for Gojek in designing more effective marketing for the student segment. The research results are expected to contribute to academics and practitioners in the field of online transportation service marketing. The research method used is a quantitative approach with a survey via questionnaires distributed to 100 respondents from SMK Negeri 8 Jakarta students who meet purposive sampling criteria. Data was collected using a Likert scale and analyzed with SPSS version 25. This study uses validity and reliability tests for instruments, classical assumption tests (normality, multicollinearity, heteroscedasticity, autocorrelation), multiple linear regression analysis to measure variable influences, and F-test, coefficient of determination (R^2), and t-test for hypothesis testing. Thus, this research provides empirical insights into the factors influencing online transportation purchase decisions among students.

Keywords: Price Perception, Promotion, Word of Mouth, Purchase Decision, GoRide, Online Transportation

AUTHENTIC LEADERSHIP AND ORGANIZATIONAL IDENTIFICATION: THE MEDIATION OF PERCEIVED ORGANIZATIONAL SUPPORT AND THE MODERATION OF ORGANIZATIONAL REPUTATION

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Abstract

This study aims to investigate the complex mechanism linking authentic leadership to organizational identification. Specifically, it examines the mediating role of perceived organizational support (POS) in this relationship and the moderating role of organizational reputation in the link between POS and organizational identification. Methodology: The research will employ a quantitative approach, utilizing a survey questionnaire distributed to employees of PT PALYJA. Data will be analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the SmartPLS 4 software. The analysis will assess the measurement model for validity and reliability, followed by testing the structural model to evaluate the direct effect, the mediating effect of POS, and the moderating effect of organizational reputation. Direction The findings are expected to provide a nuanced understanding of how leadership translates into employee identification, offering both theoretical and practical insights. For theory, it integrates Social Exchange Theory and Social Identity Theory within a single framework. For practice, it will offer managers at PT PALYJA and similar organizations a strategic roadmap, highlighting that building leadership and internal support must be synergized with external reputation management to fully cultivate a strongly identified workforce.

Keywords: *Authentic Leadership; Organizational Identification; Perceived Organizational Support; Organizational Reputation; PLS-SEM.*

1. Introduction

In the contemporary, volatile business environment, fostering a deeply committed and dedicated workforce is a paramount challenge for organizations. Companies are increasingly recognizing that their ultimate competitive advantage lies not just in financial capital or technology, but in their human capital. A key psychological state that drives employee commitment is Organizational Identification (OI), which refers to the extent to which employees define themselves by their membership in the organization (Mael & Ashforth, 1992). High levels of OI are consistently linked to desirable outcomes such as increased organizational citizenship behavior, enhanced job performance, and reduced turnover intentions (Riketta, 2005). Consequently, understanding the levers that strengthen this identification has become a critical area of inquiry for both scholars and practitioners.

The Indonesian business landscape, characterized by its rapid digital transformation and a young, dynamic workforce, presents a unique context for this challenge. Employees, particularly from the Millennial and Gen Z cohorts, are increasingly seeking more than just a paycheck; they crave purpose, authenticity, and a sense of belonging from their employers. However, many industries in Indonesia, including the vital water utility sector, often grapple with bureaucratic legacy systems and a top-down leadership culture that can stifle employee

engagement. In such an environment, cultivating a strong sense of identity with the organization is crucial for retaining talent and ensuring consistent, high-quality public service delivery amidst growing societal expectations.

This research will be contextualized within PT PAM Lyonnaise Jaya (PALYJA), a leading private drinking water operator in Western Jakarta. PALYJA operates in a critical public utility sector where its reputation and operational efficiency are constantly under public and governmental scrutiny. The company's success is inherently tied to the performance and dedication of its employees, from engineers maintaining the infrastructure to customer service representatives interacting with the public. As a company at the intersection of public service and private enterprise, PALYJA provides a rich setting to explore how internal leadership dynamics and external perceptions converge to shape employee identification with the organization.

While leadership is widely acknowledged as a precursor to OI, the specific mechanisms through which it operates require further elaboration. Authentic Leadership, defined as a pattern of leader behavior that draws upon and promotes positive psychological capacities and an ethical climate (Walumbwa et al., 2008), is theorized to be a potent antecedent. However, the direct path from Authentic Leadership to OI may not be fully explanatory. We propose that this relationship is fundamentally transmitted through the employees' perception of organizational care and support. According to Social Exchange Theory (Blau, 1964), when leaders are authentic and transparent, employees are more likely to perceive this treatment as a form of Perceived Organizational Support (POS)—the belief that the organization values their contributions and cares for their well-being (Eisenberger et al., 1986). This felt obligation, in turn, strengthens their emotional attachment and identification with the organization. Although studies have linked leadership to POS (e.g., Çelebi et al., 2023) and POS to OI (e.g., Kurtessis et al., 2017), the specific mediating role of POS in the Authentic Leadership-OI link remains underexplored, particularly in the Indonesian context.

Furthermore, the strength of the relationship between an employee's positive experiences (like POS) and their resulting identification may depend on the organization's external image. This is where Organizational Reputation—the stakeholders' collective judgment about an organization's credibility, reliability, and responsibility over time (Fombrun & van Riel, 2004)—plays a crucial moderating role. The Social Identity Theory (Tajfel & Turner, 1979) posits that individuals are motivated to belong to organizations that enhance their self-esteem. A positive external reputation makes the organization a more attractive and prestigious group to belong to. Therefore, when employees feel supported by the organization (high POS), the effect on their Organizational Identification (OI) is likely to be significantly stronger if the organization is also held in high public esteem. Conversely, even with high POS, a tarnished organizational reputation may weaken the employee's desire to identify with it. This proposed moderating effect of reputation on the POS-OI relationship represents a significant gap, as most studies treat reputation as a direct antecedent rather than a boundary condition (Helm, 2011).

Based on the identified gaps, the objectives of this study are threefold: (1) To empirically examine the direct effect of Authentic Leadership on Organizational Identification among employees of PT PALYJA. (2) To investigate the mediating role of Perceived Organizational Support in the relationship between Authentic Leadership and Organizational Identification. (3) To analyze the moderating role of Organizational Reputation in strengthening the relationship between Perceived Organizational Support and Organizational Identification.

This research offers a unique contribution to the literature by proposing and testing an integrated moderated mediation model. It moves beyond simple direct-effect models to explain how (through POS) and when (under conditions of high organizational reputation) Authentic Leadership most effectively cultivates Organizational Identification. For management at PALYJA and similar service-oriented companies in Indonesia, the findings will provide a strategic roadmap, highlighting that building a strong internal culture of authentic leadership and support must be synergized with active reputation management to fully unlock employee commitment and drive organizational success.

2. Hypothesis Development

Social Identity Theory

Social Identity Theory (SIT), pioneered by Tajfel and Turner (1979), posits that individuals derive a significant part of their self-concept from their membership in social groups. The core premise of the theory is that people naturally categorize themselves and others into various social groups (e.g., organizational, national, or professional). This categorization is followed by identification, where individuals internalize their group membership as a part of their identity, and social comparison, where they strive to achieve or maintain a positive self-image by viewing their own group (the in-group) favorably compared to other groups (out-groups). A positive social identity is achieved when the in-group is perceived as having a high status and a positive, distinct reputation, which enhances the self-esteem of its members.

In the context of this research, Social Identity Theory provides the fundamental explanatory mechanism for the dependent variable, Organizational Identification (OI), which is essentially the manifestation of an employee's social identity within their organization. The theory directly underpins the proposed moderating role of Organizational Reputation. According to SIT, employees are more motivated to identify with their organization when it is perceived as prestigious and held in high regard externally, as this enhances their own self-esteem. Thus, a strong organizational reputation strengthens the psychological appeal of belonging to the group. Furthermore, while the mediator, Perceived Organizational Support (POS), is rooted in Social Exchange Theory, its effect on identification is amplified by SIT principles; when employees feel supported (a positive internal experience), and that support comes from a reputable organization (a positive external attribute), the drive to identify with that organization is significantly intensified. Therefore, SIT is crucial for explaining why reputation moderates the relationship between POS and OI.

The Influence of Authentic Leadership on Organizational Identification

Authentic leaders are characterized by self-awareness, transparency, balanced processing of information, and an internalized moral perspective (Walumbwa et al., 2008). These behaviors create an environment of trust and psychological safety. When employees observe their leaders acting with integrity and transparency, they perceive the organization's values as more credible and trustworthy. According to Social Identity Theory, individuals are inclined to identify with social groups that enhance their self-esteem and status (Tajfel & Turner, 1979). An authentic leader, by embodying positive and ethical values, makes the organizational membership a more attractive and self-defining identity for employees, thereby fostering a stronger sense of oneness with the organization.

H1: Authentic Leadership has a positive and significant direct effect on Organizational Identification.

The Mediation Path

This hypothesis is grounded in Social Exchange Theory (Blau, 1964). Employees tend to personify their organization, viewing the actions of its agents (like leaders) as actions of the organization itself. When a leader demonstrates authentic concern for employees' development and well-being (authentic leadership), employees are likely to interpret this as a signal that the organization as a whole values their contributions and cares about them (Eisenberger et al., 1986). This perception is known as Perceived Organizational Support (POS). In response to this felt support, employees develop a sense of obligation to reciprocate. One of the primary ways to reciprocate is by increasing their emotional attachment and loyalty to the organization, which manifests as heightened Organizational Identification (Kurtessis et al., 2017). Therefore, authentic leadership cultivates POS, which in turn becomes the key mechanism through which leadership translates into stronger employee identification.

H2: Perceived Organizational Support (POS) mediates the relationship between Authentic Leadership and Organizational Identification.

The Moderation Path

While POS is a powerful internal driver of identification, its effectiveness can be amplified or diminished by external factors. The core premise of Social Identity Theory is that individuals derive pride and self-esteem from their membership in prestigious groups. Organizational Reputation is the external judgment of the organization's prestige and credibility (Fombrun & van Riel, 2004). When an employee feels highly supported by the organization (high POS) and the organization also enjoys a strong, positive public reputation, the two factors create a powerful synergy. The internal feeling of being valued is validated and enhanced by the external prestige of the organization. This makes identifying with the organization highly rewarding for the employee's self-concept (Helm, 2011). Conversely, if the organization has a poor reputation, even high levels of POS may not fully translate into strong identification because publicly identifying with a stigmatized organization could be socially costly or threaten the employee's self-esteem. Thus, a positive reputation acts as a boundary condition that amplifies the positive impact of POS on OI.

H3: Organizational Reputation strengthens (moderates) the positive relationship between

Perceived Organizational Support and Organizational Identification, such that the relationship is stronger when organizational reputation is high.

Research Model

This sequence illustrates how organizational support translates into positive job outcomes through motivational and cognitive mechanisms.

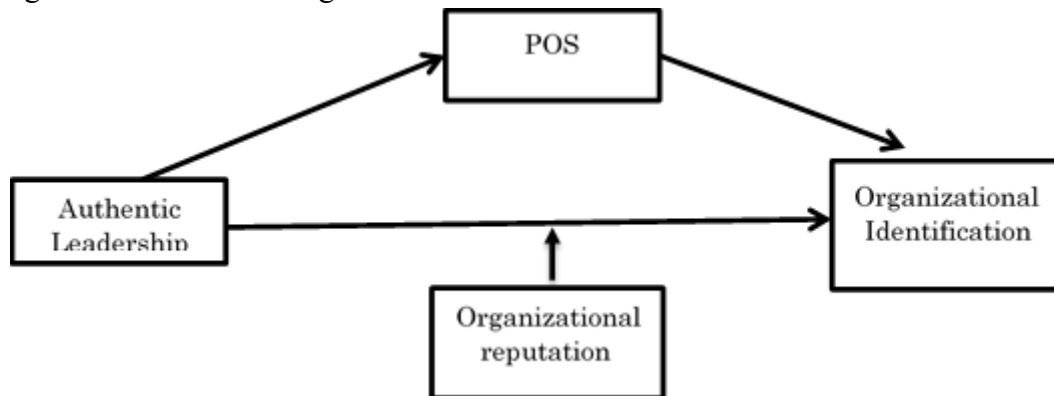


Figure 1. Research Model

3. Methodology

Sample and Data Collection

The population in this study are all permanent employees of PT PAM Lyonnaise Jaya (PALYJA), with a total of 110 individuals. Due to accessibility and time constraints, this study employs a non-probability sampling technique, specifically convenience sampling (also known as incidental sampling). This method involves selecting respondents based on their availability and willingness to participate during the data collection period.

To determine the minimum number of samples required for the study, the researcher referred to the sample size determination table by Krejcie & Morgan (1970). For a known population of 110, the table recommends a minimum sample size of 86 respondents. Therefore, in this study, the questionnaire will be distributed with the target of obtaining at least 86 complete and usable responses from the available employees. This sample size is considered adequate to proceed with the data analysis using the Partial Least Squares (PLS-SEM) method.

Measurement

The measurement of all variables in this study was conducted using a 5-point Likert scale, where 1 signifies "Strongly Disagree" and 5 signifies "Strongly Agree." The construct of Authentic Leadership was assessed using the Indonesian-adapted Authentic Leadership Inventory (Neider & Schriesheim, 2011; Malau & Widyastuti, 2024). This instrument comprises 14 items distributed across four distinct dimensions: Self-Awareness (e.g., "My leader accurately describes how others view his/her abilities"), Relational Transparency (e.g., "My leader is open in sharing information with others"), Internalized Moral Perspective (e.g., "My leader uses his/her core beliefs to make decisions"), and Balanced Processing (e.g., "My leader listens carefully to different points of view before coming to a conclusion").

Perceived Organizational Support (POS) was measured with an 8-item scale originally developed by Eisenberger et al. (1986) and subsequently employed by Şanlıöz et al. (2023). This scale captures the extent to which employees believe their organization values their contributions and cares about their well-being, with sample items including "The organization values my contribution to its well-being" and "The organization really cares about my well-being." It is important to note that several items in this scale are reverse-coded to mitigate response bias.

The dependent variable, Organizational Identification, was gauged using the seminal 6-item scale by Mael and Ashforth (1992), which has been validated in recent organizational studies (Ibrahim et al., 2024). This scale measures the cognitive fusion between an employee's identity and the organization's identity through items such as "When someone criticizes [PT PALYJA], it feels like a personal insult" and "When I talk about [PT PALYJA], I usually say 'we' rather than 'they'."

Finally, the moderating variable, Organizational Reputation, was evaluated using a 7-item scale based on the work of Wash et al. (2009), as cited and applied in subsequent research (Terblanche, 2014; Omar, 2024). This instrument assesses external perceptions of the company across three dimensions: Customer Orientation (e.g., "[PT PALYJA] has employees who are concerned about customer needs"), Competitiveness (e.g., "[PT PALYJA] tends to outperform its competitors"), and Innovation (e.g., "[PT PALYJA] develops innovative services").

Data analysis

The data analysis in this study will be conducted using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach, operated with the SmartPLS 4 software. PLS-SEM was selected as the primary analytical method for several compelling reasons that align with the nature and objectives of this research (Hair et al., 2019). First, the research model is complex, featuring a mediating variable (Perceived Organizational Support) and a moderating variable (Organizational Reputation), making PLS-SEM highly suitable for testing such an integrated moderated mediation model. Second, the study's primary goal is predictive and theory development, aiming to identify key driver constructs and understand the complex relationships between them, which is a key strength of PLS-SEM. Finally, this method does not require the data to be strictly normally distributed, making it a robust tool for applied social science research.

4. Conclusion

Based on the preliminary conceptualization and literature review, it can be tentatively concluded that the relationship between authentic leadership and organizational identification is not merely direct but is a more complex psychological process. The proposed model suggests that this relationship is primarily channeled through the mechanism of perceived organizational support (POS), where authentic leaders make employees feel valued by the organization, which in turn fosters a stronger sense of identity with it. Furthermore, this internal process is likely influenced by the organization's external image. A strong, positive organizational reputation is expected to act as a reinforcing factor, amplifying the positive impact of POS on employee identification. Therefore, for

organizations like PT PALYJA aiming to strengthen employee commitment, an integrated strategy that simultaneously develops authentic leadership, demonstrates tangible support for employees, and actively manages corporate reputation is hypothesized to be most effective. The forthcoming empirical data collection and analysis will be crucial to validate this comprehensive model.

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THE IMPACT OF THE JAKARTA COMPOSITE INDEX (JCI) ON THE STOCK PERFORMANCE OF BANK MANDIRI AND BANK RAKYAT INDONESIA (BRI) IN THE PERIOD 2013–2022

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Abstract

This study examines the effect of the Jakarta Composite Index (JCI) on the stock prices of Indonesia's State-Owned Commercial Banks, specifically Bank Mandiri (BMRI) and Bank Rakyat Indonesia (BBRI), during the period from January 2013 to December 2022. The research utilizes secondary data obtained from the Indonesia Stock Exchange (IDX) and employs a quantitative approach. Analytical methods include descriptive analysis, stock return analysis, simple linear regression, and hypothesis testing to determine the relationship between the JCI and the two banks' stock prices. The findings reveal that fluctuations in the Jakarta Composite Index have a significant and positive effect on the stock prices of both Bank Mandiri and Bank Rakyat Indonesia. The results imply that changes in the overall market index influence investor confidence and valuation in Indonesia's banking sector. Among the two banks, Bank Rakyat Indonesia (BBRI) exhibits slightly higher price volatility compared to Bank Mandiri (BMRI), indicating stronger sensitivity to market movements. This research underscores the importance of macroeconomic indicators, particularly the JCI, as a key determinant of stock performance in state-owned financial institutions.

Keywords: Jakarta Composite Index (JCI), stock prices, Bank Mandiri, Bank Rakyat Indonesia, regression analysis.

1. Introduction

The capital market plays a fundamental role in supporting economic growth by serving as an intermediary between investors and companies seeking funds through the trading of long-term financial instruments such as stocks. In Indonesia, this role is carried out by the Indonesia Stock Exchange (IDX), which provides opportunities for both companies to obtain capital and investors to earn potential returns. As with other markets, the capital market operates through the mechanism of supply and demand, and one of the key instruments traded is stock. Stock prices reflect a company's value and are influenced by market dynamics and investor behavior, which makes them highly volatile and characterized by the principle of high risk and high return.

Stock price movements are a crucial factor for investors since they indicate the company's performance and the broader market condition. To monitor these fluctuations, the Jakarta Composite Index (JCI) serves as a comprehensive indicator that reflects the overall trend of stock prices listed on the IDX. The JCI enables investors to observe whether the market is experiencing upward or downward trends. Fluctuations in this index are influenced by macroeconomic factors such as inflation, interest rates, and global economic developments. Therefore, the ability of investors to understand and anticipate macroeconomic changes is vital in making profitable investment decisions.

The banking sector is one of the most attractive and stable investment destinations in Indonesia's capital market, given its strategic role in maintaining national financial stability. Among State-Owned Commercial Banks, Bank Mandiri (BMRI) and Bank Rakyat Indonesia (BBRI) are two leading financial institutions that represent significant components of Indonesia's economy. Both banks have consistently demonstrated strong financial performance

and contribute substantially to economic development. However, their stock prices have also experienced considerable fluctuations, particularly during periods of economic uncertainty such as the COVID-19 pandemic, which caused a temporary decline in Indonesia's capital market performance.

This research focuses on examining the relationship between the Jakarta Composite Index (JCI) and the stock prices of Bank Mandiri and Bank Rakyat Indonesia during the period from January 2013 to December 2022. By analyzing this relationship, the study aims to provide empirical insights into how macroeconomic indicators influence stock price movements in the banking sector and assist investors in making more informed and strategic investment decisions.

2. Hypothesis development (quantitative) or mind mapping (qualitative)

2.1. Capital Market Theory

According to the Indonesian Capital Market Law No. 8 of 1995, the capital market is defined as “activities related to public offerings and securities trading, public companies associated with issued securities, as well as institutions and professions related to those securities.” The capital market serves as a vital component of the national economy by facilitating long-term funding for companies while providing investment opportunities for investors. Through this system, capital flows efficiently from surplus units (investors) to deficit units (companies in need of funds), thereby contributing to economic growth.

2.2. Investment Theory

Investment refers to the allocation of funds with the expectation of future returns. Sutha (2000) defines investment as the placement of money with the aim of obtaining returns and added value. Lipsey (1997) explains that investment represents expenditures on goods not immediately consumed, while Sumanto (2006) views it as a commitment of capital over time to generate income as compensation for time and risk. In the capital market context, investment behavior is influenced by macroeconomic conditions, risk levels, and investors' return expectations.

2.3. Stock Theory

According to Fahmi (2012), stocks are among the most attractive capital market instruments for investors, as they provide opportunities for high returns. A stock represents ownership in a company, granting shareholders rights to profits in the form of dividends and potential capital gains. Stock prices, therefore, act as a barometer of a company's performance and investor confidence.

2.4. Stock Price Theory

Jogiyanto (2008) defines stock price as the value formed in the capital market as a result of interactions between buyers and sellers. Stock prices are determined by the forces of supply and demand and are influenced by both internal and external factors. Internal factors include company profitability, management performance, and earnings per share, while external factors include interest rates, inflation, exchange rates, and market indices. These factors collectively shape investor expectations and influence stock valuation.

2.5. Stock Valuation Analysis

There are two primary approaches to stock valuation: fundamental and technical analysis.

- Fundamental Analysis (Darmadji & Fakhruddin, 2012) involves evaluating a company's intrinsic value by examining macroeconomic conditions, industry performance, financial ratios, and managerial efficiency.
- Technical Analysis (Sutrisno, 2012) focuses on historical price movements and trading volume patterns to predict future stock price trends. Both methods are often used complementarily by investors to make informed investment decisions.

2.6. Jakarta Composite Index (JCI) Theory

The Jakarta Composite Index (IHSG/JCI) is a comprehensive index that reflects the overall movement of all shares listed on the Indonesia Stock Exchange (Jogiyanto, 2013). The JCI serves as a key macroeconomic indicator and a benchmark for measuring market performance. Fluctuations in the JCI are influenced by domestic and global economic conditions, investor sentiment, and political stability. A rising JCI indicates growing investor confidence, while a declining JCI reflects pessimism in the market.

2.7. Relationship Between JCI and Banking Stock Prices

The performance of the banking sector, especially State-Owned Commercial Banks such as Bank Mandiri (BMRI) and Bank Rakyat Indonesia (BBRI), is highly sensitive to macroeconomic indicators. Both banks play a dominant role in Indonesia's financial system and contribute significantly to economic stability. Previous studies have shown that the JCI significantly affects banking stock prices, as it reflects overall market confidence. When the JCI increases, it generally leads to higher stock valuations for major banks due to increased investor optimism. Based on the theoretical framework and empirical findings, this study proposes the following hypotheses:

H1: The Jakarta Composite Index (JCI) has a significant effect on the stock price of Bank Mandiri (BMRI) during the period January 2013 — December 2022.

H2: The Jakarta Composite Index (JCI) has a significant effect on the stock price of Bank Rakyat Indonesia (BBRI) during the period January 2013 — December 2022.

3. Methodology

3.1. Research Design

This study employs a quantitative research design using a positivist approach, which emphasizes the use of measurable and numerical data to test hypotheses statistically (Sugiyono, 2018). The research aims to analyze the effect of the Jakarta Composite Index (JCI) on the stock prices of Bank Mandiri (BMRI) and Bank Rakyat Indonesia (BBRI) over the period January 2013 — December 2022.

3.2. Data and Sources

The study uses secondary data obtained from the Indonesia Stock Exchange (IDX) and financial databases such as Yahoo Finance and Investing.com. The dataset consists of monthly stock prices of BMRI and BBRI, and the monthly JCI closing values over the ten-year period. Secondary data were selected because they are accurate, verifiable, and easily accessible for longitudinal analysis.

3.3. Population and Sample

The population includes all state-owned commercial banks listed on the Indonesia Stock Exchange during the observation period. A purposive sampling method was applied to select Bank Mandiri and Bank Rakyat Indonesia, as both institutions are the largest and most stable state-owned banks, representing Indonesia's financial sector performance.

3.4. Variable Measurement

Each variable in this study is measured using quantitative indicators that can be analyzed statistically.

Variable	Measurement	Unit	Expected Effect
Jakarta Composite Indeks (X)	Monthly closing index value	Index Points	Positive

Bank Mandiri Stock Price (Y_1) Monthly closing stockRupiah (Rp) Positive price

Bank Rakyat Indonesia StockMonthly closing stockRupiah (Rp) Positive Price (Y_2) price

- JCI (X): represents the market-wide index reflecting investor confidence.
- BMRI (Y_1) and BBRI (Y_2): are measured based on monthly closing stock prices, which reflect the companies' market valuation.
- A positive effect is expected, meaning that increases in JCI are likely associated with rising stock prices of BMRI and BBRI.

3.5. Data Analysis Techniques

Descriptive Analysis: used to summarize stock price trends and market movements using indicators such as mean, median, maximum, minimum, standard deviation, and coefficient of variation.

Simple Linear Regression Analysis: used to determine the extent to which the JCI influences the stock prices of BMRI and BBRI.

The model is represented by:

$$Y = \alpha + \beta X$$

where:

- Y = Stock price of BMRI or BBRI
- X = Jakarta Composite Index (JCI)
- α = Intercept
- β = Regression coefficient indicating how much the stock price changes for each one-point change in the JCI.

The regression analysis was conducted using EViews 10 to estimate coefficients, test significance, and evaluate model fit (R^2 , t-test, F-test, and p-values).

4. Results and discussion

4.1. Descriptive Statistical Analysis

Descriptive statistics describe the general characteristics of the data for all variables used in this study, including the Jakarta Composite Index (JCI), Bank Mandiri (BMRI) stock price, and Bank Rakyat Indonesia (BBRI) stock price. The observation period covers January 2013 to December 2022, with 120 monthly observations for each variable. The results of the descriptive statistical analysis are presented in Table 4.1.

Table 4.1. Descriptive Statistics of JCI, BMRI, and BBRI (2013–2022)

Statistical Measure	IHSG	BMRI	BBRI
Mean	5,508.26	7,005.08	4,676.42
Median	5,573.89	7,200.00	4,800.00
Maximum	7,370.13	8,900.00	5,450.00
Minimum	4,174.83	4,125.00	3,250.00
Standard Deviation	882.51	1,322.44	682.90
Skewness	-0.143	-0.315	-0.218
Kurtosis	1.997	1.976	1.849
Jarque–Bera	6.533	8.741	7.152
Probability	0.0383	0.0126	0.0278

Note: Coefficient of Variation, $S/\bar{X}$ Source: Processed data

The descriptive results indicate that the Jakarta Composite Index (JCI) has an average value of 5,508.26, with a minimum of 4,174.83 (recorded during the COVID-19 pandemic in 2020) and a maximum of 7,370.13 in 2022, reflecting Indonesia's post-pandemic market recovery.

For the stock price variables, Bank Mandiri (BMRI) shows a higher average price (7,005.08) compared to Bank Rakyat Indonesia (BBRI) (4,676.42). Both stocks experienced moderate price fluctuations, indicated by their respective standard deviations (BMRI = 1,322.44; BBRI = 682.90).

The skewness and kurtosis values for all variables are close to normal distribution ranges, indicating that the data are relatively symmetric without extreme deviations. Meanwhile, the Jarque-Bera test results show slight non-normality ($p < 0.05$), which is still acceptable for financial time-series data. Overall, the descriptive analysis shows that the movement of both bank stock prices tends to follow the trend of the JCI, suggesting that the banking sector is closely linked to general market performance.

4.2. Regression Result for Bank Rakyat Indonesia (BBRI)

The simple linear regression analysis for Bank Rakyat Indonesia (BBRI) produced the following model:

$$Y_{BBRI} = -2847.5600 + 1.1326X$$

Table 4.2. Regression Result for BBRI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-2,847.5600	160.4400	-17.7501	0.0000
JCI	1.1326	0.0506	22.4067	0.0000
R-squared	0.8095			
Adjusted R-squared	0.8078			
F-statistic	502.0500			
Prob(F-statistic)	0.0000			

Source: Processed data

The regression coefficient ($\beta = 1.1326$) indicates that each one-point increase in the JCI leads to an increase of approximately Rp 1.1326 in BBRI's stock price. The t-statistic value (22.4067) exceeds the t-table value (1.65787), and the p-value (0.0000) confirms a significant positive effect of the JCI on BBRI's stock price. The R-squared value (0.8095) suggests that 80.95% of the variation in BBRI's stock price can be explained by movements in the JCI.

4.3. Regression Result for Bank Mandiri (BMRI)

Similarly, regression analysis was performed for Bank Mandiri (BMRI), resulting in the following model:

$$Y_{BMRI} = -3162,8900 + 1,7183X$$

Table 4.3. Regression Result for BMRI

Variable	Coefficient	Std. Error	t-Statistic	Prob.

Constant	-3,162.8900	105.4900	-29.9701	0.0000
JCI	1.7183	0.0573	29.9851	0.0000
R-squared		0.8841		
Adjusted R-squared		0.8831		
F-statistic		898.1100		
Prob(F-statistic)		0.0000		

Source: Processed data

The results show that the JCI has a strong positive and statistically significant effect on BMRI's stock price, with a higher R-squared value (0.8841) compared to BBRI's 0.8095. This means that 88.41% of BMRI's stock price variation is explained by the JCI, while the remaining 11.59% is influenced by other external factors.

The findings indicate that the Jakarta Composite Index (JCI) significantly and positively influences the stock prices of both Bank Mandiri (BMRI) and Bank Rakyat Indonesia (BBRI). This suggests that when the JCI rises, the stock prices of these state-owned banks also increase. Such a strong relationship highlights that the performance of Indonesia's major banking stocks is highly sensitive to overall market movements.

The results are consistent with the Efficient Market Hypothesis (EMH), which proposes that stock prices reflect all publicly available information, including macroeconomic indicators such as the JCI. Since BMRI and BBRI are among the largest and most liquid banking stocks in Indonesia, they tend to move in line with general market sentiment.

Furthermore, the higher R^2 value for BMRI implies that its stock price is more closely tied to market performance than BBRI, possibly due to its larger capitalization and institutional investor base. Meanwhile, BBRI's relatively lower R^2 suggests that its price is also influenced by microeconomic factors, such as retail lending activities and operational policies.

Overall, this study concludes that the Jakarta Composite Index has a significant impact on the stock prices of Indonesia's major state-owned banks, indicating a strong interdependence between macroeconomic conditions and capital market performance. Monitoring JCI movements can thus serve as a useful tool for investors, analysts, and policymakers in predicting the direction of banking stock prices and assessing overall market stability.

5. Conclusion

This study examines the effect of the Jakarta Composite Index (JCI) on the stock prices of two state-owned banks in Indonesia, Bank Mandiri (BMRI) and Bank Rakyat Indonesia (BBRI), over the period January 2013–December 2022. Based on the results of descriptive and regression analyses, several conclusions can be drawn.

Descriptive analysis shows that Bank Mandiri (BMRI) has a higher average stock price compared to Bank Rakyat Indonesia (BBRI), indicating stronger investor confidence and price stability. In contrast, BBRI exhibits slightly higher price and return fluctuations, reflecting greater market responsiveness.

The results of simple linear regression analysis demonstrate that the Jakarta Composite Index (JCI) significantly and positively influences the stock prices of both banks. Specifically, an increase in the JCI leads to an increase in the stock prices of BMRI and BBRI, implying that the performance of these banking stocks moves in line with the overall market trend. The R^2 values of 0.8841 for BMRI and 0.8095 for BBRI indicate that changes in the JCI explain most

of the variations in their stock prices.

Thus, it can be concluded that JCI movements play a crucial role in determining the performance of state-owned banking stocks, and both BMRI and BBRI are highly sensitive to market sentiment reflected in the JCI.

5.1. Research implications

The findings of this research provide several important implications. For investors, monitoring the movement of the Jakarta Composite Index (JCI) can serve as a key indicator in predicting the direction of stock price changes in the banking sector. Since BMRI and BBRI prices are strongly linked to market performance, investors can use JCI trends as a benchmark for investment timing and portfolio management.

For financial analysts and policymakers, these results highlight the close relationship between the capital market and the banking industry. Understanding this linkage can assist in assessing financial market stability and formulating economic strategies that strengthen investor confidence in state-owned banks.

Finally, for academics, this study reinforces the theoretical framework of the Efficient Market Hypothesis (EMH) and contributes to the literature on macroeconomic factors influencing bank stock performance in emerging markets.

5.2. Limitations of Research and Suggestions

This study has several limitations. First, it focuses only on two state-owned banks (BMRI and BBRI) and does not include private or regional banks, which might provide a broader comparative view. Second, the analysis uses only one independent variable, the Jakarta Composite Index (JCI), while other macroeconomic factors such as interest rates, exchange rates, or inflation may also affect bank stock prices. Third, the data period (2013–2022) includes abnormal market conditions during the COVID-19 pandemic, which might have caused short-term volatility and influenced the results.

Based on the research findings and limitations, the following suggestions are proposed:

1. For investors, it is recommended to consider investing in Bank Mandiri (BMRI) shares, as this stock demonstrates higher stability and lower risk compared to BBRI, as reflected by its lower standard deviation and stronger correlation with the JCI.
2. For researchers, future studies should expand the model by including additional macroeconomic variables such as inflation, interest rates, and exchange rates to obtain a more comprehensive understanding of the factors influencing bank stock prices.
3. For policymakers, maintaining a stable capital market environment is essential, as fluctuations in the JCI significantly affect investor sentiment and the valuation of major state-owned banks.

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THE EFFECT OF QUEUE, SERVICE QUALITY, AND BRAND IMAGE ON CUSTOMER SATISFACTION AT BEAUTY CLINICS IN BEKASI CITY

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Abstract

The study aims to determine the effect of Queuing, Service Quality, and Brand Image on Customer Satisfaction at Ellis Estetika Beauty Clinic in Bekasi City. A quantitative approach was used with a population of 3,208 customers, from which a sample of 100 respondents was taken. The sampling was conducted using the purposive sampling method based on the consideration of respondents' characteristics. The research results show that the Queue variable has a partial effect ($t\text{-count } 3.107 > t\text{-table } 1.983$) in a positive direction, significant ($\text{sig. } 0.031 < 0.05$). Service Quality has a partial effect ($t\text{-count } 5.538 > t\text{-table } 1.983$) in a positive direction, significant ($\text{sig. } 0.000 < 0.05$). Brand Image has a partial effect ($t\text{-count } 9.559 > t\text{-table } 1.983$) in a positive direction, significant ($\text{sig. } 0.000 < 0.05$) on Customer Satisfaction. The $F\text{-test}$ results indicate that the three variables ($\text{sig. } 0.000 < 0.05$) simultaneously have a significant effect on Customer Satisfaction. The novelty of the research lies in the simultaneous use of three independent variables on customer satisfaction. Research recommendations include creating a customer feedback mechanism, evaluating the queue system, and assessing facility conditions to strengthen brand identity.

Keywords: Queue, Service Quality, Brand Image, Customer Satisfaction

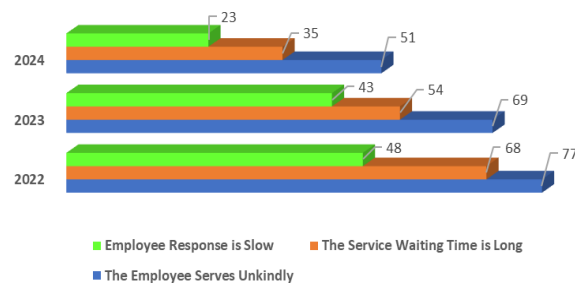
1. Introduction

In a dynamic business environment, almost all industries experience the phenomenon of volatility, uncertainty, complexity, and ambiguity (VUCA). A similar situation is also felt in the beauty clinic industry. This industry strives to accommodate the diverse service demands of its customers. Customers not only demand optimal treatment results but also expect short waiting times, professional staff, the use of the best quality tools and materials for treatments, and beauty clinics with a brand image well recognized by customers. This is in line with what was reported by Tristina & Artina (2024), stating that customers experience the overall experience offered by beauty service providers, ranging from service speed, comfort of the place, staff interactions, to the brand image of the clinic.

Ellis Estetika Beauty Clinic, operating in Bekasi City, has experienced similar challenges in meeting the demands of its customers. These include demands for quick or short queues to receive beauty services, demands for excellent service quality for the beauty services provided, and demands for a trustworthy brand image that enhances customer pride. The services received by customers at the beauty clinic include regular and specialized facial skincare treatments. In addition, the services at the beauty clinic are supported by trained and certified professionals and utilize machines with up-to-date technology.

However, not all demands can be accommodated by the beauty clinic. This has a serious impact on customer satisfaction, as shown in Graph 1, where customers, who are the main source of revenue for the beauty clinic, are experiencing a decline. Complaints that are not given an appropriate response and solution will increase customer dissatisfaction and may result in customers abandoning the beauty clinic.

Graph 1. Number of Customer complaints



Source: Internal, Ellis Estetika Beauty Clinic, June (2025)

Customer dissatisfaction is indicated by the variety and number of customer complaints. Referring to Graph 1 regarding the variation and number of customer complaints at the beauty clinic, it was found that there are three types of customer complaints, including employees who provide services at the clinic in an unfriendly manner, such as greeting customers with a sour face. Then, the waiting time for customers to receive services takes a long time ($> \pm 60$ minutes). Next, there is a lack of or slow response, or insufficient promptness of the beauty clinic employees in addressing customer complaints, such as replacing used tissues or the long delay in replacing finished care products or substituting products. In 2022, the frequency of customer complaints reached 193 complaints, with unfriendly clinic staff being cited in 77 complaints or 39.9%. Throughout 2023, the number of complaints decreased, but it was still considered high at 166 complaints. The cause was unfriendly clinic staff in 69 complaints or 41.57%. A similar situation occurred in 2024, with a total of 109 complaints, where the aspect of staff being unfriendly to customers dominated the frequency of complaints at 46.79% (51 complaints).

The results of a pre-survey conducted with 30 users of Ellis Estetika beauty clinic services, and 5 owners and managers of beauty clinics in Bekasi City, indicated that there are three factors influencing customer satisfaction at beauty clinics, namely the waiting time for customers to be served, the quality of service provided to beauty clinic customers, and the beauty clinic's brand image in the eyes of its customers.

The shorter the waiting time in line, the better or higher the level of customer satisfaction. This opinion is reinforced by Fitriyani & Kencana (2024), who state that poorly managed queues will decrease overall customer satisfaction. This condition is not yet in line with what occurs in beauty clinics, where customers are still found to wait a long time, namely $> \pm 60$ minutes. This can create an unpleasant experience and can damage perceptions as well as reduce customer satisfaction. The quality of service begins with the stage when customers arrive or register to receive beauty services, followed by the process of customers receiving the services, and after customers have completed receiving services from the beauty clinic. According to Wibowo & Kartika (2022) and Sitepu & Marpaung (2022), this stage becomes a consideration for customer satisfaction in the service sector. Observations at the beauty clinic found that the clinic management has not been optimal in handling service quality. The beauty clinic only focuses on handling services within the beauty practice room, while customer handling outside the room has not been optimal. Rahardjo & Yulianto (2022) state that a strong brand image will increase customer trust and satisfaction with the products or services they have received. In addition, an appealing brand image will make customers more loyal to a brand. However, brand image is still considered merely as a logo or a marker indicating the location where the clinic operates.

The mapping results of independent variables in several scientific journals found research examining the influence of service quality and brand image on customer satisfaction. However,

there are still few studies that combine the variables of queue, service quality, and brand image simultaneously in a single research model, especially in the context of the beauty clinic industry in Bekasi City. This condition is what the researcher describes as novelty. Based on these considerations, the purpose of this study is to determine the effect of queues, service quality, and brand image on customer satisfaction.

2. Hypothesis development

The beauty clinic industry is one of the service marketing sectors. It has several characteristics, namely services received by customers cannot be held or stored, involve customers, and have a limited time. Similarly, Fatihudin & Firmansyah (2020) stated that the process of social interaction between individuals and groups in fulfilling their needs or desires through the process of creating, offering, and exchanging services that have added value with other parties is a form of service marketing.

2.1. Customer Satisfaction

Customers make repeat purchases and recommend to other customers if they are satisfied with the clinic. This is emphasized by Wardana (2024) that customer satisfaction is an indicator used to measure the extent to which customers feel satisfied or pleased with the products or services they receive from the Company. The level of satisfaction reflects how well customers' expectations and needs have been met through the products or services provided. The concept of customer satisfaction is reinforced by Nawang et al. (2024), who state that it is a key indicator of a company's success because it significantly influences customer behavior, including repeat purchases and the spread of positive word-of-mouth information. A similar statement was conveyed by Alimuddin & Ahsan (2023), where customer satisfaction is the result of an evaluation process conducted by customers by comparing the actual performance of a product or service against their initial expectations. Prabantari (2020) stated that there are five factors that influence a customer's satisfaction, including product quality, price, emotional factors, and service quality.

2.2. Queue

Generally, customers expect to be served immediately when they come to a beauty clinic. This condition, according to Alimuddin & Ahsan (2023), states that queuing is a branch of science that studies the behavior of queue systems and their applications in various service contexts. The focus of the analysis is on the customer arrival process, service mechanisms, and interaction processes within the system that allow customers to wait for service. Key elements of queuing include the arrival rate, service rate, and queue discipline. A similar point is made by Pellondou et al. (2021), stating that queues are the result of an imbalance between customer arrival times and the available service capacity, causing customers to wait their turn to be served. The assertion about the queue system was conveyed by Archanna (2023), stating that a queue is a mechanism used to regulate the order of customers in receiving services. This opinion is reinforced by Haliawan & Setyanto (2024), who argue that the queue system is part of conditions that arise randomly in the operational process of a service facility. In the context of customer service, according to Wardhana (2024), especially in the health and beauty industries, queuing theory helps in designing service systems that are efficient and responsive to customer needs.

2.3. Service Quality

Beauty clinic services are mandatory in promoting the quality of service. In the study by Sanjaya et.al. (2024), it was stated that there are five aspects considered in determining service quality, including reliability, responsiveness, assurance, empathy, and physical evidence. This

condition is reinforced by Fatihudin & Firmansyah (2020) and Chandra et.al. (2020), who stated that service quality is a level of conformity between the services provided to customers and the customers' requirements or expectations. A similar view is also explained by Rosalina et al. (2024), stating that service quality is a dynamic aspect because it involves various elements such as products, services, human resources, processes and environment.

2.4. Brand Image

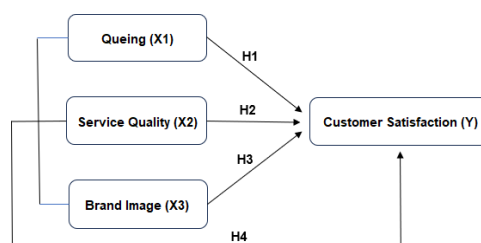
The perception of a brand before and after receiving beauty clinic services leads customers to decide whether to continue or switch to another brand. Similarly, Firmansyah (2020) stated that a brand is an important element that shapes the relationship between a company and its customers. Likewise, Sitorus et.al. (2022) mentioned that brand image is the perception formed in the minds of customers about a brand, and this image then builds customer trust and satisfaction. Indrasari's opinion (2020) also explains something very similar, where brand image reflects the feelings and thoughts of customers towards a brand and plays an important role in influencing customer decisions when choosing a product. In a similar vein, Rahardjo & Yulianto (2022) emphasize brand image, stating that the experience customers gain while using the product will affect the level of customer loyalty, whether they will remain loyal to the brand or switch to another brand.

Taking these considerations into account, a hypothesis is formulated. According to Sugiono (2023) and Veronica et al. (2022), a hypothesis is a temporary answer to the problem statement in a study. Based on these considerations, the hypothesis in the research can be presented as follows. H1: There is a significant influence of Queuing on Customer Satisfaction at the Beauty Clinic partially. H2: There is a significant influence of Service Quality on Customer Satisfaction at the Beauty Clinic partially. H3: There is a significant influence of Brand Image on Customer Satisfaction at the Beauty Clinic partially. H4: There is an influence of Queue, Service Quality, and Brand on Customer Satisfaction at the Beauty Clinic simultaneously.

2.5. Research Model

In service delivery, the queuing system plays a role in shaping satisfaction, particularly through waiting times. On the other hand, good service quality encourages customer satisfaction with the services provided. Additionally, brand image is also an important element because it reflects a company's reputation and value in the eyes of customers. A strong brand image can enhance customer loyalty and satisfaction. Taking these conditions into account, along with relevant theories, previous research, and pre-survey situations (Ghozali, 2021), they can be illustrated in Figure 1 regarding the quantitative research model.

Figure 1. Conceptual Framework Source: Data Processing, July (2025)



3. Methodology

Sugiyono (2023) states that the population is the entirety of research subjects or objects that have certain characteristics and are related to the problem being studied. In research at Ellis Estetika beauty clinic, the population consists of 3,208 customers. With a population of 3,208 customers, the sample calculated using Slovin's formula is 100 customers. The sampling method in this study used purposive sampling. The respondents were selected based on

considerations that they had used beauty services and lived in Bekasi City. The respondents were then given questionnaires according to the variables, dimensions, and indicators, weighted on each statement item using a Likert scale.

3.1. Measurement Customer Satisfaction

A deeper introduction to customer satisfaction, Indrasari (2020) explains that the dimensions of customer satisfaction include dimensions of brand loyalty, purchasing new company products and renewing products, recommending products and services, paying less attention to competitor brands, and being less sensitive to price. According to Cahyono et al. (2023), it is necessary to gain a deeper understanding of customer satisfaction through its indicators. These indicators include the extent to which the product or service provided meets or even exceeds customer expectations, customer value, customer experience, intention to repurchase, and willingness to recommend (word of mouth).

3.2. Queue

According to Welman (2021), there are dimensions in the queue variable. These include arrival patterns (single arrivals and bulk arrivals), service time distribution (single service and bulk service), service discipline (First Come First Served/FCFS, Last Come First Served/LCFS, Service In Random Order/SIRO, and Priority/PRI), and source of calling (finite calling source and infinite calling source). In addition to the queue dimensions, according to Archanna (2023), there are also indicators of a queue system. The indicators include arrival patterns, customer behavior, queue rules, service system, and service order.

3.3. Service Quality

Perception measurement according to Nastiti & Budiadi (2023) uses several dimensions. These include the dimensions of Reliability, Responsiveness, Assurance, Empathy, and Tangibles. In addition to the dimensions according to Kotler in Febriana & Octavia (2024), there are several service quality indicators. These include tangibles, reliability, responsiveness, assurance, and empathy.

3.4. Brand Image

According to Putro et al., 2024; Trinawati et al., 2023; Utomo et al., 2024, the dimensions of brand image include Brand Identity, Brand Personality, Brand Association, Brand Behavior, and Brand Competence. The indicators of brand image include the level of customer familiarity with the brand, customer perception of product quality, customers' ability to recall brand characteristics and distinguish them from competitors' brands, customers' personal experience in using the product influenced by the type of offerings provided by the company, and customers' assessment of the product advantages offered as well as the alignment between product quality and price.

3.5. Data analysis Descriptive Analysis

In research referring to Sugiyono (2023), it is stated that an instrument test is conducted on the items of customer satisfaction statements, queues, service quality, and brand image to determine whether they are valid or not (calculated $r > \text{table } r \text{ value}$). A similar condition applies to the reliability test.

3.6. Classical Assumption Test

Normality tests were conducted on all variables to determine whether the data were normally distributed (Kolmogorov-Smirnov test > 0.05). The next test was the multicollinearity test, in which the three independent variables were found to have no correlation ($\text{VIF} < 10$). A

heteroskedasticity test was also performed on the regression model of this study to ensure it was free from heteroskedasticity. An autocorrelation test was conducted on the research model to ensure it was free from autocorrelation (Durbin-Watson method; DW).

3.7. Multiple Linear Regression Analysis

Ghozali (2021) stated that multiple linear regression analysis is used to determine the direction and magnitude of the influence of independent variables on the dependent variable. The results of the multiple linear regression analysis on the variables of queue, service quality, and brand image on customer satisfaction variable are expressed in the equation $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$

3.8. Hypothesis Testing

The preliminary testing of the answers presented by Ghozali (2021) states that there are two provisional answers, namely the partial hypothesis statistical test (t-test) and the simultaneous hypothesis statistical test (F-test). A hypothesis is considered to have an effect on the variables of queue/service quality/brand image if the calculated t-value > the t-table value. The direction of the effect can be positive or negative. It is significant if the variable's sig value < 0.05 in relation to customer satisfaction at beauty clinics. The simultaneous hypothesis (ANOVA) is considered to have an effect on the three variables of queue, service quality, and brand image if the calculated F-value > the F-table value. It is significant if the variable's sig value < 0.05 in relation to customer satisfaction at beauty clinics.

3.9. Test of the Coefficient of Determination

According to Ghozali (2021), the coefficient of determination test (adjusted R^2) is used to determine the extent of variation in the dependent variable that can be explained by variations in the independent variables, while the remaining unexplained part represents variations from other variables not included in the model.

4. Results and discussion

The characteristics of this sample are customers who use and perform skincare at least once in the past 6 months, aged 15-65 years, and residing in Bekasi City. The results of the questionnaire distributed via Google Form to 100 respondents over two weeks obtained the respondent profiles. The respondent profile based on gender is dominated by women, totaling 91 respondents or 91%. This reflects that women pay more attention to skincare than men. Based on occupation, it is shown that the majority are employees, totaling 48 respondents or 48%. This indicates that most clients of the beauty clinic are employed as office workers. Based on the frequency of treatments used at the beauty clinic, the majority of clients visit 2 to 3 times, accounting for 55 respondents or 55%. Regarding income, it is dominated by clients with a monthly income ranging from Rp.500,000 to Rp.2,500,000, totaling 50 respondents (50%). In terms of residence, all clients of the clinic reside in Bekasi City, totaling 100 respondents or 100%.

The validity test results for the customer satisfaction variable (dependent variable) with 9 statements have a calculated r value greater than the table r value (0.1966), therefore it is declared valid. Similarly, the queue variable (independent variable) with 10 statements has a calculated r value greater than the table r value (0.1966), therefore it is declared valid. The validity test results for the customer satisfaction variable (independent variable) with 12 statements have a calculated r value greater than the table r value (0.1966), therefore it is declared valid. The validity test results for the brand image variable (independent variable) with 11 statements have a calculated r value greater than the table r value (0.1966), therefore it is declared valid. The reliability test results using the Cronbach's Alpha method indicate that

the variables of customer satisfaction, queue, customer satisfaction, and brand image have a reliability coefficient > 0.60 .

The normality test results indicate that all statement items on one dependent variable and three independent variables are normally distributed, where the Kolmogorov-Smirnov test significance value > 0.05 . In addition, a multicollinearity test was conducted. The results of this test indicate that the tolerance value of each independent variable > 0.1 . The tolerance value of variable X1 is $0.599 > 0.1$, which is greater than the specified significance value. The tolerance value of variable X2 is $0.419 > 0.1$, and the tolerance value of variable X3 is $0.366 > 0.1$. Meanwhile, the VIF values obtained from the test show numbers < 10 , where each independent variable's VIF value is < 10 , namely queue $1.671 < 10$, service quality $2.387 < 10$, and brand image $2.735 < 10$. Therefore, it can be stated that the independent variables are free from multicollinearity symptoms, as the values presented in the SPSS 25 test indicate no multicollinearity occurs. The next test result is the heteroscedasticity test, where the points are randomly scattered above and below zero on the Y-axis. This indicates that there is no heteroscedasticity in the regression model, so the regression model is suitable for predicting customer satisfaction based on queues, service quality, and brand image. The autocorrelation test results show that the Durbin Watson value is 1.870 with a significance level of 0.005, $N = 100$, and K (number of variables) = 4, so $dL = 1.5922$, $dU = 1.7582$, $dL = 4 - 1.5922 = 2.2418$. From the calculations above, the dW value is 1.933, meaning that dW lies between $dU < dW < 4 - dL$. Therefore, the result shows no autocorrelation.

The results of the multiple linear regression test indicate that $Y = -5.382 + 0.112.X1 + 0.270.X2 + 0.582.X3 + e$. Based on the multiple linear regression equation model, it can be interpreted as follows: The constant value of -5.382 indicates that if the variables queue, service quality, and brand image are assumed to be *ceteris paribus*, then customer satisfaction decreases by 5.382. The regression coefficient of the Queue variable (X1) is 0.112, indicating that each one-unit increase in the queue variable will increase customer satisfaction by 0.112. The regression coefficient of the Service Quality variable (X2) is 0.270, indicating that each one-unit increase in the variable will increase customer satisfaction by 0.270. The regression coefficient of the Brand Image variable (X3) is 0.582, indicating that each one-unit increase in the variable will increase customer satisfaction by 0.582.

Table 1. Multiple Linear Regression Test Results

Variable	B	t	sig	description
Constant	-5.382	.783	-2.640	
Queue	.112	3.107	.031	supported
Service Quality	.270	5.538	.000	supported
Brand Image	.528	9.559	.000	supported
F	205.979		.000	
Adj R ²	.861			

(Source: Processed data, 2025)

The results of the partial test on the three independent variables are reflected in Table 1. This t-test uses a 5% significance level with the formula $t_{table} = (\alpha/2; n-k-1) = t = (0.025; 100-3-1)$, $t(0.025;96) = 1.984$. Based on Table 1, the t table value obtained is 1.983, which can be interpreted from the hypothesis test for each independent variable as follows:

The influence of queues on customer satisfaction at beauty clinics based on Table 1 shows a t -value for the queue variable of $2.190 > t$ -table of 1.983 and a significance value of $0.031 < 0.05$. This condition means that queues have a positive and significant effect on customer satisfaction. The influence of service quality on customer satisfaction at beauty clinics is 5.538 $> t$ -table of 1.983 and a significance value of $0.000 < 0.05$. This condition means that service

quality has a positive and significant effect on customer satisfaction. The influence of brand image on customer satisfaction at beauty clinics is $9.559 > t\text{-table of } 1.983$ and a significance value of $0.000 < 0.05$. This condition means that brand image has a significant effect on customer satisfaction.

The results of the simultaneous test (F test) for the three independent variables on the customer satisfaction variable with a significance level criterion of 5%. The F table value = $F(k; n-k) = F(3; 100 - 3) = F(3; 97)$ is 3.94 with a significance value of 0.000. The calculated F value is $205.979 > F \text{ table } 3.94$ and significance $0.000 < 0.05$. This condition means that the variables of queue, service quality, and brand image simultaneously have a positive and significant effect on customer satisfaction. This means that if the company optimally improves the three independent variables, it will increase the customer satisfaction of the beauty clinic.

The results of the coefficient of determination test shown in Table 1 indicate that the adjusted R square value is 0.861 or 86.1%. This means that the independent variables used in this study can explain 86.1% of their contribution to the customer satisfaction variable. On the other hand, the remaining 13.9% of the independent variables will be explained outside of this study, namely the price and promotion variables.

4.1. The Influence of Queues on Customer Satisfaction at Beauty Clinics

Referring to the results of the partial test analysis, it is known that the queue variable has a significance value of $0.031 < 0.05$ with a calculated t-value of $2.190 > t\text{-table } 1.983$. This indicates that the queue variable has a partial effect on customer satisfaction in a positive and significant direction, so hypothesis 1 (H1) can be accepted. These research results are in line with previous research conducted by (Haliawan & Setyanto, 2024), which found that queues significantly affect customer satisfaction in banking in Bekasi, with a calculated t-value of $5.254 > t\text{-table } 1.984$, in a positive direction and with significance $0.000 < 0.05$. Other researchers reinforce the results of this study conducted by Sinurat et al. (2023), which explained that the queuing system has a significant effect on customer satisfaction at PT. Bank Sumut KCP Suka Ramai Medan, with a t-value of $12.626 > t\text{-table } 1.66216$, with a positive direction and significance < 0.05 . Similarly, this is emphasized by Lelono & Vikaliana (2020), who stated that the queuing system has a positive and significant effect on customer satisfaction at Biznet Home, with a t-value of $3.912 > t\text{-table } 2.045$ and a significance of 0.000.

4.2. The Influence of Service Quality on Customer Satisfaction at Beauty Clinics

Referring to the results of the partial test analysis, it is known that the service quality variable has a significance value of $0.000 < 0.05$ with a t-count value of $5.538 > t\text{-table } 1.983$. These test results explain that the service quality variable can be said to have a partial effect on customer satisfaction in a positive and significant direction, so hypothesis 2 (H2) can be accepted. The results of this study are consistent with previous research conducted by Fitriyani & Kencana (2024), whose study at NMW Clinic Ciledug Branch found that service quality has a positive and significant effect on customer satisfaction, with a calculated t-value of $18.638 > t\text{-table } 1.987$. The significance value obtained was $0.000 < 0.05$. Another researcher who expressed a similar opinion is Asmita (2024), whose study at Shinta Medika Primary Clinic Pekanbaru also found that the service quality variable positively and significantly affects patient satisfaction. The t-test results showed a calculated t-value of $2.466 > t\text{-table } 1.985$ with a significance of $0.000 < 0.05$. Similar research conducted by Sitepu & Marpaung (2022) at MS Glow Aesthetic Clinic Medan found that the quality of service had a t-count of $2.674 > t\text{-table } 1.661$, with a significance value of $0.000 < 0.05$. This study confirms that service quality has a positive and significant effect on customer satisfaction.

4.3. The Influence of Brand Image on Customer Satisfaction at Beauty Clinics

Based on the results of the partial test analysis, it is known that the Brand Image variable has a significance value of $0.000 < 0.05$ with a t-count value of $9.559 > t\text{-table } 1.983$. The test results describe that the brand image variable has a partial influence on customer satisfaction in a positive and significant direction, thus hypothesis 3 (H3) is declared acceptable. The results of this study are consistent with previous research conducted by Wati et al. (2020) in their study at PT. Prodia Widyahusada, which explained that brand image has a positive and significant effect on customer satisfaction with a t-value of $3.626 > t\text{-table } 1.984$. The significance value obtained is $0.000 < 0.05$. This opinion is reinforced by research conducted by Tristina & Artina (2024), which also shows that brand image has a positive and significant impact on customer satisfaction at Oriskin Beauty Care Clinic in Palembang, with a calculated t-value of $5.150 > t\text{-table } 1.968$ and a significance of $0.000 < 0.05$. In addition, the opinion of Trisnawati et al. (2023) indicates that brand image has a positive and significant effect on customer satisfaction at RH Medica Clinic in Malang, with a calculated t-value of $3.892 > t\text{-table } 1.985$ and a significance of $0.000 < 0.05$.

4.4. The Influence of Queues, Service Quality, and Brand Image Simultaneously on Customer Satisfaction at Beauty Clinics

Referring to Table 1, it can be interpreted that the results of the F-test through ANOVA indicate that the independent variables have a calculated F value of $209.959 > \text{the table value of } 2.70$ and a significance value of $0.000 < 0.05$. This test result explains that the independent variables of queue, service quality, and brand image simultaneously have a positive and significant effect on customer satisfaction at the Beauty Clinic, hence Hypothesis 4 (H4) is considered acceptable. The results of the coefficient of determination (R^2) test show a figure of 0.861, which can be interpreted that the variables of queue, service quality, and brand image contribute 86.1% in influencing the customer satisfaction variable, while the remaining 13.9% is affected by other variables outside of this study, such as price and promotion variables.

5. Conclusion

From the discussion results, it can be concluded as follows: The Queue variable (X1) partially has a positive and significant effect on the customer satisfaction variable (Y). This is evidenced by a regression coefficient value of 0.112 and a t-count value of $2.190 \geq t\text{-table } 1.983$, as well as a significance value of $0.031 \leq 0.05$. Hypothesis H1 is accepted. The Service Quality variable (X2) partially has a positive and significant effect on the customer satisfaction variable (Y). This is evidenced by a regression coefficient value of 0.270 and a t-count value of $5.538 \geq t\text{-table } 1.983$, as well as a significance value of $0.000 \leq 0.05$. Hypothesis H2 is accepted. The brand image variable (X3) partially has a positive and significant effect on the customer satisfaction variable (Y). This is evidenced by a regression coefficient of 0.528 and a t-value of $9.559 \geq t\text{-table } 1.983$, as well as a significance value of $0.000 \leq 0.05$. Hypothesis H3 is accepted. The variables of queuing (X1), service quality (X2), and brand image (X3) simultaneously have a positive and significant effect on the customer satisfaction variable (Y). This is evidenced by the results of the F-test (ANOVA), where the calculated F value obtained is $205.979 > F\text{-table } 2.70$ and the significance value is $0.000 < 0.05$. Hypothesis H4 is accepted.

5.1. Research implications

The research impact shows that queue management at beauty clinics has been running quite well, where customers feel more comfortable and helped by the existing queuing system. On the other hand, the quality of service provided by beauty clinics is already good, as customers have received services that meet their expectations. In addition, the brand image of the beauty clinic is already quite strong and positive, where customers feel confident, comfortable, and proud to use the services from the clinic.

5.2. Limitations of Research and Suggestions

There are limitations in this study, namely the limited access to secondary data at beauty clinic companies and the limited research time. Suggestions for beauty clinics and future researchers are based on the lowest statement item scores for each independent variable. For the customer satisfaction variable, it is suggested to create a feedback mechanism from customers. The next suggestion for the queue variable is that beauty clinics need to periodically evaluate the queue system and schedule management to minimize waiting times. The suggestion for the service quality variable is to evaluate the completeness and condition of available facilities and to make gradual improvements. The suggestion for the brand image variable is to strengthen the brand identity by highlighting unique and distinctive value that differentiates it from competitors.

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THE EFFECT OF INFLUENCER MARKETING, ONLINE CUSTOMER REVIEWS AND CONTENT MARKETING ON CONSUMER TRUST IN WARDAH SKINCARE IN BEKASI CITY

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Abstract

This study aims to determine the effect of Influencer Marketing, Online Customer Review and Content Marketing on Wardah Skincare Consumer Trust in Bekasi City. The population in this study were 412,686 Wardah Skincare consumers in Bekasi City with certain criteria limitations, namely Bekasi City residents who are female, aged 15-34 years, and experienced in using Wardah Skincare. The number of samples used was 100 respondents determined using the Slovin formula with the Purposive Sampling as a sampling technique. Data processing used the SPSS program ver 26. The results of this study indicate that Influencer Marketing has a negative and significant effect on consumer trust, the Online Customer Review variable shows a positive and significant effect on consumer trust and Content Marketing has no significant effect on consumer trust. In the independent variable that dominantly influences consumer trust is the Online Customer Review variable because it has a beta of 0.199 and a significance value of 0.001. With the results of the Determination Coefficient Test of 19.8% which can provide an explanation regarding consumer trust from the variables of Influencer Marketing, Online Customer Reviews and Content marketing.

Keywords : Influencer Marketing, Online Customer Review, Content Marketing, Consumer Trust.

1. Introduction

The beauty industry is experiencing increasing growth, including in Indonesia. Skincare products are experiencing growth due to public awareness of maintaining beautiful and healthy skin even though they are less active outside the home. Historical data from 2022 shows the potential for growth and sales in the beauty and skincare category in 2025 (compass.co.id) to increase by up to 17 percent. This potential increase in sales presents an opportunity for businesses, especially those in the skincare industry in Indonesia, to innovate and create various types of skincare treatments that meet the needs of the Indonesian population. This industry growth is also influenced by digital transformation in various aspects, where everything is now done online. Nowadays, everything can be easily accessed and found on the internet, helping businesses market their products and sell them to consumers.

The challenge faced by businesses, including beauty product businesses, both local and global, is the crisis of consumer trust in a brand or product. Consumer trust is a key factor influencing purchasing decisions, especially in today's digital era. This trust is built not only through direct experience with the product but also through interactions with various existing marketing elements, including influencer marketing, online customer reviews, and content marketing. Marketing involving influencers is a way for companies to collaborate to promote their products to their audiences (Anjani & Irwansyah, 2020). The use of influencers for marketing activities is expected to provide consumers with a different perspective on the products promoted by the influencer, influenced by their credibility as a public figure (Pramesthi, 2021:4 in Hidayati et al., 2024).

All forms of content that are part of an influencer's marketing activities must be credible and provide input to their followers, thus building trust. Content marketing is considered a crucial and fundamental effort for a brand to have high sales value (Putra & Aulia, 2023: 280).

Another phenomenon that has become an activity in online marketing is where consumers are now starting to search for various things online by utilizing reviews or recommendations from others. This can be a supporting factor in product marketing. Reviews shared by consumers on online portals that serve as product review pages can serve as a form of indirect promotion for a particular brand, making it better known to potential consumers. For consumers, online customer reviews are not only used as an alternative in making considerations regarding purchasing decisions but also provide a sense of trust in a product (Fauzi & Lina, 2021 in Zed et al., 2023).

According to Rizal et al. (2021), trust is considered crucial in the buying and selling process because consumer trust in a brand or product triggers consumer behavior, which leads to a happy spending of their money to purchase a product. Consumer trust is influenced by several factors (Ridoanto et al., 2020): Rational Factors, which are strategic and trustworthy due to perceived expertise in a particular field or professionalism, and Relational Factors, which are trust based on a person's goodwill.

1.1. Hypothesis

The hypothesis in this study can be explained as follows:

H1: Influencer Marketing has a positive and significant effect on consumer trust.

This hypothesis is supported by previous research conducted by Mohammed and Sundararajan (2025) on "The Influence of Influencer Marketing and Content Marketing on Purchasing Decisions," which states that Influencer Marketing has a positive effect on increasing consumer trust and positively influences purchase intentions.

H2: Online customer reviews have a positive and significant effect on consumer trust.

This hypothesis is supported by previous research discussing the influence of online customer reviews on consumer trust in marketplaces conducted by Soekotjo (2022), which stated that online customer reviews have a positive and significant effect on consumer trust in marketplaces.

H3: Content marketing has a positive and significant effect on consumer trust.

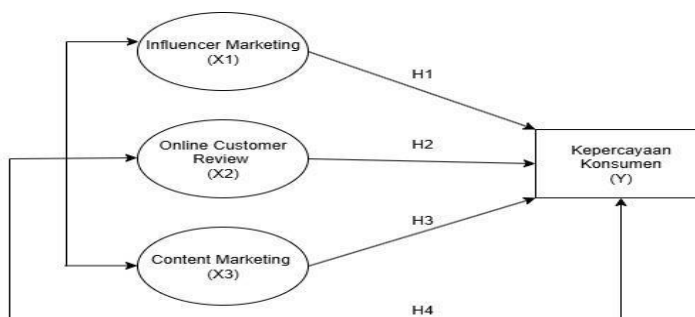
This hypothesis is supported by previous research conducted by Dharmayanti and Theofilus (2020), which stated that content marketing has a positive and significant effect on consumer trust.

H4: Influencer marketing, online customer reviews, and content marketing have a positive and significant effect on consumer trust.

The fourth hypothesis aims to determine the simultaneous influence of influencer marketing, online customer reviews, and content marketing on consumer trust.

Based on the explanation that has been explained previously, the research framework can be described as follows:

Figure 1. Research Framework (Source: Processed by researcher, 2025)



Sumber: Peneliti (2025)

2. Methodology

This study employed a quantitative approach. The population comprised Wardah Skincare consumers primarily residing in Bekasi City, with a total population of 421,686 (BPS Bekasi City). This study employed a non-probability sampling method with a purposive sampling technique. As mentioned in Amelia et al. (2022), purposive sampling is used in data collection, where the sample is determined by the researcher, using specific criteria tailored to the research objectives. The sample criteria were 15–34 years old, female, and residing in Bekasi. To determine a representative sample size, the author used the Slovin formula. The following formula was used:

$$n = \frac{N}{1 + N(e)^2}$$

Description:

n = Sample Size N = Population

e = Tolerance limit of error

Based on these calculations, the required sample size was approximately 99.9. However, to facilitate the research, the sample size was rounded to 100 respondents. The data collection techniques used in this study include using a survey method conducted by means of a questionnaire distributed through a Google Form link and Literature Study originating from research journals and books. The data were analyzed using multiple linear regression with the statistical tool SPSS 26. The Likert scale was used in the questionnaire statement which has 5 (five) assessment points, namely SS (Strongly Agree), S (Agree), KS (Disagree), TS (Disagree), STS (Strongly Disagree).

3. Results and Discussion

Respondent characteristics based on gender were 100 females, with 2% aged 15-20, 84% aged 21-25, and 14% aged 26-30. Respondents were predominantly students (46%), private sector employees (30%), civil servants (11%), entrepreneurs (10%), and others (3%).

Based on the results of the validity test of each item of the statement of the variables Influencer Marketing, Online Customer Review, Content Marketing and Consumer Trust has a calculated r value > r table, so it can be said that the statement is valid. The results of the Reliability test of each variable Influencer Marketing, Online Customer Review, Content Marketing and Consumer Trust have a Cronbach Alpha value > 0.60. This shows that the instruments on the variables Influencer Marketing, Online Customer Review, Content Marketing and Consumer Trust can be declared reliable.

The classic assumption test includes a normality test using the Kolmogorov Smirnov method with a significant result of 0.086 where the results indicate that the significant value is greater than 0.05 meaning that all statement instruments on the independent variables Influencer Marketing, Online Customer Review, Content Marketing and the dependent variable Consumer Trust have a normal data distribution/normal distribution. The multicollinearity test for each independent variable value, namely Influencer marketing, has a tolerance value of 0.363 > 0.1, Online customer review 0.329 > 0.1 and Content marketing 0.230 > 0.1. The VIF value of Influencer marketing has a tolerance value of 2.753 < 10, Online customer review 3.035 < 10 and Content marketing 4.352 < 10. From these data, it can be concluded that from the three independent variables there are no symptoms of multicollinearity because each variable does not exceed the specified criteria limits. The Heteroscedasticity test, namely a significant value of 0.000 < 0.05, indicates that there is a significant relationship between each independent variable and there are no symptoms of heteroscedasticity.

The results of the multiple linear regression analysis are shown in the table below:

Table 1. Results of Multiple Linear Regression Test

Variable	B	t	Sig	description
Constant	0,222	1,564	0,121	
<i>Influencer marketing</i>	-0,182	-3,034	0,003	supported
<i>Online customer review</i>	0,199	3,288	0,001	supported
<i>Content marketing</i>	-0,105	-1,455	0,149	Not supported
R	0,444			
Adj R ²	0,172			
F	7,876	Sig 0,000 ^b		

Source: SPSS v.26 Output Results (2025)

Based on the results of the multiple linear regression test in the table above, the following results were obtained:

$$Y = 0,222 - 0,182X_1 + 0,199X_2 - 0,105X_3 + e$$

The regression model percentages can be explained as follows:

1. A constant value of 0.222 with a positive sign indicates that the variables Influencer Marketing (X1), Online Customer Reviews (X2), and Content Marketing (X3) have a unidirectional influence between the independent variables and the dependent variable. This means that if all three independent variables have a value of 0 (zero), indicating no change, then the value of the dependent variable, Consumer Trust, is 0.222.
2. The coefficient B1 (X1) is obtained at -0.182 with a negative sign which means the effect is opposite where if the Influencer marketing variable (X1) increases every 1 unit then the dependent variable (Y) namely Consumer Trust will experience a decrease of 0.182. Likewise, if there is an increase in every 1 unit in Consumer Trust there will be a decrease in the Influencer Marketing variable by 0.182. This indicates a decrease because it is caused by problems with the way information is conveyed by Influencers and the reputation that Influencers have so that it affects the formation of consumer trust.
3. The coefficient value for B2 (X2) is 0.199, with a positive value, indicating a unidirectional effect. This means that if the Online Customer Review variable increases by 1 unit, it will affect consumer trust in Wardah Skincare by 0.199. This can be interpreted as meaning that transparency regarding the product is highly valued by consumers to determine whether the product is trustworthy.
4. The coefficient value for B3 (X3) is -0.105, with a negative sign, indicating an inverse effect. If the Content Marketing variable increases by 1 unit, the Consumer Trust variable will decrease by 0.105. Conversely, if Consumer Trust increases by 1 unit, there will be a decrease in Wardah Skincare Content Marketing by 0.105. This can occur because the content created by Wardah still lacks something that can appeal to consumers' emotions, and the originality and distinctiveness of Wardah's content are still less than optimal.

3.1. Partial Significance Test (t-Test)

Based on the t-test results in the table above, the effect of each independent variable on the dependent variable is as follows:

1. Testing Influencer Marketing on Consumer Trust

The sig. value is $0.003 < 0.05$, and the calculated t-value is $3.034 > t$ -table value of 1.66088. It can be concluded that H0 is accepted and H1 is rejected. This means that Influencer Marketing has a partial, negative, and significant effect on consumer trust.

2. Testing Online Customer Reviews on Consumer Trust

The sig. value is $0.001 < 0.05$, and the calculated t-value is $3.288 > t$ -table value of 1.66088. It can be concluded that H0 is rejected and H2 is accepted. This means that Online Customer Reviews have a partial, positive and significant effect on consumer trust.

3. Testing Content Marketing on Consumer Trust

The sig. value is $0.149 > 0.05$, and the calculated t-value is $1.455 < t\text{-table } 1.66088$. Therefore, it can be concluded that H_0 is accepted and H_3 is rejected. This means that the Content Marketing variable has no partial, negative, and insignificant effect on consumer trust.

3.2. *Simultaneous Significance Test (F-Test)*

Based on the results of the simultaneous significance test in the table above, the sig. value shows $0.000 < 0.05$, and the calculated F-value is $7.876 > F\text{-table } 2.70$. This indicates that the independent variables, namely influencer marketing, online customer reviews, and content marketing, simultaneously have a significant influence on consumer trust.

3.3. *Coefficient of Determination (R^2) Test*

The results of the Coefficient of Determination Test in the table above yield an Adjusted R-square value of 0.172, or 17.2%. This means that the independent variables used in this study—influencer marketing, online customer reviews, and content marketing—can explain 17.2% of consumer trust, while the remaining 82.8% is explained by other variables outside this study, such as halal image, brand reputation, product price, and consumer experience.

3.4. *Discussion*

3.4.1. *The Effect of Influencer Marketing on Consumer Trust*

Based on the results of the multiple linear regression analysis, the Influencer marketing variable showed a value of -0.182. The negative coefficient indicates an inverse effect, whereby an increase in Influencer marketing leads to a decrease in consumer trust. The t-test showed a significance value of 0.003 for Influencer Marketing, which is smaller than the 0.05 error level. The calculated t-value was -3.034, which is smaller than the t-table value of 1.66088. It can be concluded that H_0 is rejected and H_1 is accepted, indicating that Influencer Marketing has a negative and significant effect on consumer trust. These results align with previous research conducted by Suryani and Yulianthini (2023). This study suggests that the power and attractiveness of Influencers will influence various consumer behaviors, such as consumer purchase intentions towards marketed products.

3.4.2. *The Influence of Online Customer Reviews on Consumer Trust*

Based on the results of the multiple linear regression analysis, the online customer review variable showed a value of 0.199. The positive coefficient indicates a unidirectional effect, whereby an increase in online customer reviews leads to an increase in consumer trust. The t-test analysis showed a significance value of 0.001 for online customer reviews, which is smaller than the 0.05 error level. The calculated t-value was 3.288, which is greater than the t-table value of 1.66088. It can be concluded that H_0 is rejected and H_1 is accepted, indicating that influencer marketing has a positive and significant effect on consumer trust. These results align with previous research by Kamisa et al. (2022), which showed that online customer reviews have a positive and significant effect on consumer trust. This study explains that observing other consumers' comments, especially positive ones, builds consumer trust in a product.

3.4.3. *The Influence of Content Marketing on Consumer Trust*

Based on the results of the t-test analysis, the significance value of Content Marketing was 0.149, greater than the 0.05 margin of error, with a calculated t-value of -1.455, which is smaller than the t-table value of 1.66088. This indicates that Content Marketing has a negative and insignificant effect on Consumer Trust. These results are supported by previous research by Ali et al. (2025), which found that Content Marketing has a negative and insignificant effect on consumer trust. This study explains that this failure is caused by monotonous content, which

leads to boredom among the audience.

3.4.4. The Influence of Influencer Marketing, Online Customer Reviews, and Content Marketing on Consumer Trust

Based on the results of the ANOVA F-test, the sig. $0.000 < 0.05$ and the calculated F- value of $7.876 > F\text{-table } 2.70$, it can be concluded that the independent variables, namely Influencer Marketing, Online Customer Reviews, and Content Marketing, simultaneously have a significant effect on Consumer Trust. The Coefficient of Determination test results showed an R-square value of 0.198, or 19.8%. This means that the independent variables used in this study—Influencer Marketing, Online Customer Reviews, and Content Marketing—can explain 19.8% of consumer trust. The remaining 80.2% is influenced by other variables outside the studied variables, such as Wardah's strong halal image, Wardah's long-standing reputation, Wardah's affordable product prices, easy product availability in various stores, and personal experiences experienced and shared by product users.

4. Conclusions

The conclusion from this study is that there is a significant negative effect between influencer marketing and consumer trust. The second result shows a significant positive effect between online customer reviews and consumer trust. Ratings for a product given by other consumers, including previous users, can influence how consumers and potential consumers will trust the product. The higher the rating, the more consumers will naturally perceive the product as being of good quality and widely used by other consumers. The third result shows no effect between content marketing and consumer trust. This indicates that Wardah's content has not been able to build consumer trust.

4.1. Research Implications

Wardah products can improve the selection of credible influencers for product promotion, one way is by choosing popular influencers so that they have the potential to reach a wider audience but must still pay attention to the ability to convey information about the product, as well as their reputation to help build Wardah consumer trust through what is conveyed by the influencers they follow. Updates by Wardah in posting the latest reviews related to the product. If necessary and possible, there needs to be a quick and solution-oriented response by Wardah to comments or complaints from consumers in order to build trust in Wardah products. Creating interesting and creative content, for example content that is consumer engagement, especially honest reviews from consumers, can help build Consumer Trust that the product is safe and trustworthy to use.

4.2. Limitations of Research and Suggestions

This study still has limitations such as the scope of the study, which only focuses on Wardah consumers in Bekasi City. Future researchers can expand the geographical or demographic scope to obtain broader generalizations. This research variable examines the influence of Influencer marketing, online customer reviews, and content marketing on consumer trust. Therefore, it is recommended that other variables be developed, such as halal image and brand reputation, product price and availability, and consumer experience. In the dependent variable, consumer trust can be used as an intervening variable, and the consumer trust variable can be replaced with other variables such as purchasing decisions, purchase intentions, or brand loyalty.

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THE INFLUENCE LIFESTYLE, SELF-CONTROL, AND DIGITAL WALLETS ON CONSUMER BEHAVIOR OF SHOPEE APPLICATION USERS IN BEKASI CITY

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Abstract

The purpose of this study is to determine the effect of lifestyle, self-control, and digital wallets on consumptive behavior among Shopee app users in Bekasi City. This study uses a quantitative research design. The population of this study is the people of Bekasi City, particularly Shopee app users, whose number is unknown. The sample size is 160 respondents using a probability sampling design with a simple random sampling technique. The sample size was determined using the Hair formula. The results of the study found that: 1. Lifestyle has a partial positive and significant effect on consumptive behavior with a t -value of $10.496 > t\text{-table } 1.97529$ and a significance value of $0.000 < 0.5$. 2. Self-control has a partial negative and significant effect with a t -value of $-10.294 > t\text{-table } 1.97529$ and a significance level of $0.000 < 0.05$. 3. Digital wallets have no effect on consumptive behavior with a t -value of $0.531 < t\text{-table } 1.97529$ and a significance value of $0.596 > 0.05$. In the F test, the significant result of $0.000 < 0.50$ indicates that the variables of lifestyle, self-control, and digital wallet simultaneously have a positive and significant effect on the consumptive behavior of Shopee users in Bekasi City. In the coefficient of determination test, an Adjusted R Square value of 0.540 or 54% was obtained, indicating that the independent variables in this study, namely lifestyle, self-control, and digital wallets, can explain consumptive behavior by 54%.

Keywords: Lifestyle, Self-Control, Digital Wallets, Consumptive Behavior.

1. Introduction

Nowadays, many advanced technologies have been created to facilitate and assist humans in completing their activities. This is also true for information technology, which is developing very rapidly, especially among internet users who take advantage of information technology. One of the uses of the internet is for online shopping or e-commerce. E-commerce or online shopping is a way of conducting sales transactions through electronic communication devices or social networks. The rapid development of e-commerce can have an impact and influence the behavior or lifestyle of people in conducting purchase transactions. This behavior involves the inappropriate and irrational use of money solely to satisfy emotional desires or personal gratification, especially among people living in urban areas.

Cities are places that shape human behavior. According to Halim, 2008:13 in (Khairat et al., 2018), the stimuli received shape human behavior, which is then responded to by humans in the same way as the meaning obtained from understanding and experience. People living in cities are more likely to keep up with the times and prioritize looking modern. This situation certainly creates opportunities for shopping and consumptive behavior, buying products and goods to satisfy their emotional desires.

From a psychological perspective, this is a symptom of a person's loss of self-control over their own consciousness, causing them to buy things they don't need. As a result, most people living in urban areas are targeted by companies when they release products. This is compounded by the nature of urban communities, which are easily influenced by their environment and easily persuaded by advertising. Furthermore, another factor influencing consumptive behavior in today's technological era is the emergence

of electronic money. Residents who keep up with the times and prefer things to be done quickly

choose to use digital wallets rather than paying for things with cash. This influences the consumptive behavior of urban communities and the loss of an individual's self-control.

2. Hypothesis

The research hypotheses in this study can be explained as follows:

1. H01 : Lifestyle has no effect on consumptive behavior Ha1 : Lifestyle affects consumptive behavior
2. H02 : Self-control does not affect consumptive behavior Ha2 : Self-control affects consumptive behavior
3. H03 : Digital Wallets do not influence Consumptive Behavior. Ha3 : Digital Wallets influence Consumptive Behavior.
4. H04 : Lifestyle, Self-Control, and Digital Wallets do not influence Consumptive Behavior.

Ha4 : Lifestyle, Self-Control, and Digital Wallets influence Consumptive Behavior.

Based on the previous explanation, the research framework can be described as follows:

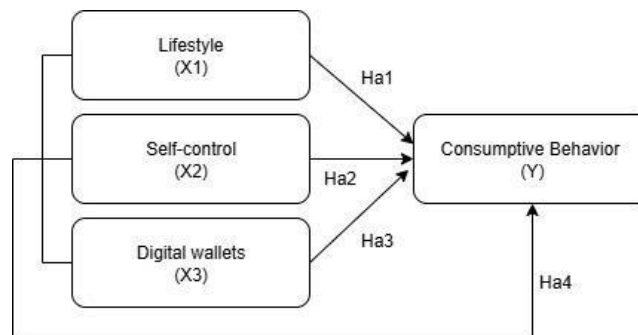


Figure 1. Research Framework (Source processed by the researcher, 2025)

3. Methodology

This research method uses a quantitative approach. According to Sugiyono (2023), a quantitative approach is a research method based on the philosophy of positivism. Data is collected using special tools or instruments and then analyzed statistically. Data was obtained by distributing questionnaires online using Google Forms, with respondents' responses measured using an interval scale.

Population and Sample The population of this study is the entire population of Bekasi City, which is 2.6 million people as of May 2025 (bekasikota.go.id). However, the number of Shopee users in Bekasi City in this study is unknown.

According to Sugiyono (2023), a sample is a part of a population that has characteristics similar to the population as a whole. The use of samples is necessary when the population is too large and researchers face limitations in terms of time, cost, and energy.

This study uses Hair's formula. According to Hair et al (1998) in (Farida & Mahfud, 2021) the best or more than adequate sample size is a minimum of 50 or 100 respondents. This study has 32 indicators from four variables, namely 3 dependent variables and 1 independent variable. Therefore, this study uses the following Hair formula:

$$\begin{aligned}\text{Sample} &= \text{number of indicators} \times 5 \\ &= 32 \times 5 \\ &= 160\end{aligned}$$

Based on these calculations, it was determined that the researcher would take a sample size of 160 respondents who are Shopee app users in Bekasi City in this study.

3.1. Theoretical Review

According to J Schultz in Indrajaya (2024) , he argues that marketing management is a system that includes the process of planning, directing, and controlling all marketing activities carried out by a company. Its main objective is to acquire, retain, and increase customers through valuable exchange activities. In its implementation, marketing management includes organizing, directing, and controlling all marketing activities to increase competitiveness and achieve company goals efficiently and effectively. The core of marketing management is a deep understanding of the market and consumer behavior so that companies can compete optimally. The preparation of tactical plans in marketing includes the utilization of various elements in the marketing mix, which consists of four main components: product, price, promotion, and place (Kotler & Keller, 2021)

According to Tibrisi et al, (2020) in Abidzar et al., (2023) consumptive behavior is a person's tendency to buy and use goods even though they are not really needed.

According to Silalahi (2020) in Bukhari et al., (2022) lifestyle is defined as a consumption pattern that reflects individual preferences in various aspects, including how they spend their money. Amstrong in Murtiningsih & Marpala (2025) divides the factors that influence lifestyle into two main categories, namely internal factors (attitudes, experiences and observations, personality, self-concept, motives) and external factors (reference groups, family, social class).

According to Fattah, et al. (2018;17) in Mutara & Laloan (2021), self-control can be defined as the ability to control behavior. Self-control is a person's ability to control their behavior, especially in terms of buying or using a product. According to Tripambudi & Indrawati (2020), self-control is the ability to utilize one's personal potential in facing various situations by using internal authority to make decisions that are not easily influenced by pressure from the surrounding environment. In the context of financial management, self-control is very important because it helps a person make wise and not wasteful consumption decisions. Like other psychological factors in the decision-making process, self-control, according to Ghuftron and Risnawati (2011) in Nurhaini, (2018), is influenced by several main factors, namely: internal factors and external factors.

According to Bank Indonesia (2020), a cashless society is a condition in which economic activities rely more on non-cash payment instruments than cash. According to Bank Indonesia (2023) in (Alfaris, 2023), an electronic wallet or digital wallet is a financial product based on savings or prepaid value, where users or customers store a certain amount of funds in digital form through specific electronic media. Based on Bank Indonesia Regulation Number 18/40/PBI/2016 Article 1 point 7 of 2016, payment transaction processing is described as an electronic-based service that enables the storage of payment instrument data, whether in the form of cards or electronic money, and can hold funds for transaction purposes. A digital wallet is an application used to store electronic money and facilitate its use for online transactions (Puput et al., 2024).

3.2. Research Methods

This method is used to study specific groups, whether it be the entire population or a sample of that population.

Table 1. Operational Definitions and Measurements

Variable	Dimension	Indicator	Item Number	Scale
Lifestyle	According to plumber in Sutisna & Marcellina (2022) the dimension of lifestyle are:	According to Engel et al. (1994)		Interval
		Vacation	1	
		Entertainment	2	
	Activity	Sports	3	
		Family	4	
		Media	5	
	Opini	Community	6	
		Products	7	
		Social Issues	8	
		Self	9	

Self-control	According to Kuhl & Arno Furhmann (2000) in Miskanik (2022)	According to (2002) in Mutara & Laloan (2021)	Interval
	Intention Control	Ability to interpret situations	10
	Planning	Ability to anticipate events	11
	Initiation of action	Ability to make decisions	12
	Drive Control	Ability to control behavior	13
	Control over failure	Ability to manage stimuli	14
Digital Wallets	According to Alfatih et al. (2023) there are three dimensions of digital wallets, namely:	According to Jogiyanto (2012) in Alfatih et al. (2023) the indicators of digital wallets are:	
	Usability	Accelerating Work	15
		Work Performance	16
		Increasing Productivity	17
		Providing Effectiveness	18
		Making Work Easier	19
		Providing Benefits	20
	Convenience	According to Sun & Zhang (2011) in Alfatih et al. (2023) indicators of digital wallets are:	Interval
		Easy to learn	21
		Easy to use	22
		Clear and easy to understand	23
	Security	According to Lewis and Thygerson in Alfatih et al., (2023), the indicators of digital wallets from the Security dimension are:	
		Maintaining the confidentiality of customer data and information	24
		Protecting against unauthorized access	25
		Data originality	
		Data availability	26
			27
Consumptive Behavior	According to Adzkiya quoting Fromm in Hasmawati (2021) the dimensions of consumptive behavior are:	According to Sukari et al. (2013:17) in Mutara & Laloan (2021) indicators of consumptive behavior include:	Interval
	Fulfillment of desires	Buying products because of the lure of gifts.	28
	Purchase of unproductive goods	Buying products because of attractive packaging	29
	Purchase of goods beyond one's means	The desire to try similar products from different brands.	30
	To improve social status	Buying products because of attractive prices rather than need	31
		Buying goods to maintain prestige and appearance	32

3.3. Data Collection Techniques

Data collection techniques used field studies and critical literature. Field data was obtained from questionnaires that were directly given to research subjects via electronic Google forms. According to Sugiyono (2023), a questionnaire is a data collection method that involves giving respondents a list of written questions or statements to answer. The measurement scale in this study uses an interval scale with a weighting of 1-6 from Strongly Disagree (SD) to Strongly Agree (SA).

3.4. Data Analysis Techniques

1. Based on Gender

Table 2. Characteristics of Respondents Based on Gender

Number	Gender	Number of Respondents	Presentage %
1	Man	57	36%
2	Woman	<u>103</u>	<u>64%</u>
Total		160	100%

2. Based on Age

Table 3. Characteristics of Respondents Based on Age

Number	Age	Number of Respondents	Presentage %
1	17-25 Years old	126	79%
2	26-35 Years old	27	17%
3	36-45 Years old	3	2%
4	46-58 Years old	<u>4</u>	<u>3%</u>
Total		160	100%

3. Characteristics of Respondents Based on Occupation

Table 4. Characteristics of Respondents Based on Occupation.

Number	Occupation	Number of Respondents	Presentage %
1	Student	66	41%
2	Civil Servant	10	6%
3	Private Employee	51	32%
4	Entrepreneur	11	7%
5	Unemployed	11	7%
6	Others	<u>11</u>	<u>7%</u>
Total		160	100%

3.5. Research Results and Discussion Validity and Reliability Tests

Table 5. Validity Test Results

Variabel	Item	Calculated value	Table value	Sig. (2-tailed)	Description	
Lifestyle	X1.1	120,569	0,1552	<0,001	Valid	Valid
	X1.3	140,725	0,1552	<0,001	Valid	Valid
	X1.5	160,613	0,1552	<0,001	Valid	Valid
	X1.7	180,632	0,1552	<0,001	Valid	Valid
	X1.9	0,661	0,1552	<0,001	Valid	
		0,633	0,1552	<0,001		
		0,590	0,1552	<0,001		
		0,470	0,1552	<0,001		
		0,586	0,1552	<0,001		

Self-control	X2.1	X2.20,800	0,1552	<0,001	Valid	Valid
	X2.3	X2.40,791	0,1552	<0,001	Valid	Valid
	X2.5	0,767	0,1552	<0,001	Valid	
		0,807	0,1552	<0,001		
		0,796	0,1552	<0,001		
Digital Wallets	X3.1	0,792	0,1552	<0,001	Valid	Valid
	X3.2	0,840	0,1552	<0,001	Valid	Valid
	X3.3	0,782	0,1552	<0,001	Valid	Valid
	X3.4	0,793	0,1552	<0,001	Valid	Valid
	X3.5	0,830	0,1552	<0,001	Valid	Valid
	X3.6	0,793	0,1552	<0,001	Valid	Valid
	X3.7	0,791	0,1552	<0,001	Valid	
	X3.8	0,780	0,1552	<0,001		
	X3.9	0,788	0,1552	<0,001		
	X3.10	0,731	0,1552	<0,001		
	X3.11	0,633	0,1552	<0,001		
	X3.12	0,707	0,1552	<0,001		
	X3.13	0,759	0,1552	<0,001		
Consumptive Behavior	Y.1	0,715	0,1552	<0,001	Valid	Valid
	Y.2	0,826	0,1552	<0,001	Valid	Valid
	Y.3	0,841	0,1552	<0,001	Valid	
	Y.4	0,744	0,1552	<0,001		
	Y.5	0,596	0,1552	<0,001		

Based on Table 5, the validity test results show that each item of the lifestyle, self-control, digital wallet, and consumptive behavior variables is valid and can be used as a statement item.

Table 6. Reliability Test Results

Variable	Cronbach Alpha	Value	Description
Lifestyle	0,784	>0,70	Reliable
Self-control	0,841	>0,70	Reliable
Digital Wallets	0,942	>0,70	Reliable
Consumptive Behavior	0,797	>0,70	Reliable

Based on Table 6, the reliability test results show that the variables of lifestyle, self-control, digital wallet, and consumptive behavior have a Cronbach Alpha value >0.70. This indicates that the instruments for the variables of lifestyle, self-control, digital wallet, and consumptive behavior can be declared reliable as measuring tools.

3.6. Normality Test

P-Plot Normality Test

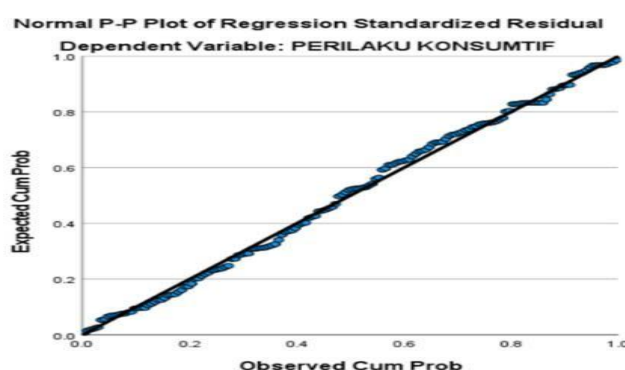


Figure 2. Normality Test Results

In Figure 2, the results of the P-Plot normality test above show that the data distribution follows a diagonal line pattern. This indicates that the data has the required normal distribution. The results of statistical analysis using the non-parametric one- sample Kolmogorov-Smirnov test indicate that the data is normally distributed, as seen from the Asymp. Sig. (2-tailed) value of $0.200 > 0.05$. Therefore, it can be concluded that the data on lifestyle variables, self-control, digital wallets, and consumptive behavior is normally distributed.

3.7. Multicollinearity Test

Table 7. Multicollinearity Test Results

Coefficients			
Model		Collinearity Tolerance	Statistics VIF
1	Lifestyle	,794	1,259
	Self-control	,766	1,306
	Digital Wallets	,688	1,454
a. Dependent Variable: Consumtive Behavior			

Based on Table 7 above, it can be seen that for the lifestyle variable (X1), there is a Collinearity Tolerance value of $0.794 > 0.10$ and a VIF statistic value of < 10 . For the self-control variable (X2), there is a Collinearity Tolerance value of $0.766 > 0.10$ and a VIF statistic value of < 10 . Similarly, for the digital wallet variable (X3), there is a Collinearity Tolerance value of $0.688 > 0.10$ and a VIF statistic value of < 10 . Therefore, it can be explained that the independent variables, namely lifestyle, self-control, and digital wallet, do not exhibit multicollinearity because the values in the SPSS Version 27 test show that multicollinearity does not occur.

3.8. Heteroscedasticity Test

Table 8. Heteroscedasticity Test Results

Correlations

Lifestyle

			Self-control	Digital Wallets	Unstandardized Residual
Spearman's Lifestyle rho	Correlation Coefficient	1.000	.360**	.519**	-.026

	Self-control	Sig. (2-tailed)	.	.000	.000	.748
		N	160	160	160	160
		Correlation Coefficient	.360**	1.000	.352**	-.096
		Sig. (2-tailed)	.000	.	.000	.228
	Digital Wallets	N	160	160	160	160
		Correlation Coefficient	.519**	.352**	1.000	-.079
		Sig. (2-tailed)	.000	.000	.	.322
		N	160	160	160	160
	Unstandardized Residual	Correlation Coefficient	-.026	-.096	-.079	1.000
		Sig. (2-tailed)	.748	.228	.322	.
		N	160	160	160	160

** . Correlation is significant at the 0.01 level (2-tailed).

Based on Table 8 above, the lifestyle variable with Unstandardized Residual has a Sig. (2-tailed) value of $0.748 > 0.05$, while the self-control variable with Unstandardized Residual has a Sig. (2-tailed) of $0.228 > 0.05$, and for the digital wallet variable with Unstandardized Residual, there is a Sig. (2-tailed) value of $0.322 > 0.05$. Therefore, it can be explained that the regression model does not exhibit heteroscedasticity.

3.9. Multiple Linear Regression Test

Table 9. Multiple Linear Regression Test Results

Coefficients ^a						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	17,099	1,329		12,870	,000
	Lifestyle	,303	,029	,633	10,496	,000
	Self-control	-,447	,043	-,633	-10,294	,000
	Digital Wallets	,011	,020	,034	,531	,596
a. Dependent Variable: Consumptive Behavior						

Based on Table 9 above, the unstandardized coefficients B have a value of b_1 for the lifestyle variable of 0.303, a value of b_2 for the self-control variable of -0.447, a value of b_3 for the digital wallet variable of 0.11, and a constant value (α) of 17.099, so that the multiple regression equation is as follows:

$$Y = 17.099 + 0.303X_1 - 0.447X_2 + 0.11X_3 + e$$

The explanation of this equation is as follows:

1. The constant value is 17.099; this shows that if the values of the lifestyle, self-control, and digital wallet variables are 0, then the consumptive behavior value is 17.099.
2. The regression coefficient for the lifestyle variable is 0.303; this means that if lifestyle

increases by 1 score, consumptive behavior will also increase by 0.303.

3. The regression coefficient for the self-control variable is -0.447; this indicates that if self-control increases by 1 score, consumptive behavior will decrease by -0.447.
4. The regression coefficient for the digital wallet variable is 0.11; this means that for every 1-point increase in digital wallet usage, consumptive behavior will increase by 0.11. However, based on the significance value ($\text{Sig} = 0.596 > 0.05$), the effect is not significant.
5. The lifestyle variable has a standard error value of 0.029, the self-control variable has a standard error value of 0.043, and the digital wallet variable has a standard error value of 0.020, which means that the error rate in the lifestyle, self-control, and digital wallet variables is very low because it is below 5% or $<5\%$. Therefore, the model is more accurate in making predictions.

3.10. T-test

The t-test aims to prove the extent to which independent variables partially influence dependent variables. The t-test is conducted to compare the mean value with the standard error of the mean difference of three samples. This can also be seen from the comparison between t_{count} and t_{table} or by comparing the significance value of the t-test. The t-test uses a significance level of 5% or 0.05 using the formula $df = n - k - 1 = 160 - 3 - 1$, which is 156, so $t_{\text{table}} = 1.97529$.

Table 10. T-test Results

Coefficients ^a					
		Instadardized Coefficients		Standardized Coefficients	
Model		B	Std. Error	Beta	T
1	(Constant)	17,099	1,329		12,870
	Lifestyle	,303	,029	,633	10,496
	Self-control	-,447	,043	-,633	-10,294
	Digital Wallets	,011	,020	,034	,531
a. Dependent Variable: Consumtive Behavior					

Based on Table 10 above, it can be explained that:

1. Lifestyle Variable (X1)

The calculated t-value for the work discipline variable is 10.496 and the table t-value is 1.97529, so that $t_{\text{count}} > t_{\text{table}}$ and the t significance value is $0.000 < 0.05$. Therefore, it can be explained that the lifestyle variable has a partial positive and significant effect on consumptive behavior.

2. Self-Control Variable (X2)

The t-value for the self-control variable is -10.294 and the t-table value is 1.97529, so $t_{\text{count}} > t_{\text{table}}$ and the t-significance value is $0.000 < 0.05$. Therefore, it can be explained that the self-control variable has a partial negative and significant effect on consumptive behavior.

3. Digital Wallet Variable (X3)

The t-value for the digital wallet variable is 0.531 and the t-table value is 1.97529, so $t_{\text{count}} < t_{\text{table}}$ and the t-significance value is $0.596 > 0.05$. Therefore, it can be explained that the digital wallet variable has no partial and significant effect on consumptive behavior.

3.11. F Test

The F test is performed to determine whether independent variables simultaneously influence dependent variables. This test can be seen through the Fcount value and the significance value in the ANOVA table. In addition, analysis can also be performed by comparing the Fcount and Ftable values or based on the significance value of the F test. In this

test, a significance level of 5% (0.05) is used with a degree of freedom (df_2) = $n-k$, which is $160-3-1=156$. Based on this calculation, the Ftable value obtained is 2.66.

Table 11. F-test Results

ANNOVA ^a						
Model		Sum of Square		Mean Square	F	Sig.
1	Regression	745,949	3	248,650	63,318	0,000 ^b
	Residual	612,612	156	3,927		
	Total	1358,561	159			
a. Dependent Variable: CONSUMTIVE BEHAVIOR						
b. Predictors: (Constant), LIFESTYLE, SELF-CONTROL, DIGITAL WALLETS						

Based on Table 11 above, it can be seen that the Fcount value is 63.318 and the Ftable value is 2.66, so $F_{count} > F_{table}$ and is accepted, which means that the variables of lifestyle, self-control, and digital wallet have a simultaneous and significant effect on consumptive behavior.

3.12. Determination Coefficient Test (R^2)

The determination coefficient test (R^2) aims to measure the extent to which independent variables influence dependent variables. The R^2 value ranges from 0 to 1. If the R^2 value is close to 0, it means that the contribution of independent variables in explaining dependent variables is low. Conversely, if the R^2 value is close to 1, the independent variable has a large influence on the dependent variable (Ghozali, 2021).

Table 12. Determination Coefficient Test (R^2) Results

Model Summary^b

Model	R	R Square	Adjusted R Square	Error of the Estimate
1	.741 ^a	.549	.540	1.982

a. Predictors: (Constant), LIFESTYLE, SELF-CONTROL, DIGITAL WALLETS

b. Dependent Variable: CONSUMTIVE BEHAVIOR

Based on Table 12 above, the Adjusted R Square value is 0.540 or 54%, which means that the independent variables used in this study, namely lifestyle, self-control, and digital wallets, can explain 54% of consumptive behavior. The remaining 46% is explained by other variables such as financial literacy, social literacy, and income, which were not included in this study.

4. Discussion

4.1. The Influence of Lifestyle on Consumptive Behavior

Based on the results of the T-test conducted on the lifestyle variable, the t-count value of 10.496 is greater than the t-table value of 1.97529, and the t-significance value of 0.000 is less than 0.05. Therefore, hypothesis a1 (H_{a1}) is accepted and hypothesis 01 (H_{01}) is rejected, thus it can be explained that the lifestyle variable has a partial positive and significant effect on the consumptive behavior variable. Based on the multiple linear regression test, the lifestyle value is 0.303, which means that if someone improves their lifestyle, their consumptive behavior as a resident of Bekasi City will increase by 0.303.

This is also in line with previous research conducted by (Nikmatul & Yudiantoro, 2022) entitled *The Influence of Lifestyle and Electronic Money Use on Consumptive Behavior*, which shows that lifestyle has a positive and significant influence. Furthermore, this is in line with previous research by (Bukhari et al., 2022) entitled *The Influence of Financial Literacy, Income, and Lifestyle on Consumptive Online Shopping Behavior During the Covid-19 Pandemic*, which shows that lifestyle has a positive and significant effect. Furthermore, in line with previous research by (N. Fadhillah, 2023) entitled *The Influence of Online Shopping Application Use, Lifestyle, and Financial Literacy on the Consumptive Behavior of Citizens*, the results show that lifestyle has a positive and significant effect.

4.2. The Effect of Self-Control on Consumptive Behavior

Based on the results of the T-test conducted on the lifestyle variable, the t-value was -10.294, which was greater than the t-table value of 1.97529, and the t-significance value was 0.000, which was less than 0.05. Therefore, hypothesis a2 (Ha2) was accepted and hypothesis 02 (H02) was rejected. self-control has a partial negative and significant effect on the variable of consumptive behavior. Based on the multiple linear regression test, the self-control value is -0.447, which means that if a person increases their self-control, their consumptive behavior as a Bekasi City resident will decrease by - 0.447. Conversely, if a person reduces their self-control, their consumptive behavior as a Bekasi City resident will increase by -0.447.

This is in line with previous research conducted by (Sudiro & Asandimitra, 2022) entitled *The Influence of Financial Literacy, Electronic Money, Demographics, Lifestyle, and Self-Control on the Consumptive Behavior of Millennials*, which shows that the self - control variable has a negative and significant effect. Furthermore, this is in line with previous research by (Ni Luh et al., 2023) entitled *The Influence of Self-Control on the Consumptive Behavior of K-Pop Fans*, which shows that the self-control variable has a negative and significant effect. Furthermore, in line with previous research by (Tripambudi & Indrawati, 2020) entitled *The Relationship Between Self-Control and Consumption Behavior in Gadget Purchases Among Industrial Engineering Students at Diponegoro University*, the results show that the self-control variable has a negative and significant effect.

4.3. The Effect of Digital Wallets on Consumptive Behavior

Based on the results of the T-test conducted on the digital wallet variable, the t- count value of 0.531 is smaller than the t-table value of 1.97529, and the significant t value of 0.596 is greater than 0.05. Therefore, hypothesis a3 (Ha3) is rejected and hypothesis 0 (H03) is accepted. digital wallets have no partial and significant effect on the variable of consumptive behavior. Based on the multiple linear regression test, the digital wallet value is 0.011, which means that even though the residents of Bekasi City have increased their use of digital wallets to make payments on Shopee, they do not engage in consumptive behavior.

This study is not in line with the research conducted by (Herlizah & Subali, 2023) entitled *The Effect of Digital Wallet Use on the Consumptive Behavior of the Community in Cakung Timur Village, Cakung District, East Jakarta*, which shows that digital wallet variables influence consumptive behavior. And research conducted by (Maharani, 2023) entitled *The Effect of GoPay Digital Wallet Use on the Consumptive Behavior of Bandung State Polytechnic Residents* shows that the digital wallet variable influences consumptive behavior. However, this finding is consistent with several previous studies conducted by (Rizki & Prakoso, 2024) entitled *Analysis of the Influence of Social Media and E-Wallet Use on the Consumptive Behavior of Functionaries of the Student Association of the Economics Education Study Program at Surabaya State University*, which showed that the digital wallet variable does not affect consumptive behavior. Furthermore, in line with previous research by (Saliyeh et al., 2024) entitled *The Influence of Non-Cash Payments and Lifestyle on the Consumption Behavior*

of Nahdlatul Ulama University West Kalimantan Students Class of 2020, the results show that the digital wallet variable does not affect consumption behavior.

4.4. The Influence of Lifestyle, Self-Control, and Digital Wallets on Consumer Behavior

Based on the results of the F test conducted on the variables of lifestyle, self-control, and digital wallets, the Fcount value is 63.318, which is greater than the F table value of 2.66, and the significant value of F is $0.000 < 0.05$. Therefore, hypothesis a4 or Ha4 is accepted and hypothesis 04 or H04 is rejected. which means that the variables of lifestyle, self-control, and digital wallet have a simultaneous positive and significant effect on the variable of consumptive behavior. The results of the coefficient of determination (R²) test show an R square value of 0.540 or 54%, which means that the variables of lifestyle, self-control, and digital wallet simultaneously have a positive and significant effect on consumptive behavior by 54%, while the remaining 46% is influenced by other variables such as financial literacy, social factors, FOMO, and income, which are not explained in this study.

5. Conclusion

This study aims to determine the effect of lifestyle, self-control, and digital wallets on the consumptive behavior of Shopee users in Bekasi City. The results of the hypothesis testing using the t-test show that: 1) For the lifestyle variable, $t_{count} 10.496 > t_{table} 1.654$ and a significance value of $0.001 < 0.05$, so hypothesis a1 (Ha1) is accepted and hypothesis 01 (H01) is rejected. It can be concluded that the lifestyle variable has a partial positive and significant effect on consumptive behavior. 2) For the self-control variable, $t_{count} 10.294 > t_{table} 1.654$ and a significance value of $0.001 < 0.05$, so hypothesis a2 (Ha2) is accepted and hypothesis 02 (H02) is rejected. It can be concluded that the self-control variable has a partial negative and significant effect on consumptive behavior. 3) For the self-control variable, the t-value was $0.531 < t_{table} 1.654$ and the significance value was $0.596 > 0.05$, so hypothesis a3 (Ha3) was rejected and hypothesis 03 (H03) was accepted. It can be concluded that the digital wallet variable has no significant effect on consumptive behavior. Based on the results of hypothesis testing using the F test, where $F_{count} = 63.318 > F_{table} = 2.66$ and the significance value is $0.000 < 0.05$, hypothesis a4 is accepted and hypothesis 04 is rejected. It can therefore be concluded that lifestyle, self-control, and digital wallets have a simultaneous effect on consumptive behavior. The coefficient of determination (R²) test was 54%, which means that the independent variables used in this study, namely lifestyle, self-control, and digital wallets, can explain 54% of consumptive behavior, while the remaining 46% is explained by other variables.

5.1. Recommendations

This study has limitations in terms of scope, time, and variables used, so future researchers are advised to add other variables, extend the research period, use qualitative methods such as interviews, and expand the questionnaire questions to obtain more comprehensive results. For Bekasi City residents who use Shopee, it is recommended that they shop online more wisely by improving self-control, distinguishing between needs and wants, and setting a rational budget to avoid consumptive behavior. For the Shopee app, it is hoped that it can optimize lifestyle content in line with trends, provide shopping control features such as “economy mode,” and improve security for virtual payments. Meanwhile, digital wallet apps need to strengthen security, address existing issues, and change public perception to build greater trust in using digital wallets.

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PROFITABILITY, LEVERAGE, AND DIVIDEND POLICY ON FIRM VALUE: EVIDENCE FROM INDONESIA

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Abstract

This study investigates the effect of profitability, leverage, and dividend policy on firm value in food and beverage subsector companies listed on the Indonesia Stock Exchange (IDX) during the period 2014–2023. The food and beverage industry was selected because of its strategic role in the Indonesian economy and its resilience during economic fluctuations. The sample was determined using purposive sampling, resulting in six companies with a total of 60 firm-year observations. The research employed descriptive and verification methods, with the data analyzed using classical assumption tests, multiple linear regression, t-tests, and F-tests with the assistance of SPSS 25 software. The empirical findings indicate that profitability, as measured by return on assets (ROA), and leverage, as measured by debt to assets ratio (DAR), have a significant positive effect on firm value, which is proxied by price to book value (PBV). In contrast, dividend policy, measured by dividend payout ratio (DPR), does not show a significant effect on firm value. However, when tested simultaneously, the three independent variables significantly influence firm value. The coefficient of determination (R^2) shows that ROA, DAR, and DPR together explain 73.6% of the variation in firm value, while the remaining 26.4% is explained by other variables not examined in this study. The results contribute to the literature on corporate financial management and provide practical insights for managers in optimizing financing and dividend decisions, as well as for investors in evaluating investment opportunities in the food and beverage sector.

Keyword: Profitability; Leverage; Dividend Policy; Firm Value; Food & Beverage

1. Introduction

Firm value is an important measure that reflects company performance and investor perception in the capital market (Chabachib & Abdurahman, 2020). A higher firm value signals effective management in generating shareholder wealth, while a declining value indicates reduced investor confidence. Price to Book Value (PBV) is frequently used to assess firm value because it compares the market price of a stock with its book value (Wahyuni, 2021).

The food and beverage (F&B) subsector holds a vital role in Indonesia's economy as a defensive industry, providing essential goods with stable demand across business cycles (Saputri et al., 2022). During the COVID-19 pandemic, this sector showed resilience compared to other industries, underscoring its importance in supporting economic stability. Household consumption consistently accounts for more than half of Indonesia's gross domestic product, with F&B companies making a substantial contribution. However, the PBV trend of F&B companies listed on the Indonesia Stock Exchange (IDX) between 2014 and 2023 shows fluctuations and a general decline, raising concerns regarding the financial determinants of firm value (Ekadjaja, 2021).

Several financial indicators are frequently examined in relation to firm value. Profitability, proxied by return on assets (ROA), indicates the company's efficiency in generating profit from total assets (Sembiring et al., 2023). Leverage, measured by debt to assets ratio (DAR), represents the extent of debt financing relative to assets, influencing both risk and return (Rodiarta & Muhammad, 2024). Dividend policy, proxied by dividend payout ratio (DPR),

demonstrates managerial decisions regarding profit allocation and can serve as a signal to investors about future performance (Wahyuni, 2021).

Prior research offers mixed results. Some studies find that profitability and leverage have a significant positive impact on firm value (Sembiring et al., 2023), while others report insignificant or negative effects (Rodiarta & Muhammad, 2024). Likewise, evidence on dividend policy is inconsistent, with certain findings highlighting its significance and others supporting its irrelevance (Chabachib & Abdurahman, 2020). These discrepancies reveal a research gap, particularly within the Indonesian F&B subsector, which necessitates further empirical investigation.

The objective of this study is to analyze both the partial and simultaneous effects of profitability, leverage, and dividend policy on firm value in F&B companies listed on the IDX over the 2014–2023 period. The study contributes to financial management literature and provides practical implications for investors, managers, and policymakers in making informed decisions to enhance corporate value.

2. Literature Review

2.1. Profitability Theory

Profitability reflects a company's ability to generate earnings relative to its resources. According to Kasmir (2019), profitability ratios measure management efficiency in utilizing assets to produce profit. Return on Assets (ROA) is widely used as an indicator because it compares net income with total assets, showing the effectiveness of asset utilization. Higher profitability is often associated with stronger investor confidence, which in turn enhances firm value (Sembiring et al., 2023).

2.2. Leverage Theory

Leverage indicates the proportion of company financing that originates from debt. The Debt to Assets Ratio (DAR) is a common measure used to capture the share of assets financed by liabilities. Siswanto (2021) emphasizes that leverage affects financial risk and shareholder returns, where moderate leverage can enhance capital efficiency but excessive leverage may increase default risk. In relation to firm value, leverage plays a dual role: it may either strengthen value by providing tax shields or weaken value due to rising financial distress costs (Rodiarta & Muhammad, 2024).

2.3. Dividend Policy Theory

Dividend policy concerns managerial decisions on whether to retain earnings or distribute them to shareholders. The Dividend Payout Ratio (DPR) is a key indicator representing the proportion of net income paid out as dividends. According to Wahyuni (2021), dividend policy signals managerial confidence regarding future performance. The Bird-in-the-Hand theory suggests that investors prefer dividends as a more certain return, thus increasing firm value. Conversely, Miller and Modigliani (1961) argue under the Dividend Irrelevance Theory that dividend policy does not influence firm value in a perfect market. These conflicting perspectives explain why empirical evidence on dividend policy remains inconclusive (Chabachib & Abdurahman, 2020).

2.4. Firm Value Theory

Firm value represents the market perception of a company's worth. It is often proxied by Price to Book Value (PBV), which compares market price per share to book value per share. A higher PBV reflects positive investor expectations and greater firm value (Chabachib & Abdurahman, 2020). Firm value is shaped by internal factors such as profitability, leverage, and dividend policy, as well as external macroeconomic conditions (Ekadjaja, 2021).

2.5. Previous Studies

Sembiring et al. (2023) found that profitability and solvency significantly affect firm value, while dividend policy has a negative effect. Ekadjaja (2021) reported that profitability,

liquidity, and CSR simultaneously influence firm value. Rodiarta and Muhammad (2024) showed no significant effect of profitability and liquidity on firm value. Saputri et al. (2022) found that financial performance, dividend policy, and debt policy significantly influence firm value. Chabachib & Abdurahman (2020) reported mixed results, particularly on dividend policy.

Table 1. Summary of Previous Studies

Author	Purpose of Study	Methodology	Findings
Ambaring et al. (2023)	Effect of profitability, solvency, and dividend policy on firm value	Quantitative, regression	Profitability and solvency significantly affect firm value; dividend policy has negative effect.
Adjaja (2021)	Effect of profitability, liquidity, and CSR on firm value	Panel regression	All three variables simultaneously affect firm value.
Rodiarta & Muhammad (2024)	Effect of profitability and liquidity on firm value	Regression analysis	No significant effect of profitability and liquidity on firm value.
Saputri et al. (2022)	Effect of financial performance, dividend policy, and debt policy on firm value	Quantitative, regression	All variables significantly influence firm value.
Chabachib & Abdurahman (2020)	Effect of profitability, leverage, and dividend policy on firm value	Regression analysis	Mixed results; dividend policy sometimes insignificant.

As shown in Table 1, the findings of previous studies remain inconsistent. These variations underline the necessity of conducting further research, particularly within the Indonesian food and beverage subsector, to provide more conclusive evidence.

2.6. Research Framework and Hypotheses

Based on theory and prior studies, this research framework positions firm value (PBV) as the dependent variable, while profitability (ROA), leverage (DAR), and dividend policy (DPR) serve as independent variables.

Hypotheses:

- H1 : Profitability (ROA) has a significant effect on firm value (PBV).
- H2 : Leverage (DAR) has a significant effect on firm value (PBV).
- H3 : Dividend Policy (DPR) has a significant effect on firm value (PBV).
- H4 : Profitability, Leverage, and Dividend Policy simultaneously affect firm value (PBV).

3. Material and Method

This section describes the methodological procedures applied in the study to ensure transparency and replicability. It outlines the research design, sample selection, data sources, operational definitions of variables, and analytical techniques employed. By providing these details, the study enables future researchers to reproduce and validate the findings under similar conditions.

3.1. Research Design

This study employs a quantitative explanatory design to analyze the causal relationship between financial ratios and firm value. The population consists of food and beverage companies listed on the Indonesia Stock Exchange (IDX) for the period 2014–2023. Using purposive sampling, six companies that consistently published complete financial reports and distributed dividends during the study period were selected, yielding 60 firm-year observations.

3.2. Data Collection

The research relies on secondary data obtained from the annual reports and financial statements of the sampled companies, as well as data from the official IDX website. The dataset covers a ten-year period, 2014–2023.

3.3. Operational Definition of Variables

Profitability is measured by Return on Assets (ROA), leverage by Debt to Assets Ratio (DAR), and dividend policy by Dividend Payout Ratio (DPR). Firm value, as the dependent variable, is proxied by Price to Book Value (PBV). The operational definitions of variables are presented in Table 2.

Table 2. Operational Definition of Variables

Variable	Formula	Unit	Description
Profitability (ROA)	$\frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$	Ratio	Ability of the firm to generate earnings from its assets
Leverage (DAR)	$\frac{\text{Total Liabilities}}{\text{Total Assets}} \times 100\%$	Ratio	Proportion of assets financed by debt
Dividend Policy (DPR)	$\frac{\text{Dividend per Share}}{\text{Earning per Share}} \times 100\%$	Ratio	Portion of earnings distributed to shareholders as dividends
Firm Value (PBV)	$\frac{\text{Market Price per Share}}{\text{Book Value per Share}} \times 100\%$	Ratio	Market assessment of firm's value relative to its book value

3.4. Data Analysis

After collecting secondary data from the financial statements and annual reports of food and beverage companies listed on the IDX, the dataset was processed using SPSS version 25. The analysis included descriptive statistics to summarize the distribution of each variable, followed by classical assumption tests covering normality, multicollinearity, heteroscedasticity, and autocorrelation to ensure the robustness of the regression model. The multiple linear regression model applied in this study is specified as:

$$PBV = \alpha + \beta_1 ROA + \beta_2 DAR + \beta_3 DPR + e$$

Where PBV represents firm value, ROA denotes profitability, DAR denotes leverage, DPR denotes dividend policy, α is the constant, β_1 – β_3 are regression coefficients, and e is the error term. Hypothesis testing employed the t-test to examine the partial effect of each independent variable, the F-test to assess the simultaneous effect of all independent variables, and the coefficient of determination (R^2) to evaluate the explanatory power of the model.

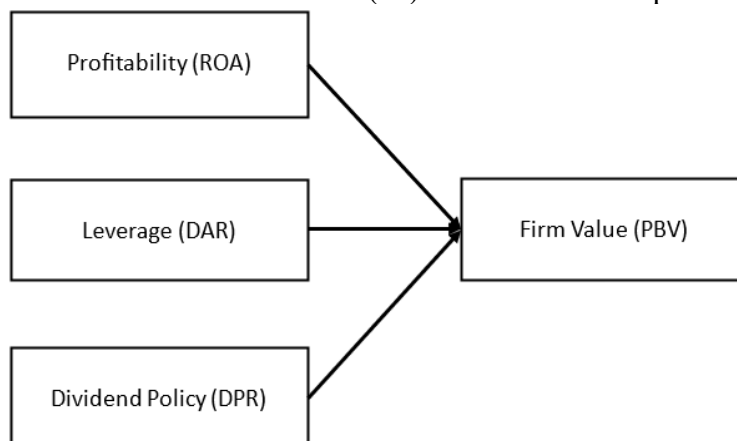


Figure 1. Research Model

As shown in Figure 1, profitability, leverage, and dividend policy are proposed as independent variables expected to influence firm value, which is proxied by the Price to Book Value (PBV).

4. Result

4.1. Descriptive Statistics

Descriptive statistical analysis was conducted to provide an overview of the characteristics of each research variable. This analysis highlights the central tendency and dispersion of the data through the presentation of mean, standard deviation, minimum, and maximum values. The variables examined include profitability (ROA), leverage (DAR), dividend policy (DPR), and firm value (PBV), across a total of 60 firm-year observations from six food and beverage companies listed on the IDX during 2014–2023. The results are presented in Table 3.

Table 3. Results of Descriptive Statistics Test

	N	M e a n s	Std. Deviation	Min	Max
Return On Assets (X1)	60	0.1184	0.07620	0.03	0.36
Debt to Assets Ratio (X2)	60	0.4297	0.14914	0.15	0.75
Dividend Payout Ratio (X3)	60	0.5002	0.30815	0.15	1.29
Price To Book Value (Y)	60	4.02	1.21000	2.00	8.00

The descriptive results reveal that the average ROA is 0.1184, indicating that food and beverage companies are able to generate a return of around 11.8% on their total assets, which reflects a moderate level of profitability. The DAR average of 0.4297 shows that, on average, 42.9% of company assets are financed through debt, implying a relatively balanced capital structure that avoids excessive leverage. The DPR average of 0.5002 suggests that firms distribute approximately 50% of their earnings as dividends, signaling a moderate dividend policy that balances shareholder returns and reinvestment. Finally, the PBV average of 4.02 indicates that, on average, the market values these firms at more than four times their book value, reflecting strong investor confidence in the food and beverage subsector's resilience and growth potential.

4.2. Classical Assumption Tests

To ensure the reliability and validity of the regression model, a series of classical assumption tests were conducted. A regression model is considered robust and statistically appropriate when it satisfies the fundamental assumptions underlying linear regression analysis. In this study, the following diagnostic tests were applied:

a) Normality Test

To evaluate whether the data conform to a normal distribution, the Kolmogorov–Smirnov test was employed. A significance value (p-value) greater than 0.05 indicates that the data do not significantly deviate from normality, thereby supporting the null hypothesis (H_0) and satisfying the normality assumption required for regression analysis.

Table 4. One-Sample Kolmogorov-Smirnov Test (After Outlier)

Unstandardized Residual

N	48
Asymp. Sig. (2-tailed)	.052 ^c

Based on the results presented in Table 4, the Kolmogorov–Smirnov test (after outlier removal) produced an Asymp. Sig. value of 0.052, which exceeds the conventional threshold of 0.05. This outcome indicates that the residuals do not significantly deviate from a normal distribution, thereby satisfying the normality assumption required for further statistical analysis. The adjustment for outliers ensures that the dataset more accurately reflects the underlying population characteristics and strengthens the validity of subsequent regression analysis.

b) Multicollinearity Test

The multicollinearity test was conducted to determine whether strong correlations exist between the independent variables, which could compromise the reliability of regression estimates. Multicollinearity was assessed through tolerance and Variance Inflation Factor (VIF) values.

Table 5. Multicollinearity Test

Coefficients^a

Unstandardized Coefficients			Standardized Coefficients Beta	t	Sig.	Collinearity Statistics	
Model	B	Std. Error				Tolerance	VIF
(Constant)	-1.460	.680		-2.148	.037		
ROA (X1)	24.104	2.093	1.161	11.515	.000	.553	1.807
DAR (X2)	7.684	1.099	.812	6.992	.000	.417	2.397
DPR (X3)	-.023	.475	-.005	-.048	.962	.576	1.735

a. Dependent Variable: Y1

As shown in Table 5, all tolerance values exceed 0.10, and all VIF values are well below the

critical cutoff of 10. These results confirm that there is no significant multicollinearity among ROA, DAR, and DPR. Therefore, each independent variable contributes unique explanatory power to the regression model, supporting the validity of subsequent hypothesis testing.

c) Heteroscedasticity test

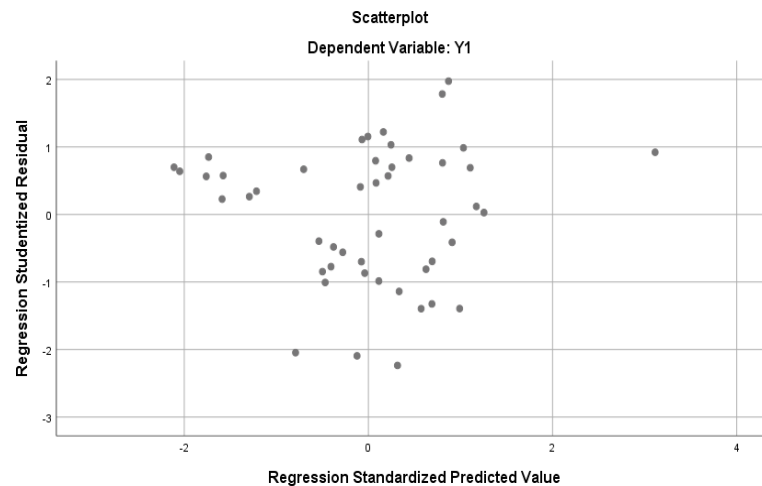


Figure 2. Scatterplot Dependent Variable

To evaluate the presence of heteroscedasticity, a scatterplot of the residuals was analyzed. The residuals appeared randomly distributed, with data points scattered both above and below the regression line without any systematic pattern. This random dispersion indicates that the assumption of homoscedasticity is met, suggesting that the variance of the residuals remains constant across levels of the independent variables.

d) Autocorrelation Test

The autocorrelation test was conducted to detect the presence of correlation among residuals from one observation to another. If present, autocorrelation can bias the estimation results of a regression model, thereby violating the classical assumptions. The Durbin–Watson (DW) statistic is commonly employed for this purpose. A DW value between 1.5 and 2.5 is generally considered acceptable, indicating the absence of serious autocorrelation problems.

Table 6. Autocorrelation Test

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.867 ^a	.753	.736	.622	1.860

a. Predictors: (Constant), DPR (X3), ROA (X1), DAR (X2)

b. Dependent Variable: Y1

As shown in Table 6, the regression model produces a Durbin–Watson value of 1.860, which falls within the recommended range of 1.5 to 2.5. This result indicates that no

autocorrelation is present among the residuals, thereby confirming the robustness and validity of the regression model for further analysis.

4.3. Regression Analysis

To examine the effect of profitability (ROA), leverage (DAR), and dividend policy (DPR) on firm value (PBV), a multiple linear regression analysis was performed. This procedure allows the estimation of the individual contribution of each independent variable to the dependent variable. The regression results are presented in Table 7.

Table 7. Regression Analysis Test

Coefficients^a

Unstandardized Coefficients				Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	-1.460	.680		-2.148	.037
	ROA (X1)	24.104	2.093	1.161	11.515	.000
	DAR (X2)	7.684	1.099	.812	6.992	.000
	DPR (X3)	-.023	.475	-.005	-.048	.962

a. Dependent Variable: Y1

The regression model is expressed as:

$$PBV = -1.460 + 24.104(ROA) + 7.684(DAR) - 0.023(DPR) + e$$

The interpretation of the regression coefficients is as follows:

- The regression coefficient for ROA is 24.104, which is positive and statistically significant ($p = 0.000 < 0.01$). This indicates that profitability has a strong positive effect on firm value. Higher profitability reflects better managerial performance and financial strength, which investors perceive as enhancing firm value. This finding supports the Signaling Theory, where profitability serves as a credible signal to the market about the company's future growth prospects.
- The regression coefficient for DAR is 7.684, which is also positive and statistically significant ($p = 0.000 < 0.01$). This result implies that leverage contributes to increasing firm value in this observed. The finding is consistent with the Trade-Off Theory, suggesting that moderate levels of debt can provide tax benefits and lower the cost of capital, thereby strengthening firm value.
- The regression coefficient for DPR is -0.023, which is negative but not statistically significant ($p = 0.962 > 0.05$). This shows that dividend policy does not have a meaningful effect on firm value. The result aligns with the Dividend Irrelevance Theory proposed by Miller & Modigliani (1961), which posits that in efficient capital markets, dividend policy has little to no impact on firm valuation.
- The constant value is -1.460, which represents the baseline firm value (PBV) when ROA, DAR, and DPR are equal to zero. While not economically meaningful in isolation, it functions to complete the regression equation.

4.4. Coefficient of Determination (R^2)

The coefficient of determination is used to evaluate the explanatory strength of the regression model. The results are displayed in Table 8.

Table 8. Model Summary

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.867 ^a	.753	.736	.622	1.860

a. Predictors: (Constant), DPR (X3), ROA (X1), DAR (X2)

b. Dependent Variable: Y1

The adjusted R^2 value of 0.736 indicates that 73.6% of the variation in firm value (PBV) is explained by ROA, DAR, and DPR, while the remaining 26.4% is influenced by other factors not included in the model. This shows the regression has strong explanatory power.

4.5. T-Test (Partial Test)

The t-test serves to assess the individual statistical significance of each explanatory variable within the regression framework. This test is instrumental in identifying whether a particular predictor variable exerts a meaningful independent effect on the outcome variable. The evaluation is conducted by comparing the calculated t-statistic (tcount) with the critical t-value (ttable), which is determined by the selected significance level (α) and the model's degrees of freedom (df). The interpretation follows these decision rules:

1. If the computed t-statistic is lower than the critical t-value, the null hypothesis (H_0) cannot be rejected. This suggests that the variable under consideration does not exert a statistically significant influence on the dependent variable.
2. Conversely, if the computed t-statistic exceeds the critical t-value, the null hypothesis is rejected. This outcome implies that the variable has a statistically significant effect on the dependent variable within the specified confidence level.

The results of the t-test are summarized in Table 9.

Table 9. T-Test Results (Partial Test)

Coefficients ^a						
Model	Unstandardized Coefficients			Standardized Coefficients Beta	t	Sig.
	B	Std. Error				
1	(Constant)	-1.460	.680		-2.148	.037
	ROA (X1)	24.104	2.093	1.161	11.515	.000
	DAR	7.684	1.099	.812	6.99	.000

(X2)				2	
DPR	-.023	.475	-.005	-.048	.962
(X3)					

a. Dependent Variable: Y1

The interpretation of the T-Test results based on Table 9 is as follows:

1. The t-statistic of 11.515 with a p-value of 0.000 (< 0.01) confirms that ROA exerts a strong and significant positive effect on PBV. This supports the Signaling Theory, as higher profitability serves as a credible signal of strong managerial performance and growth potential to investors.
2. The t-statistic of 6.992 with a p-value of 0.000 (< 0.01) demonstrates that DAR significantly and positively affects PBV. This finding aligns with the Trade-Off Theory, which argues that moderate use of debt can enhance firm value by providing tax shields and optimizing capital structure.
3. The t-statistic of -0.048 with a p-value of 0.962 (> 0.05) shows that DPR does not significantly influence PBV. This outcome supports the Dividend Irrelevance Theory (Miller & Modigliani, 1961), indicating that dividend policy is not a critical determinant of firm value.

4.6. F-Test (Simultaneous Test)

The F-test is applied to evaluate the joint significance of the independent variables in explaining the variance of the dependent variable, serving as an indicator of the overall adequacy of the regression model. A p-value below the 0.05 threshold signifies that the model is statistically meaningful, implying that the independent variables collectively exert a significant effect. In this study, the F-test is employed to determine whether profitability (ROA), leverage (DAR), and dividend policy (DPR), when considered together, significantly affect firm value (PBV).

Table 10. F-Test Results (Simultaneous Test)

ANOVA^a

		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.741	3	17.247	44.594	.000 ^b
	Residual	17.017	44	.387		
	Total	68.758	47			

a. Dependent Variable: Y1

b. Predictors: (Constant), DPR (X3), ROA (X1), DAR (X2)

The F-statistic of 44.594 with a significance value of 0.000 (< 0.05) demonstrates that ROA, DAR, and DPR, when considered simultaneously, exert a significant influence on PBV. This finding confirms the robustness of the regression model and implies that firm value in the food and beverage subsector is determined by the combined dynamics of profitability, leverage, and dividend policy rather than by any single factor in isolation.

5. Discussion

The findings of this study show that Return on Assets (ROA) has a positive and significant effect on firm value (PBV), Debt to Assets Ratio (DAR) also has a positive and significant

effect on PBV, while Dividend Payout Ratio (DPR) has no significant effect. These results are consistent with the regression outputs presented in the research.

The positive impact of ROA on PBV indicates that an increase in the company's ability to generate profit enhances the market's assessment of firm value. This result is in line with previous studies cited in the thesis, such as Muchtar et al. (2021) and Chabachib & Abdurahman (2020), who emphasize that profitability plays a crucial role in shaping investor expectations and corporate valuation.

The significant positive influence of DAR on PBV suggests that, for food and beverage companies, the use of debt at certain levels is perceived favorably by the market. Debt provides financial leverage and tax benefits that can strengthen firm value when managed properly. This finding corresponds with other empirical studies included in the thesis, such as Harianto & Hendrani (2022) and Prasetyo et al. (2021), who documented that leverage can enhance firm value under specific conditions.

On the other hand, DPR shows no significant effect on PBV. This implies that dividend distribution is not considered a decisive factor in determining firm value within the observed companies. This result is consistent with Darmawan (2018) and Pirstina & Khairunnisa (2019), who also found mixed or insignificant effects of dividend policy on firm value in their research.

Taken together, the results indicate that firm value in the Indonesian food and beverage subsector is primarily driven by profitability and leverage, while dividend policy has a limited role. The implication is that managers should focus more on improving profitability and managing debt wisely to optimize firm value, whereas dividend policy may not be the main consideration for investors in this sector.

6. Conclusion, Implication, and Recommendation

This study examined the effect of profitability, leverage, and dividend policy on firm value in food and beverage companies listed on the Indonesia Stock Exchange during 2014–2023. The results show that profitability, measured by Return on Assets (ROA), has a positive and significant influence on firm value, meaning that higher profitability enhances investor confidence and raises market valuation as reflected in Price to Book Value (PBV). Leverage, proxied by the Debt to Assets Ratio (DAR), also has a positive and significant effect on firm value, suggesting that the use of debt at an optimal level can provide benefits through financial leverage and tax advantages, which are positively perceived by the market. In contrast, dividend policy, measured by the Dividend Payout Ratio (DPR), does not have a significant impact on firm value, indicating that dividend distribution is not considered a determining factor by investors in this subsector. Taken together, the simultaneous test confirms that ROA, DAR, and DPR jointly affect firm value, with profitability and leverage acting as the dominant determinants.

The implications of these findings are both theoretical and practical. Theoretically, the study reinforces the argument that profitability and leverage are fundamental drivers of firm value, consistent with the literature cited in this research, while the limited role of dividend policy reflects the mixed evidence in previous empirical works. Practically, managers of food and beverage companies should focus on strategies that enhance profitability and manage leverage prudently in order to optimize firm value. For investors, profitability remains a reliable benchmark in evaluating corporate performance, while leverage can be perceived as beneficial if maintained at sustainable levels. Regulators may also take note of the role of capital structure management in maintaining stability in the food and beverage subsector, which is an important component of the Indonesian economy.

Based on these results, future research is recommended to broaden the scope of analysis by including companies from other subsectors within the manufacturing industry to improve generalizability, as well as incorporating additional financial indicators such as firm size,

growth opportunities, and liquidity ratios. It is also important to consider external macroeconomic variables such as inflation, GDP growth, and exchange rate fluctuations, which may provide further insights into the dynamics of firm value.

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BALANCING BUSINESS AND THE NATURAL ENVIRONMENT WITH THE CONCEPT OF LEADERSHIP QUALITY, GREEN INNOVATION, AND QUALITY PERFORMANCE (CASE STUDY ON SME)

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Abstract

Introduction: This study focuses on the issues of leadership, environmental friendliness, and quality. Background Problems: Environmental problems are occurring everywhere. Environmental damage causes other problems such as economic, social, and well-being issues. One of the factors contributing to environmental damage is the proliferation of businesses that are not optimally managed in an efficient and effective manner and do not balance this with environmental impacts. As business actors, humans need to learn from the experience of environmental damage by reducing such damage through alternatives that do not compromise the initial objectives of usefulness and profit. Effective and efficient management in several previous studies has provided alternatives that do not focus solely on profit. Several previous studies have proposed such management alternatives, namely through green innovation. Such innovation is systematically initiated by good quality leadership. This is expected to be a successful alternative in achieving performance in line with business objectives. Purpose: Given the preliminary dynamics that reveal the urgency of empirical and theoretical gaps, the purpose of this study is to provide additional conceptual scientific references that connect upstream to downstream through leadership quality, green innovation, and quality performance. Method: This study was conducted using a quantitative method. Play Finding: An interesting finding in this study is the mapping of the concepts of leadership quality, green innovation, and quality performance. This study will also produce observations of concepts according to the perceptions of business managers. Implication: The implication of this study is additional scientific knowledge of the concepts of leadership quality, green innovation, and quality performance, which is expected to be an alternative consideration for achieving a balance between benefits and profits without massively damaging the environment. Keyword: Quality Leadership; Green Innovation; Quality Performance; Environment.

1. Introduction

Environmental issues are no longer a taboo subject for discussion on a global scale. Global entities are now competitively seeking alternative solutions to achieve a balance between the environment, profits, and society (Bastas & Liyanage, 2018). The triple bottom line concept is important for sustainable business management globally. The crucial importance of business sustainability for the environment is not matched by optimal attention to the process. One of the obstacles is regulatory uncertainty, which slows down sustainability innovation (Mardikaningsih & Darmawan, 2021). It is not only large companies that have the potential to affect the environment in general, but also SMEs, as conveyed in research (S. K. Singh, 2020; S. K. Singh, Giudice, Jabbour, Latan, & Sohal, 2022)

SMEs can improve the economic performance of a business process (M. Wang, 2021). In most OECD countries, SMEs contribute more than 50% of GDP. One country with a significant contribution to the economy is Indonesia, with a contribution of around 60.5% to the gross domestic product (GDP) and absorbing almost 97% of the total national workforce (Aprilia, Subroto, & Sakti, 2025). The high contribution of SMEs to the economy is not without challenges. Various studies show that attention to green innovation in the MSME sector is still

low, mainly due to limited resources, a short-term orientation towards profit, and low environmental awareness (Qiu, 2020; Sahoo, 2023; Salim et al., 2025; Takalo, 2021).

Based on the managerial challenges faced by SMEs, as described above, this study pays particular attention to how business operations can be conducted in a balanced manner that takes into account the positive aspects of the environment, profits and society, or the triple bottom line. Conceptually, this consideration can be carried out through several variables, namely Leadership Quality, Green Innovation and Quality Performance (S. K. Singh, 2020; S. K. Singh et al., 2022)

2. Literature Review

2.1. Leadership Quality

Leadership quality is a leader's ability to influence, direct, and motivate members of an organization to achieve common goals (Goetsch & Davis, 2014; Hogan, 2005). Transformational leaders exemplify high leadership quality because they are able to build a shared vision and change the values and behaviours of organizational members towards innovation and productivity (David, David, & David, 2023; Goetsch & Davis, 2014; Wheelen, Hunger, Hoffman, & Bamford, 2017). Leadership quality does not only focus on leadership style but also on the complex and dynamic organizational context (David et al., 2023; Soares, 2017). Leadership is seen as a factor that drives organizational learning and innovation, and effective HR practices can strengthen knowledge management (Goetsch & Davis, 2014; Yahya, 2002). The concepts of responsible leadership (Maak, 2006) and servant leadership emphasize the aspects of ethics, empathy, and responsibility in leadership quality (Van, 2011).

The relationship between leadership quality and organisational performance has been proven through various empirical studies, one of which found that transformational leadership significantly improves the performance of R&D teams. Furthermore, high-quality leadership has been shown to mediate the influence of organisational strategy on the effectiveness of TQM implementation (David et al., 2023; Goetsch & Davis, 2014; Prajogo, 2006). This is achieved by linking leadership competencies to green innovation and organisational quality performance. Leaders with a clear vision and strong orientation towards environmental sustainability are able to foster a green-minded organisational culture and make a real contribution to improving the company's sustainability performance (Dubey, 2015; Fernandes & Sampaio, 2017; Marcio C Machado, 2020; Soares, 2017). Based on these findings, it can be asserted that leadership quality plays a crucial role not only in building a culture that supports innovation, but also in strengthening the implementation of environmentally friendly practices and encouraging continuous improvement in organisational quality.

2.2. Green Innovation

Green innovation can be defined as an important mechanism that plays a role in improving company performance (Huang, 2017). This concept plays an important role in realising sustainable development and supporting corporate strategies towards long-term efficiency and competitiveness (Song, 2018; Yuan, 2022). Strategic leadership, organisational culture, and external collaboration are the main drivers (Takalo, 2021). A proposed business model that integrates Industry 4.0 technologies to support green innovation and the circular economy (Nascimento, 2019). Additionally, external drivers, such as environmental, social, and governance (ESG) ratings, have been shown to significantly enhance corporate green Innovation (C. Wang, 2019).

Various factors have been shown to have a positive effect on green innovation, including organisational capabilities and social reciprocity, managerial concern for environmental issues (Tang, Walsh, Lerner, Fitza, & Li, 2018) (Tang, Walsh, Lerner, Fitza, & Li, 2018), the use of external knowledge sources (Arfi, 2018), and the implementation of an organisational green culture (C. Wang, 2019). The influence of leaders is also evident in the finding that green

transformational leadership combined with green HRM practices can drive green innovation and improve environmental performance in manufacturing SMEs (S. K. Singh, 2020). Furthermore, green innovation has been proven to significantly improve various aspects of performance, such as overall company performance (Huang, 2017), environmental performance (Rehman, 2021), and economic performance (M. Wang, 2021). It was found that green innovation mediates the relationship between managerial concern and company performance (Tang et al., 2018). It was found that Green Transformational Leadership influences Green Innovation through the mediation of Green Human Resource Management (H. Singh, 2009a; S. K. Singh, 2020; S. K. Singh et al., 2022; Takalo, 2021).

2.3. Quality Performance

Performance quality demonstrates an organisation's ability to produce products and services that meet customer expectations through consistent process control and the application of continuous improvement principle (Bastas & Liyanage, 2018; Shah, 2003). The development of the concept of quality performance shows an expansion of meaning that is no longer limited to product quality, but also includes the dimensions of environmental responsibility and sustainable innovation as part of an organisation's competitiveness improvement strategy (Fynes, Búrca, & Voss, 2007; Qiu, 2020; Zhu, 2004). The implementation of environmentally friendly practices such as green supply chain management has been proven to contribute to improved quality performance through waste reduction, optimisation of resource use, and strengthening of the company's reputation in the eyes of stakeholders (Goetsch & Davis, 2014; Soares, 2017; Zhu, 2004).

The relationship between process innovation and quality improvement has also been proven through the application of Lean Manufacturing and Total Quality Management (TQM), which significantly affect operational performance improvement (Abdullah, 2010; Goetsch & Davis, 2014; Prajogo, 2006; Shah, 2003). These results indicate that environmentally oriented innovation plays an important role as a reinforcing mechanism in the relationship between green innovation and performance quality (Zhu, 2004). In addition, organisations with leadership that is highly committed to social and environmental responsibility tend to demonstrate superior performance quality and productivity. These findings reveal a synergistic relationship between leadership quality, green innovation, and quality performance, whereby leadership oriented towards sustainability principles is able to encourage green innovation, which ultimately improves the overall quality and performance of the organisation (Goetsch & Davis, 2014; Soares, 2017; Waddock, 1997; Zhu, 2004)

Based on the literature review, to find alternative business management using the variables of Leadership Quality, Green Innovation, and Quality Performance, the following hypothesis can be formulated:

- H₁** : There is an effect between Leadership Quality to Green Innovation.
- H₂** : There is an effect between Green Innovation to Quality Performance.
- H₃** : There is an effect between Leadership Quality to Subjective Quality Performance.
- H₄** : There is an effect between Leadership Quality to Quality Performance through Green Innovation.

3. Material and Method

3.1. Design Study

The research conducted is quantitative, based on (Creswell & Creswell, 2017). testing the connection between variables from the conceptual model that has been formed based on theory. The conceptual model will test the relationship between Leadership Quality, Green Innovation and Quality Performance. The determination of the population and sampling followed (Hair & Alamer, 2022; Sarstedt, Ringle, & Hair, 2021), whereby a conceptual model such as this can use a minimum sampling of 120 respondents. The sampling that has been filled has exceeded

the minimum limit of 501 respondents, which can provide better data reliability. The instrument used in this study was a questionnaire with a Likert scale that was distributed both offline and online.

3.2. Data Analysis

To assist in accurate data processing for this study, Smart-PLS 3 software was used. The main stages carried out were measurement instrument testing and structural model evaluation. In these main and secondary stages, a series of tests were conducted, ranging from loading factor, cross loading, AVE, Fornell-Larcker, R^2 , path coefficient, t-value, and p-value (Hair & Alamer, 2022).

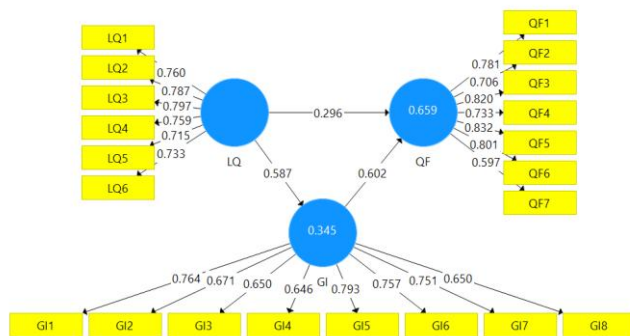
4. Result

4.1. Uji Measurement Model

a) Indicator reliability

Verifying the outer loading value on each indication is how indicator dependability is determined. A high outer loading number means that the latent variable describes the associated indicators as having a lot in common. According to (Hair & Alamer, 2022), indicators that have an outer loading value greater than 0.7 are significant indicators, which means that these indicators are worth keeping:

Running Test 1



Running Test 1

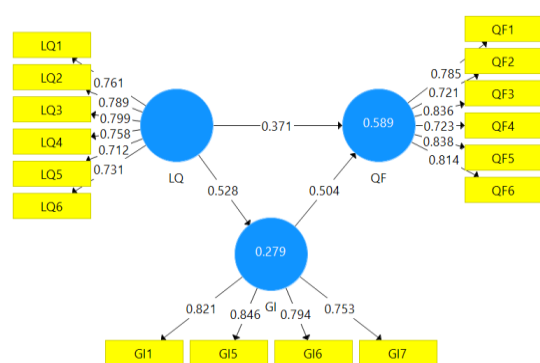


Figure 1. Outer Loading Value

Figure 1 drawing the results of the Outer Loading Value test, which are quite satisfactory, indicating that the existing conceptual variables are verified to have good values in the outer loading test.

b) Internal Consistency Reliability

Cronbach's Alpha is the metric used to assess the dependability of internal consistency. The composite reliability value may also be used to evaluate internal consistency reliability requirements in addition to Cronbach's Alpha. As stated by (Hair & Alamer, 2022), both Cronbach's Alpha and composite reliability criteria specifically for values of 0.6 - 0.7 are still acceptable in exploratory research, while in further research the value of 0.7 - 0.9 can be considered satisfactory.

Table 1. Internal Test Cronbach

Variabel	Cronbach's Alpha	Composite Reliability	Result
Green Innovation	0.817	0.88	Reliable
Leadership Quality	0.853	0.891	Reliable
Quality Performance	0.876	0.907	Reliable

Source: Processed Data, 2025

Table 1 above shows satisfactory reliability test results, indicating that the conceptual

variables have been verified to have good values in the reliability test.

c) Convergent Validity

The following are the results of the convergent validity test:

Table 2. Test Convergent

Variables	Average Variance Extracted (AVE)	Result
Green Innovation	0.647	Valid
Leadership Quality	0.576	Valid
Quality Performance	0.62	Valid

Source: Processed Data, 2025

The next test in this study was Convergent Validity. Based on the opinion of Hair & Alamer (2022), an AVE score of more than 0.5 can be used if it is to be considered valid.

d) Discriminant Validity

Discriminant validity can be summarised in the following table:

Table 3. Discriminant Validity

Variabel	Green Innovation	Leadership Quality	Quality Performance
Green Innovation	0.804		
Leadership Quality	0.528	0.759	
Quality Performance	0.7	0.637	0.788

Source: Processed Data, 2025

Table 3 shows satisfactory discriminant test results, indicating that the conceptual variables have been verified to have good values in the discriminant test.

4.2. Evaluation Of The Structural Model

The model to be evaluated in this study is adjusted to the hypothesis that has been arranged. The model image tested is as follows:

Table 4. Inner VIF

Variable	Quality Performance
Leadership Quality -> Green Innovation	1
Green Innovation -> Quality Performance	1.386
Leadership Quality -> Quality Performance	1.386

Source: Processed Data, 2025

Table 4 shows that the results of the model structure evaluation in terms of collinearity are good, as indicated by the inner VIF results being less than 3, in accordance with the statement (Hair & Alamer, 2022).

Table 5. Results of Testing the Direct and the Indirect Effect

Variabel	Original Sample (O)	T Statistics (O/STDEV)	P Values
Direct			
Leadership Quality -> Green Innovation	0.528	13.177	0
Green Innovation -> Quality Performance	0.504	13.733	0

Leadership Quality -> Quality Performance	0.371	8.508	0
Indirect Effect			
Leadership Quality -> Green Innovation -> Quality Performance	0.266	9.349	0

Source: Processed Data, 2025

Table 5 shows the results of both direct and indirect tests in accordance with the conceptual model that has been formed. The overall results of the related variables show a significant relationship.

5. Discussion

5.1. Leadership Quality To Green Innovation

The relationship between Leadership Quality and Green Innovation has a strong significance as shown by the processed data. The attention and actions of leaders in business management have a vision and commitment to sustainability and signal that environmental issues and green innovation are a strategic part of the organisation (Kareem & Kummitha, 2025; Salim et al., 2025). In the concept of quality management according to (Goetsch & Davis, 2014; Marcio C Machado, 2020; Soares, 2017), leadership quality has a close relationship with implementation and even innovation. The close relationship between leadership and innovation is supported by several studies such as (Bass, 1994; Dubey, 2015; Scandura, 1984).

5.2. Green Innovation To Quality Performance

The need for green innovation is currently very important. Many previous studies have shown that green innovation plays an important role in improving company performance, but few explain how organisational capabilities and internal social relationships influence green innovation and outcomes (Arfi, 2018; Tang et al., 2018). The concept of innovation is an implementation that must be carried out by companies in order to be sustainable. In this study, the concept of the need for innovation implementation that can influence performance (Goetsch & Davis, 2014; Wheelen et al., 2017) was examined. This study even clarifies the significant results of the influence of Green Innovation on Quality Performance, with the results also explaining that it is not only the company's performance in general but also its specific performance in terms of quality, which is supported by several previous researchers such as (Takalo, 2021; M. Wang, 2021). Ultimately, this reinforces that green innovation can increase the competitiveness of companies and is in line with the research (H. Singh, 2009b; S. K. Singh, 2020; S. K. Singh et al., 2022; Takalo, 2021; Tu, 2021).

5.3. Leadership Quality To Quality Performance

The results of this study show a significant direct relationship between Leadership Quality and Quality Performance. From the outset, the basis for strengthening this significance comes from theoretical considerations from various studies such as (Bass, 1994; Hogan, 2005; Keller, 2006; Piccolo, 2006; Scandura, 1984). This study also shows in business implementation that good leadership quality can produce good performance. Previous studies ((Goetsch & Davis, 2014; Soares, 2017) also convey the same thing between the relationship of Leadership Quality and Quality Performance.

5.4. Leadership Quality To Quality Performance through Green Innovation

After the results of each variable were found to have a significant relationship, this study will then explain the indirect relationship between Leadership Quality and Quality Performance through Green Innovation, in line with the research (H. Singh, 2009b; S. K. Singh, 2020; S. K. Singh et al., 2022; Takalo, 2021). Starting from the general concept of leadership and quality (David et al., 2023; Goetsch & Davis, 2014; MacHado, 2016; Machado, 2020; Wheelen et al., 2017), Furthermore, this study clearly provides another perspective on how Leadership Quality in terms of perception has a significant relationship with Quality Performance through Green

Innovation. The concept of Green Innovation is currently attracting considerable attention worldwide from various studies such as (Arfi, 2018; Tang et al., 2018) Environmental problems in the world can be reduced through the Green Innovation movement. In the business world, this movement can be initiated by market demand and the awareness of business leaders, where the expected results need to be balanced between an emphasis on green specifications and the usefulness of products in terms of quality performance in line with user needs, in this case consumers. This is in line with the findings of a study by (Bastas & Liyanage, 2018), which suggests that operations that take into account the triple bottom line from upstream to downstream can provide better sustainability.

6. Conclusion, Implication, and Recommendation

6.1. Conclusion and Implication

The conclusions that can be drawn from this perception-based study of SMEs are, first, that there is a significant relationship between leadership quality and green innovation; second, that there is a significant relationship between green innovation and quality performance; and third, that there is a significant relationship between leadership quality and quality performance. Fourth, there is indirectly a significant relationship between Leadership Quality and Quality Performance through Green Innovation. The implication of this study is based on existing problems in the world, where the need for balance between business and the environment can be reduced by considering the variables studied in this research.

6.2. Suggestion

The first suggestion from this study is that MSMEs, as entities that are vulnerable to business and environmental balance, need to take concrete actions in their operations that take green innovation into consideration. Concrete actions will actually be difficult to implement, but with support from various relevant stakeholders such as the government, green communities, and large companies through their CSR programmes, this difficult task can be achieved gradually. The limitation of this research is that the specific green innovations that should be implemented could be the subject of further research in the future, which may become more technical in nature.

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THE EFFECT OF TAX SANCTIONS, TAX KNOWLEDGE, AND TAX AWARENESS ON INDIVIDUAL TAXPAYER COMPLIANCE (SPT) AT THE KARAWANG PRIMARY TAX SERVICE OFFICE IN 2025

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Abstract

The data shows that the compliance ratio of individual taxpayers at the Karawang Tax Office (KPP) from 2020 to 2025 is still very low, with an average of only 26.03%. This even drops dramatically to 10.45% in 2025, which falls into the “non-compliant” category according to the standards of the Directorate General of Taxes. The purpose of this study is to examine and assess the influence of tax sanctions, tax knowledge, and tax awareness on the compliance of individual taxpayers at the Karawang Tax Office, both partially and simultaneously. This study uses a quantitative and verifiable approach. The quota sampling method was used to select a sample of 100 individual taxpayers registered at the Karawang Tax Office. Data were collected through questionnaires, which had a Likert scale of 1-5, and were transformed using the Method of Successive Intervals (MSI). The results of the study indicate that tax sanctions, tax knowledge, and tax awareness partially and simultaneously affect the tax compliance of individuals at the Karawang Tax Office. The results of the study indicate that tax sanctions, tax knowledge, and tax awareness partially and simultaneously influence individual tax compliance at the Karawang Tax Office. These results improve taxpayer compliance by encouraging better socialization, better understanding of digital e-Filing, consistent application of sanctions, and transparency in the use of tax funds. These results also support Attribution Theory and the Theory of Planned Behavior. Theoretically, this study closes the gap in previous research and enriches the literature on taxation. On the other hand, in practical terms, this study provides strategic advice to tax authorities to improve compliance through education, law enforcement, and increased public awareness of taxation.

Keywords : transformational leadership, organizational performance, employee engagement, leadership effectiveness, PRISMA systematic review

1. Introduction

Taxes are a major source of state revenue that plays an important role in supporting national development, including financing education, infrastructure, health, and other subsidies. With increasing development needs, tax revenue has become increasingly vital in supporting state finances (Arrighi et al., 2022). In this context, this study was conducted at the Karawang Primary Tax Office (KPP), which has a long history since its establishment as the Karawang Tax Inspection Office and is now the result of a reorganization between the North and South Karawang Primary Tax Offices, as stipulated in the Director General of Taxes Decree Number KEP-112/PJ/2007 and KEP-28/PJ/2021 (KPP Pratama Karawang, 2025).

The phenomenon behind this study is the low level of compliance among individual taxpayers at KPP Pratama Karawang. Based on data from the last five years (2020–2025), the average compliance ratio for annual tax return reporting by individual taxpayers was only 26.03%, which is classified as “non-compliant” according to the criteria of the Directorate General of Taxes (Dirjen Pajak, 2025). For example, in 2025, out of 29,842 registered taxpayers, only 3,117 reported their tax returns, with a compliance ratio of 10.45%. This figure shows the low level of public awareness and compliance with tax obligations.

One factor believed to influence tax compliance is taxation sanctions, which serve as a deterrent to violations of tax norms and regulations. Sanctions can be administrative (fines,

interest, surcharges) or criminal (imprisonment and jail time), which are essentially aimed at creating taxpayer compliance (Permata & Rahmi, 2024). In addition, tax knowledge also plays an important role, because taxpayers who understand tax regulations will find it easier to fulfill their obligations correctly (Solihah et al., 2021). On the other hand, tax awareness is a psychological factor related to an individual's understanding and willingness to contribute to the state through taxes.

However, various previous studies have shown mixed results or research gaps. For example, Karlina & Ethika (2020) found that sanctions had no effect on motor vehicle taxpayer compliance, while Permatasari (2022) showed that tax knowledge did not significantly affect compliance. In fact, Dhiu & Handayani (2023) found that taxpayer awareness had a negative and insignificant effect on compliance. Conversely, several other studies (Dahlia et al., 2024; Fitri et al., 2023) confirm the significant positive influence of tax awareness, knowledge, and sanctions on taxpayer compliance. This gap in research results prompted the author to re-examine the relationship between these three variables and individual taxpayer compliance at the Karawang Tax Office.

The main problems identified include low taxpayer compliance (averaging only 26.03%), the perception that taxes are burdensome, and a lack of understanding and awareness among the public in fulfilling their tax obligations (Caroline et al., 2023). Therefore, this study aims to examine both partially and simultaneously the influence of tax sanctions (X_1), tax knowledge (X_2), and tax awareness (X_3) on individual taxpayer compliance (Y) at the Karawang Tax Office. The results of this study are expected to contribute theoretically to the development of tax management science and provide practical benefits for tax authorities in improving compliance policies and strategies.

Based on these conditions, this study focuses on analyzing how tax sanctions, tax knowledge, and tax awareness affect the level of compliance of individual taxpayers at the Karawang Tax Office, both partially and simultaneously. With a scope limited to individual taxpayers registered in the region, this study aims not only to determine the relationship between variables, but also to provide an empirical description of the effectiveness of tax policy implementation at the local level. In particular, this study seeks to determine the extent to which the severity of sanctions, the level of tax understanding, and personal awareness influence compliance with Annual Tax Return (SPT) reporting.

Thus, this study is expected to make a substantive contribution to efforts to improve taxpayer compliance in Indonesia, particularly in the Karawang region. The study of the influence of sanctions, knowledge, and tax awareness is expected not only to enrich scientific literature but also to provide a strong empirical basis for the formulation of fiscal policies that are more effective, fair, and oriented toward increasing voluntary compliance among individual taxpayers.

2. Literature Review

2.1. Theory of Attribution

According to Marina (2020), attribution theory explains that individual behavior is determined by two main factors, namely internal factors (ability, effort, and fatigue) and external factors (rules and weather). In the context of taxation, taxpayer compliance behavior can arise from awareness and knowledge (internal attribution) or the influence of tax sanctions (external attribution).

Internal attribution describes taxpayers' personal responsibility to comply without coercion, while external attribution relates to external incentives such as the threat of fines or administrative sanctions (Karolina Dhiu & Handayani, 2023). This theory explains that a combination of personal motivation and external pressure determines taxpayer compliance behavior.

2.2. Theory of Planned Behavior

According to this theory, intentions are influenced by “behavior beliefs,” or beliefs about behavior, whereby individuals have a moral responsibility and self-awareness regarding their tax obligations. High tax awareness encourages taxpayers to comply with applicable tax regulations. In this study, TPB is also linked to the factor of tax sanctions, which are considered an internal component that plays a role in encouraging taxpayer compliance. Tax sanctions serve as a form of self-control and prevent taxpayers from violating regulations. Therefore, in order to foster compliant behavior and maintain the integrity of the tax system, consistent and fair sanctions are applied to all taxpayers.

2.3. Tax

Taxes are mandatory contributions made by citizens to the state, which are enforced by law without direct compensation and used to finance state expenditures for the prosperity of the people. According to Mardiasmo (2019), taxes are contributions made by citizens that can be enforced without direct reciprocal services, functioning as a source of state revenue as well as a tool for economic equality and control. Taxes also reflect the form of mutual cooperation among citizens in supporting national development (Solihah et al., 2021; Permatasari, 2022). One of the main types of tax is Income Tax (PPh), which is a central tax on additional economic capacity received by taxpayers from within and outside the country that adds to their wealth or can be used for consumption (Government of the Republic of Indonesia, 2021). PPh is regulated in Law No. 7 of 1983, which has been amended several times, most recently by Law No. 7 of 2021 concerning Harmonization of Tax Regulations (HPP), in which taxpayers are responsible for calculating, paying, and reporting independently in accordance with the self-assessment system principle (Resmi, 2020; Waluyo, 2021).

Income tax subjects include individuals, entities, undivided estates, and permanent establishments (BUT), which are differentiated into domestic and foreign tax subjects (Resmi, 2020; Government of the Republic of Indonesia, 2021). Income Tax Objects include all additional economic capacity obtained by taxpayers from employment, business, gifts, or other forms of income as stated in Article 4 paragraph (1) of the Income Tax Law (Waluyo, 2021). The amount of tax payable is calculated using a progressive rate based on the Ability to Pay principle, whereby the higher a person's income, the higher the rate imposed (Asmarani, 2021). Based on Article 17 of Law No. 7 of 2021, the income tax rate for domestic individuals is divided into five tiers, ranging from 5% for income up to IDR 60 million to 35% for income above IDR 5 billion. The application of this progressive rate reflects the principle of fairness in the taxation system and strengthens the function of taxation as a tool for income distribution and financing national economic development.

2.4. Taxpayer Compliance

Taxpayer compliance is the attitude of obedience and willingness of an individual to fulfill all tax obligations in accordance with applicable regulations without coercion from any party. According to Mardiasmo (2019), tax compliance is a condition in which taxpayers fulfill all tax obligations and report these obligations correctly and on time. Caroline et al. (2023) emphasize that tax compliance reflects the moral responsibility of individuals as citizens who contribute to national development through tax payments. This compliance is also interpreted as a form of awareness and obedience to the law, whereby taxpayers voluntarily carry out administrative and reporting obligations in accordance with applicable regulations (Resmi, 2020). Thus, taxpayer compliance not only demonstrates formal adherence to regulations but also reflects individuals' internal awareness in supporting a fair and sustainable taxation system (Waluyo, 2021).

Tax compliance can be categorized into two types, namely formal compliance and material compliance. Formal compliance is taxpayers' adherence to administrative requirements such as submitting tax returns (SPT) on time, while material compliance relates to the accuracy of the

report's contents and the amount of tax paid in accordance with the provisions of the law (Directorate General of Taxes, 2000; Waluyo, 2021). Based on Minister of Finance Decree No. 544/KMK.04/2000, taxpayers are considered compliant if they meet several criteria, including: submitting their tax returns on time, having no tax arrears, never having been convicted of a tax crime, having adequate bookkeeping, and having their financial statements audited with an unqualified opinion. According to Resmi (2020), these criteria indicate that tax compliance covers complementary administrative and substantive aspects. Overall, the level of taxpayer compliance reflects the effectiveness of tax administration and is an indicator of the government's success in enforcing a self-assessment system based on taxpayer awareness and honesty.

2.5 Tax Penalties

Tax penalties are a law enforcement tool imposed on taxpayers who violate tax regulations. According to Mardiasmo (2019), tax penalties are a guarantee that tax regulations will be complied with, serving to enforce discipline and deter violators. Rusnan (2021) explains that tax sanctions not only have a repressive function to punish violations, but also a preventive function to ensure that taxpayers do not repeat the same mistakes. With these sanctions in place, it is hoped that taxpayers will be more careful in fulfilling their tax obligations in accordance with applicable regulations (Juwita & Wasif, 2020). In addition, the application of sanctions also aims to maintain fairness and increase compliance in the self-assessment system, where the fulfillment of tax obligations depends entirely on the taxpayer's own awareness (Waluyo, 2021).

Tax sanctions are divided into two types, namely administrative sanctions and criminal sanctions. Administrative sanctions are financial penalties in the form of fines, interest, or surcharges imposed for administrative violations such as late payment or tax reporting (KUP Law Articles 7–19). Meanwhile, criminal sanctions are imposed on taxpayers who deliberately commit serious violations, such as submitting false data or tax evasion, as stipulated in Articles 38 and 39 of the KUP Law (Directorate General of Taxes, 2023). According to Rusnan (2021), indicators of tax sanctions include strict enforcement, fairness, deterrent effect, and consistent implementation of sanctions against all taxpayers. Strict and proportional enforcement of sanctions will increase public trust in the tax system and strengthen taxpayer compliance in the long term (Hantono & Sianturi, 2022).

2.6 Tax Knowledge

Tax knowledge is the understanding that taxpayers have of the regulations, rights, and obligations in the taxation system. According to Mardiasmo (2019), tax knowledge reflects the extent to which a person understands the applicable tax laws and tax administration procedures. Resmi (2020) adds that tax knowledge plays an important role in shaping taxpayer attitudes because the higher an individual's understanding of the functions and benefits of taxes, the greater their awareness of complying with their tax obligations. Saputri & Khoirawati (2021) explain that taxpayers who have good knowledge will be able to calculate, pay, and report their taxes correctly. Thus, tax knowledge is a major internal factor that influences taxpayer compliance behavior and plays a role in increasing the effectiveness of the self-assessment system (Waluyo, 2021).

Tax knowledge indicators cover several aspects that describe the level of taxpayer understanding of the tax system. According to Ramahwati et al. (2023), tax knowledge indicators include understanding the functions and objectives of taxes, the ability to calculate and report taxes correctly, knowledge of tax types and rates, awareness of penalties for violations, and the use of technology such as e-SPT and e-filing. Meilita & Pohan (2022) emphasize that good knowledge will help taxpayers voluntarily fulfill their obligations and avoid errors in reporting. Meanwhile, Permatasari (2022) mentions that continuous tax education and socialization can broaden public knowledge about tax regulations and increase

compliance. Overall, the higher the level of tax knowledge an individual has, the more likely they are to comply with their tax obligations and contribute to the optimization of state revenue.

2.7. Tax Awareness

Tax awareness is an individual's attitude and willingness to voluntarily fulfill their tax obligations by understanding that taxes play an important role in national development. According to Mardiasmo (2019), tax awareness reflects citizens' views and moral responsibility towards their obligation to pay taxes for the common good. Herdiatna & Lingga (2022) state that tax awareness grows when taxpayers understand the benefits of taxes and believe that tax funds are used transparently for the public interest. Akib et al. (2023) add that awareness is also influenced by taxpayers' perceptions of the fairness of the tax system and the services provided by the tax authorities. Thus, tax awareness is not only related to knowledge and understanding, but also to trust, morality, and taxpayers' positive attitudes towards the government and the tax system.

Factors that influence tax awareness include education level, tax knowledge, personal experience, social environment, and the intensity of socialization and services from the tax authorities (Permatasari, 2022). Rahayu et al. (2023) emphasize that positive experiences in the tax reporting and payment process can strengthen perceptions of fairness and foster awareness of compliance. Meanwhile, Dahlia et al. (2024) mention that psychological factors such as a sense of responsibility and concern for development are also key determinants of taxpayer awareness. Indicators of tax awareness include willingness to pay taxes voluntarily, concern for national development, understanding of the function of taxes, honesty in reporting, and compliance without coercion (Akib et al., 2023; Dahlia et al., 2024). Overall, the higher a person's level of tax awareness, the greater their contribution to increasing taxpayer compliance and optimizing state revenue.

Various previous studies have shown that sanctions, knowledge, and tax awareness have varying effects on taxpayer compliance. Akib, Intihanah, and Lambe (2023) found that tax sanctions have a significant effect on the tax compliance of individuals in Kediri, while Sari and Asy'ari (2021) stated that sanctions and taxpayer awareness also increase restaurant tax compliance in Bangkalan. Research by Herdiatna and Lingga (2022) also shows that tax awareness significantly encourages compliance, while Setiadi and Wulandari (2023) confirm the positive influence of tax knowledge on individual taxpayer compliance. However, different results are shown by Karlina and Ethika (2020) and Permatasari (2022), who found that sanctions and tax knowledge do not have a significant effect on compliance. Karolina Dhiu and Handayani (2023) even report that tax awareness has a negative effect. These differing findings indicate that the relationship between sanctions, knowledge, and awareness on taxpayer compliance is still inconsistent, requiring further research to provide new empirical evidence, particularly in the context of individual taxpayers at the Karawang Tax Office.

2.8. Conceptual Framework

2.8.1 The Relationship Between Tax Penalties and Taxpayer Compliance

Tax penalties are a guarantee that taxpayers will comply with tax regulations, whereby fear of punishment serves as an effective deterrent to reduce tax violations or evasion. When awareness of these sanctions is instilled in taxpayers, compliance with tax obligations will increase (Caroline et al., 2023). Taxpayers who have a high understanding of tax sanctions tend to avoid violations because they are aware of the legal consequences. Thus, the application of tax sanctions is an important factor that encourages taxpayers to comply in paying taxes (Hantono & Sianturi, 2022).

Based on previous theories and research results, the first hypothesis (H1) of this study is that tax sanctions have a partial effect on taxpayer compliance.

2.8.2 The Relationship Between Tax Knowledge and Taxpayer Compliance

Tax knowledge is information possessed by taxpayers and used as a basis for acting, making decisions, and determining strategies in exercising their tax rights and obligations. The better taxpayers' understanding of tax regulations and provisions, the higher their awareness and compliance in fulfilling their tax obligations (Malendes et al., 2024). This knowledge includes taxpayers' ability to understand tax rates, regulations, and the benefits of taxes for society. Thus, the higher the level of tax knowledge, the greater the likelihood that taxpayers will comply with their tax obligations (Hani & Furqon, 2021).

Based on previous theories and research results, the first hypothesis (H2) of this study is that tax knowledge has a partial effect on taxpayer compliance.

2.8.3 The Relationship Between Tax Awareness and Taxpayer Compliance

Taxpayers' awareness of their obligation to pay taxes takes two forms: the awareness that taxes are a citizen's contribution to supporting development, and the awareness that late tax payments can harm the country because taxes are the main source of national revenue. The higher the level of awareness, the more taxpayers will pay their taxes voluntarily, thereby increasing compliance (Karolina Dhiu & Handayani, 2023). In addition, the greater taxpayers' understanding of the benefits of taxes for society and development, the more their sense of responsibility in fulfilling their tax obligations will grow. Therefore, tax awareness is an important factor that every taxpayer must have in order to increase their compliance with tax regulations (Permatasari, 2022).

Based on previous theories and research results, the first hypothesis (H3) of this study is that tax awareness has a partial effect on taxpayer compliance.

2.8.4 The Relationship between Tax Penalties, Tax Knowledge, and Tax Awareness on Taxpayer Compliance

Tax compliance reflects taxpayers' willingness to fulfill their tax obligations, while non-compliance describes failure to do so, either intentionally or unintentionally. Taxpayers generally view tax sanctions as something to be avoided because they serve to encourage compliance with tax obligations. Awareness of the importance of taxes for development fosters a sense of responsibility, whereby a more advanced society will have a high level of tax awareness and be more critical of tax policies, such as rates and the expansion of taxable objects (Fitri et al., 2023). Several factors that influence taxpayer compliance include tax sanctions, tax knowledge, and tax awareness. The application of strict sanctions can motivate compliance, good tax knowledge increases understanding of obligations, while tax awareness encourages taxpayers' willingness to contribute to the implementation of taxation functions (D. Rahayu et al., 2023).

Based on the theory and previous research results, the first hypothesis (H4) of this study is that Tax Penalties, Tax Knowledge, and Tax Awareness simultaneously affect taxpayer compliance.

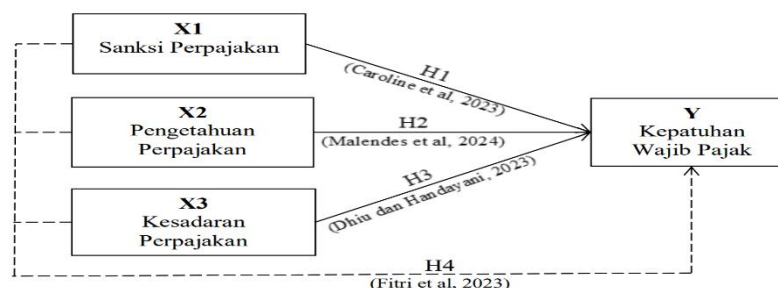


Figure 2.1 Paradigm Diagram of Thinking Framework

3. Material and Method

3.1. Research Design and Approach

This study uses a quantitative method with a verificative approach based on positivism philosophy. This approach was chosen because it is suitable for testing the formulated

hypothesis and producing conclusions based on empirical data. According to Sugiyono (2021), the quantitative method is a scientific method that is concrete, objective, measurable, rational, and systematic, and is called the discovery method because it allows researchers to discover and develop new knowledge. Verificative analysis is used to determine the cause-and-effect relationship between the variables of tax sanctions (X1), tax knowledge (X2), tax awareness (X3), and taxpayer compliance (Y).

The research object focused on individual taxpayers registered at the Karawang Tax Office, because this region showed a relatively low level of compliance based on tax return data for the 2020–2025 period. The research population includes all individual taxpayers who actively report their tax returns at the KPP, while the sample was taken using purposive sampling, which is the selection of respondents based on certain criteria relevant to the research objectives.

3.2. Article Search and Selection Strategies

The main instrument used in this study was a closed questionnaire with a 1–5 Likert scale, which was compiled based on previous theories and research results. The Tax Sanctions variable was measured through indicators of the severity of sanctions, fairness of sanctions, and consistency in the application of rules (Directorate General of Taxes, 2000). Tax Knowledge was measured using indicators of understanding of regulations, rates, and tax reporting procedures (Permatasari, 2022; Nasiroh & Afiqoh, 2023). Tax awareness includes awareness of the function of taxes, social responsibility, and willingness to pay taxes voluntarily (Rahayu et al., 2023). Meanwhile, taxpayer compliance is assessed based on the timeliness of tax return reporting, the absence of arrears, and the accuracy of the financial data submitted (Directorate General of Taxes, 2000).

Variable	Dimension	Indicator	Scale	Item No.
Independent Variable (X1): Tax Penalties Source: (Mulyati & Ismanto, 2021)	1. Late tax reporting and payment must be subject to penalties.	1. Clarity of penalties based on legislation.	Likert Scale (1 to 5)	1
	2. Level of penalty enforcement.	2. Firmness in the application of sanctions.		2
	3. No tolerance.	3. No discrimination.		3
	4. Penalties are applied fairly.	4. Deterrent effect of sanctions imposed on violators.		4
	5. Penalties are waived.	5. Removal of sanctions to improve compliance.		5

Independent Variable (X2): Tax Knowledge Source: (Wulandari, 2020)	1. Knowledge of applicable tax obligations and tax return filing deadlines.	1. Taxpayers must know the procedures for paying taxes.	Likert Scale (1 to 5)	1
	2. Knowledge of Taxpayer Identification Numbers (NPWP).	2. Taxpayers must know the deadline for filing tax returns.		2
	3. Knowledge of the function of taxes.	3. Taxpayers must know that they need to have an NPWP (tax identification number).		3
	4. Knowledge that taxes are compulsory and do not provide direct compensation.	4. Taxpayers must know the function of taxes.		4
		5. Taxpayers must know that if taxes are not paid, administrative sanctions will be imposed.		5
Independent Variable (X3): Tax Awareness Source: (Aras et al., 2024)	1. Taxes are the largest source of state revenue	1. Taxpayers are aware that taxes are the largest source of state revenue.	Likert Scale (1 to 5)	1
	2. Taxes can be used to support national development.	2. Taxpayers are aware that state development can proceed because of taxes.		2
	3. Delaying tax payments can harm the state.	3. Taxpayers are aware that delaying tax payments can harm the state.		3
	4. Paying taxes that are less than the amount that should be paid is very detrimental to the country.	4. Taxpayers are aware that violations will result in tax penalties.		4
		5. Taxpayers are aware that not paying the correct amount is very harmful to the state.		5

Dependent Variable (Y) Taxpayer Compliance Source: (Directorate General of Taxes, 2000)	1. Timely submission of tax returns.	1. Taxpayers must submit their tax returns on time.	Likert Scale (1 to 5)	1
	2. No outstanding tax liabilities.	2. Taxpayers must not have any outstanding tax liabilities.		2
	3. No criminal convictions.	3. Taxpayers must not have been subject to any penalties.		3
	4. Maintenance of adequate accounting records that have been audited.	4. The amount of tax payable must be accurate.		4
	5. Financial statements for the last two years audited with an unqualified opinion or a qualified opinion that does not affect fiscal profit or loss.	5. Taxpayers must have had their financial statements audited for the past two years with an unqualified opinion or a qualified opinion that does not affect fiscal profit or loss.		5

Table 3.1 Research Instrument Grid

3.3. Data Extraction and Analysis

The types of data used are primary data obtained directly from respondents through questionnaires and secondary data from KPP Pratama Karawang documentation regarding annual tax compliance rates. Data collection techniques were carried out through observation, limited interviews, and distribution of questionnaires to registered taxpayers.

Data analysis was carried out in three main stages. First, descriptive analysis to describe the conditions of each research variable. Second, verifiable analysis using multiple linear regression analysis to test the partial and simultaneous effects between variables. Third, hypothesis testing was carried out using t-tests and F-tests with a significance level of 0.05. The test results showed that the calculated F value of 21.393 was greater than the F table (2.70) with a significance value of $0.000 < 0.05$, which means that tax sanctions, tax knowledge, and tax awareness simultaneously have a significant effect on taxpayer compliance. The coefficient of determination (R^2) value of 0.382 shows that the three independent variables explain 38.2% of the variation in taxpayer compliance, while the remaining 61.8% is influenced by other factors outside this research model.

This entire method was designed to ensure that the research could answer the hypothesis in a valid, reliable, and empirical manner. The quantitative-verificative approach used was proven to be in line with the research objectives, namely to objectively measure the influence of sanctions, knowledge, and tax awareness on the level of taxpayer compliance among individuals at the Karawang Tax Office.

4. Result

4.1. Overview of Research Respondents

In this study, the author collected data using a questionnaire, which was given to 100 individual taxpayers registered at the Karawang Tax Office based on quota sampling techniques. 79 The respondents in this study had various characteristics such as gender, age, education, and occupation. The questionnaire was distributed by sharing a link using Google Forms. The characteristics of the research respondents are as follows:

Table 4.1 Respondent Characteristics Statistical Data

Respondent Identity	Category	Number	Percentage
Gender	Male	56	56%
	Female	44	44%
	Total	100	100%
Age	Under 20 years old	4	4%
	21 - 30 years old	33	33%
	31 - 40 years old	41	41%
	Over 40 years old	22	22%
	Total	109	100%
Educational Background	SMA/SMK	41	41%
	D3	26	26%
	S1	29	29%
	S2	3	3%
	S3	1	1%
	Total	100	100%

Source: Questionnaire Distribution Results (Author, 2025)

Based on Table 2 of the study, the majority of respondents were male at 56%, while females accounted for 44%. In terms of age, most respondents were aged 31–40 years, totaling 41 people (40.4%), followed by the 21–30 age group with 33 people, over 40 years old with 22 people, and under 20 years old with 4 people. In terms of education level, respondents were dominated by high school/vocational school graduates at 41%, followed by bachelor's degree holders at 29%, diploma holders at 26%, master's degree holders at 3%, and only 1% with doctoral degrees.

4.2. Research Instrument Test Results

4.2.1. Validity Test Results

Based on the validity test results using Pearson's Product Moment Correlation method, it is known that all items in each variable have a calculated r value greater than the table r (0.197) and significance (Sig.) < 0.05 , so all items are declared valid.

For the Tax Sanctions variable (X1), the calculated r values ranged from 0.870 to 0.927, all of which were greater than the table r value of 0.197 with a Sig. value of 0.000, so all statement items were declared valid. For the Tax Knowledge variable (X2), the test results show a calculated r value between 0.892 and 0.929 with a Sig. of 0.000, so that each statement item is also valid. Meanwhile, the Tax Awareness variable (X3) had a calculated r value between 0.814 and 0.888 and a Sig. of 0.000, indicating that all items were valid. Finally, for the Taxpayer Compliance variable (Y), the calculated r value ranged from 0.829 to 0.887 with a significance level of 0.000, indicating that all statement items also met the validity criteria.

Thus, it can be concluded that all questionnaire instruments in this study, which include the variables of Tax Sanctions, Tax Knowledge, Tax Awareness, and Tax Compliance, have an excellent level of validity and are suitable for use in the next stage of analysis.

4.2.2. Reliability Test Result

Based on the reliability test results conducted using Cronbach's Alpha method, all research variables showed α values > 0.60 , thus proving to be reliable. The Tax Sanctions variable (X1)

had a Cronbach's Alpha value of 0.933, Tax Knowledge (X2) of 0.952, Tax Awareness (X3) of 0.908, and Taxpayer Compliance (Y) of 0.896. These values indicate that all items in the research instrument have high internal consistency and can be trusted for use in data collection. Thus, all research instruments are declared reliable and suitable for further analysis.

4.2.3. Classical Assumption Test Results

In this study, hypothesis testing was conducted using a multiple linear regression analysis model. Several classical assumptions, such as normality and trial tests, were used appropriately, and this model produced more accurate calculations. The heteroscedasticity and multicollinearity tests were satisfied (Ghozali, 2021).

4.2.4. Normality Test Results

According to (Ghozali, 2021), the purpose of the normality test is to determine whether the data is normally distributed or not. Based on the results of the normality test using the Kolmogorov-Smirnov method, a significance value of 0.200 was obtained, which is greater than the limit of 0.05. These results indicate that the data in the study is normally distributed, so it can be used for further statistical analysis.

4.2.5. Multicollinearity Test Results

The multicollinearity test results show that all independent variables have a Tolerance value greater than 0.10 and a VIF value less than 10, namely Tax Sanctions (Tolerance 0.756; VIF 1.322), Tax Knowledge (Tolerance 0.745; VIF 1.342), and Tax Awareness (Tolerance 0.645; VIF 1.551). Thus, it can be concluded that the regression model in this study does not exhibit multicollinearity between independent variables, so the data is suitable for further regression analysis.

4.2.6. Heteroscedasticity Test Results

The heteroscedasticity test results show that all independent variables have significance values greater than 0.05, namely Tax Sanctions (0.966), Tax Knowledge (0.610), and Tax Awareness (0.694). This indicates that the regression model does not exhibit heteroscedasticity, so the research data is deemed suitable for use in further regression analysis.

4.3. Descriptive Statistical Analysis Results

4.3.1. Tax Sanctions (X1)

Based on the results of descriptive statistical analysis, the Tax Sanctions variable has an average value of 4.07 with a standard deviation of 0.596. This value indicates that, in general, respondents give high ratings to the application of applicable tax sanctions. This indicates that tax sanctions are considered effective in encouraging taxpayers to comply and avoid violating tax regulations. In addition, the relatively small standard deviation value indicates consistency in respondents' perceptions of statements regarding tax sanctions.

4.3.2. Tax Knowledge (X2)

The results of descriptive analysis show that the Tax Knowledge variable has an average value of 4.15 and a standard deviation of 0.581. The high mean value indicates that most respondents have a good understanding of tax provisions, rates, and benefits. This indicates that taxpayers' knowledge of tax regulations is adequate, thereby supporting compliance in the fulfillment of their tax obligations. The low standard deviation value also indicates that respondents' answers are relatively uniform and stable.

4.3.3. Tax Awareness (X3)

The Tax Awareness variable has an average value of 4.09 with a standard deviation of 0.585, which means that the level of taxpayer awareness is relatively high. Respondents generally recognize the importance of the role of taxes in national development and feel a moral responsibility to pay taxes on time. These results indicate that tax awareness is well established among individual taxpayers. The small data spread indicates that respondents' perceptions of tax awareness indicators are relatively consistent.

4.3.4. Taxpayer Compliance (Y)

Based on the descriptive results, the Taxpayer Compliance variable has an average value of 4.17 with a standard deviation of 0.544. The highest average value among the other variables indicates that most respondents have a good level of compliance in fulfilling their tax obligations. This reflects the positive behavior of taxpayers in calculating, paying, and reporting taxes in accordance with applicable regulations. The small standard deviation value also shows that respondents' answers tend to be homogeneous and stable in response to the statements presented.

4.4. Hypothesis Test Results

4.4.1. Partial Hypothesis Test Results (*t*-test)

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.250	1.461		3.594	.001
Sanksi Perpajakan	.273	.084	.294	3.238	.002
Pengetahuan Perpajakan	.393	.086	.419	4.579	.000
Kesadaran Perpajakan	.171	.096	.073	2.742	.005

a. Dependent Variable: Kepatuhan Wajib Pajak

The partial test results show that Tax Sanctions have a *t*-value of 3.238, which is greater than the *t*-table value of 1.984, and a significance value of 0.002, which is less than 0.05. Thus, H1 is accepted and H0 is rejected, which means that Tax Sanctions have a partial and significant effect on the Tax Compliance of Individual Taxpayers at the Karawang Primary Tax Office. This shows that the application of strict sanctions can increase taxpayer compliance in fulfilling their tax obligations.

Furthermore, the test results for Tax Knowledge show a *t*-value of 4.579, which is greater than the *t*-table value of 1.984, with a significance value of 0.000, which is less than 0.05. This result indicates that H2 is accepted and H0 is rejected, so it can be concluded that Tax Knowledge has a partial and significant effect on Individual Taxpayer Compliance. This means that the higher the level of taxpayers' understanding and knowledge of tax regulations and benefits, the greater their tendency to comply with their tax obligations.

Meanwhile, the partial test results for Tax Awareness show a *t*-value of 2.742, which is greater than the *t*-table value of 1.984, with a significance value of 0.005, which is less than 0.05. Based on these results, H3 is accepted and H0 is rejected, so it can be concluded that Tax Awareness has a partial and significant effect on Individual Taxpayer Compliance. This finding indicates that the higher the level of individual awareness of the importance of taxes for national development, the greater their compliance in fulfilling their tax obligations.

4.4.2. Simultaneous Hypothesis Test Results (*F*-test)

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	610.607	3	203.536	21.393	.000 ^b
	Residual	913.338	96	9.514		
	Total	1523.945	99			

a. Dependent Variable: Kepatuhan Wajib Pajak

b. Predictors: (Constant), Kesadaran Perpajakan, Sanksi Perpajakan, Pengetahuan Perpajakan

The *F* test is used to determine whether the independent variables jointly or simultaneously affect the dependent variable. This test is conducted at a significance level of $\alpha = 0.05$ with a numerator degree of freedom (*df*) of $k = 3$, which is the number of independent variables

consisting of Tax Sanctions, Tax Knowledge, and Tax Awareness. Meanwhile, the denominator degree of freedom is calculated based on the number of research data minus the number of independent variables and two, namely $n - k - 2 = 100 - 3 - 2 = 95$, resulting in a table F value of 2.70.

Based on the results of the simultaneous test, the calculated F value is 21.393, which is greater than the F table value of 2.70, and the significance value is 0.000, which is less than 0.05. These results indicate that H4 is accepted and H0 is rejected, which means that the variables of Tax Sanctions, Tax Knowledge, and Tax Awareness simultaneously and significantly affect the Tax Compliance of Individual Taxpayers registered at the Karawang Primary Tax Office. Thus, it can be concluded that these three independent variables together play an important role in increasing taxpayer compliance.

4.5. Verificative Analysis Results

4.5.1. Determination Coefficient Analysis Results

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.633 ^a	.401	.382	3.084467

a. Predictors: (Constant), Kesadaran Perpajakan, Sanksi Perpajakan, Pengetahuan Perpajakan

b. Dependent Variable: Kepatuhan Wajib Pajak

Based on the results of the Determination Coefficient test above, an Adjusted R Square value of 0.382 was obtained, which means that the variables of Tax Sanctions, Tax Knowledge, and Tax Awareness together contribute 38.2% to the Tax Compliance of Individual Taxpayers registered at the Karawang Primary Tax Office. Meanwhile, the remaining 61.8% is explained by other factors outside this research model. These results indicate that the three independent variables have a fairly strong influence in explaining the variation in taxpayer compliance levels.

4.5.2. Multiple Regression Analysis Results

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.250	1.461		3.594	.001
	Sanksi Perpajakan	.273	.084	.294	3.238	.002
	Pengetahuan Perpajakan	.393	.086	.419	4.579	.000
	Kesadaran Perpajakan	.171	.096	.073	2.742	.005

a. Dependent Variable: Kepatuhan Wajib Pajak

Based on the results of the multiple linear regression model test, the regression equation $Y = 5.250 + 0.273X_1 + 0.393X_2 + 0.171X_3 + e$ was obtained, where X_1 is Tax Sanctions, X_2 is Tax Knowledge, and X_3 is Tax Awareness. The regression coefficient values show that every one-unit increase in Tax Sanctions will increase Taxpayer Compliance by 0.273, every one-unit increase in Tax Knowledge will increase Taxpayer Compliance by 0.393, and every one-unit increase in Tax Awareness will increase Taxpayer Compliance by 0.171. These results indicate that the three independent variables have a positive effect on Taxpayer Compliance among individuals registered with the Karawang Primary Tax Office, with Tax Knowledge having the most dominant influence compared to the other variables.

5. Discussion

The discussion based on the findings in this study examines the results of statistical analysis and empirical interpretation of the relationship between the research variables. The data processing results show that tax sanctions, tax knowledge, and tax awareness have a positive and significant effect on taxpayer compliance, both partially and simultaneously. Based on the results of the multiple linear regression test, the following equation was obtained: $Y = 5.250 + 0.273X_1 + 0.393X_2 + 0.171X_3$, which shows that a one-unit increase in tax sanctions (X_1), tax knowledge (X_2), and tax awareness (X_3) will proportionally increase taxpayer compliance (Y). The calculated F value of $21.393 > F \text{ table } (2.70)$ with a significance of $0.000 < 0.05$ proves that the three variables together have a significant effect on taxpayer compliance, with a contribution of 38.2%, while the remaining 61.8% is explained by other factors outside the study

Descriptively, tax sanctions at the Karawang Tax Office are considered good with an average score of 3.46, although there is a perception that the removal of sanctions does not always increase tax compliance. This indicates the importance of implementing strict and consistent sanctions to foster a deterrent effect and increase compliance (Permata & Rahmi, 2024). Tax knowledge is also considered good with an average score of 3.84, and has been proven to have a significant positive effect on taxpayer compliance with a t-value of $4.579 > 1.982$ and a significance of $0.000 < 0.05$. This finding is in line with the research by Azura et al. (2022) and Zaikin et al. (2022), which shows that the higher the level of tax knowledge, the higher the taxpayer compliance.

Meanwhile, tax awareness has an average value of 3.60 and also has a positive and significant effect on taxpayer compliance with a t-value of $2.742 > 1.982$ and a significance of $0.005 < 0.05$. This finding reinforces the results of Supriatiningsih & Jamil (2021), which confirms that increasing taxpayer awareness will encourage compliant behavior. Low public awareness of the role of taxes in development is often the main cause of low compliance rates. Therefore, efforts to improve tax literacy and awareness are an important aspect of fiscal policy.

Simultaneous analysis shows that the three variables collectively have a positive and significant effect on taxpayer compliance at the Karawang Tax Office. These results are in line with the research by Azura et al. (2022), which found that a combination of tax penalties, awareness, and taxpayer knowledge contributes to increased compliance in various regions.

Thus, the discussion of the results of this study confirms that tax compliance behavior is the result of a balance between law enforcement (sanctions) and an educational approach (knowledge and awareness). An optimal strategy that combines these two approaches can strengthen voluntary taxpayer compliance and support increased state revenue. These findings provide an empirical basis for the Karawang Tax Office and the Directorate General of Taxes to strengthen policies on socialization, education, and the application of fair and sustainable sanctions.

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PENGARUH PENGUNGKAPAN SUSTAINABILITY REPORT, KEPEMILIKAN INSTITUSIONAL TERHADAP MANAJEMEN LABA DENGAN KOMITE AUDIT SEBAGAI VARIABEL MODERASI (PADA PERUSAHAAN PERTAMBANGAN DI BEI)

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Abstract

This study aims to analyze the influence of sustainability report disclosure and institutional ownership on earnings management practices, with the audit committee as a moderating variable. Earnings management is measured using discretionary accruals (the Jones model). The population in this study were companies listed on the Indonesia Stock Exchange (IDX) during the observation period. The sample was selected using a purposive sampling method. Keywords: audit committee, earnings management, institutional ownership, sustainability report

1. Pendahuluan

Manajemen laba (earnings management) merupakan suatu praktik dimana manajemen perusahaan secara sengaja memanipulasi informasi dengan memengaruhi angka- angka dalam laporan keuangan. Laba menjadi indikator kunci bagi investor dalam mengambil keputusan investasi, sehingga perusahaan berupaya mempertahankannya untuk memberikan sinyal positif. Namun, praktik manajemen laba yakni manipulasi laporan keuangan oleh manajemen untuk mencapai target tertentu dapat mengurangi kredibilitas dan transparansi laporan, berpotensi menyesatkan pemangku kepentingan. Sustainability report dan kepemilikan institusional merupakan dua faktor yang diduga mempengaruhi praktik ini, meskipun hasil penelitian mengenai pengaruhnya masih tidak konsisten. Di satu sisi, sustainability report ditemukan berpengaruh negatif terhadap manajemen laba (Sari dkk., 2019), namun penelitian lain menyatakan tidak ada pengaruh (Renaldi dkk., 2023). Sementara itu, kepemilikan institusional juga menunjukkan hasil yang beragam, dengan temuan positif (Perdana, 2019), negatif (Immanuel dkk., 2022), maupun tidak berpengaruh (Maria dkk., 2022). Dalam konteks ini, komite audit hadir sebagai variabel moderasi yang diduga dapat memperkuat atau melemahkan hubungan antara sustainability report dan kepemilikan institusional terhadap manajemen laba, dimana efektivitas pengawasan komite audit menjadi faktor penentu dalam menekan praktik manajemen laba.

2. Hipotesis

2.1. Pengaruh Pengungkapan Sustainability Reporting terhadap Manajemen Laba

Pengungkapan Sustainability Reporting menjadi aspek penting dalam menunjukkan komitmen perusahaan terhadap tanggung jawab sosial dan lingkungan. Dengan meningkatkan transparansi, laporan keberlanjutan ini memuat informasi yang mencakup kinerja ekonomi, sosial, dan lingkungan perusahaan, sehingga memberikan gambaran lebih utuh kepada para stakeholder tentang aktivitas dan dampak perusahaan. Transparansi ini diharapkan dapat mengurangi asimetri informasi yang dapat terjadi antara manajer dan pemegang saham atau investor. Penelitian oleh (Puspita Sari & Cahyo Utomo 2019) menunjukkan bahwa pengungkapan Sustainability Report yang dilakukan secara transparan memiliki pengaruh negatif terhadap manajemen laba, sehingga dapat membatasi praktik manipulasi laba karena informasi keuangan dan non- keuangan perusahaan lebih mudah diakses.

Berdasarkan uraian tersebut, maka dapat disimpulkan hipotesis sebagai berikut.

H1: Pengungkapan Sustainability Reporting berpengaruh negatif terhadap Manajemen Laba

2.2. Pengaruh Kepemilikan Institusional terhadap Manajemen Laba

Kepemilikan institusional yakni shareholder yang bukan atas nama pribadi, contohnya pemerintah, institusi keuangan ataupun institusi lainnya. Naiknya nilai kepemilikan institusional sebuah perusahaan bisa menurunkan tindakan manajemen labanya. Para pemegang institusional dianggap bahwa lebih profesional di dalam pengendalian portofolio investasinya sehingga disini memperkecil dampak bahwa informasi akan menyimpang dari yang aslinya. Penelitian oleh Immanuel, (Guilbert & Hasnawati 2022), hasil menunjukkan kepemilikan institusional berpengaruh negative terhadap manajemen laba karena kepemilikan institusional, diduga mempunyai kompetensi di dalam memantau aktivitas manajemen yang lebih efektif dari pada investor perorangan.

Berdasarkan uraian tersebut, maka dapat disimpulkan hipotesis sebagai berikut.

H2: Kepemilikan Institusional berpengaruh negatif terhadap Manajemen Laba

2.3. Pengaruh Komite Audit memoderasi Pengungkapan Sustainability Reporting Terhadap Manajemen Laba

Komite audit memegang peran kritis dalam memastikan integritas laporan keuangan, termasuk dalam konteks Sustainability Reporting dimana kehadirannya dapat meningkatkan efektivitas pengungkapan sustainability dalam menekan praktik manajemen laba. Komite audit yang independen dan aktif mampu memperkuat pengaruh negatif Sustainability Report terhadap manajemen laba, dimana laporan keberlanjutan yang transparan dengan pengawasan yang ketat dapat mengurangi kecenderungan manajer untuk memanipulasi laba. Lebih lanjut, komite audit bertanggung jawab melakukan pengawasan terhadap penyusunan laporan keberlanjutan oleh manajemen, termasuk memverifikasi kepatuhan terhadap standar pelaporan yang berlaku, sehingga turut menjaga kualitas informasi bagi stakeholder dan meningkatkan kredibilitas perusahaan. Pada akhirnya, komite audit dengan tingkat independensi yang tinggi mampu menjalankan fungsi pengawasan secara lebih optimal, yang berkontribusi signifikan terhadap peningkatan integritas perusahaan secara keseluruhan.

Berdasarkan uraian tersebut, maka dapat disimpulkan hipotesis sebagai berikut.

H3: Komite Audit dapat memoderasikan Pengaruh Hubungan Pengungkapan Sustainability Reporting Terhadap Manajemen Laba

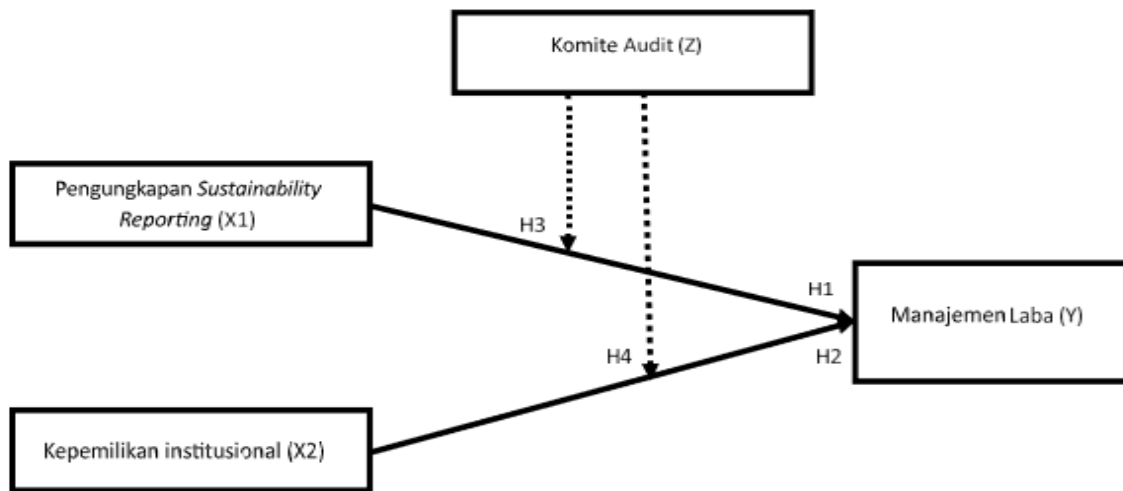
2.4. Pengaruh Komite Audit memoderasi Kepemilikan Publik Terhadap Manajemen Laba

Komite audit juga berperan sebagai variabel pemoderasi dalam hubungan antara kepemilikan institusional dan manajemen laba. Kepemilikan institusional yang tinggi pada dasarnya dapat berfungsi sebagai mekanisme pengawasan eksternal yang membatasi praktik manajemen laba. Namun, efektivitas pengawasan ini sangat tergantung pada kualitas pengawasan internal, dimana komite audit yang independen dan kompeten mampu memperkuat pengaruh negatif kepemilikan institusional terhadap manajemen laba. Dengan kata lain, keberadaan komite audit yang efektif dapat memaksimalkan peran monitoring yang dilakukan oleh pemegang saham institusional, menciptakan sinergi antara pengawasan internal dan eksternal yang pada akhirnya lebih signifikan dalam menekan praktik manajemen laba dibandingkan jika kedua mekanisme governance tersebut bekerja secara terpisah.

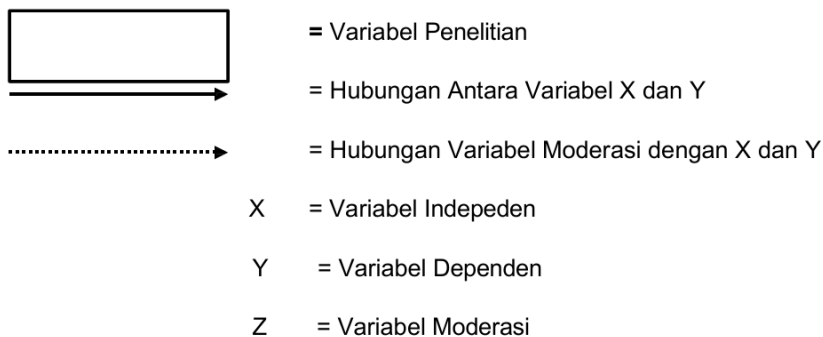
Berdasarkan uraian tersebut, maka dapat disimpulkan hipotesis sebagai berikut.

H4: Komite Audit dapat memoderasikan Pengaruh Hubungan Kepemilikan Institusional Terhadap Manajemen Laba

3. Kerangka Analisis



Keterangan Gambar



4. Metodologi

4.1. Sampel dan Pengumpulan Data

Metode penarikan sampel dalam penelitian ini adalah purposive sampling, suatu teknik yang membatasi sampel hanya pada unsur-unsur yang secara spesifik memiliki informasi yang dibutuhkan atau memenuhi kriteria penelitian. Kriteria-kriteria tersebut ditetapkan sebagai berikut:

1. Perusahaan sektor pertambangan yang terdaftar di Bursa Efek Indonesia periode 2021-2024.
2. Perusahaan yang mempublikasikan laporan keuangan tahunan berturut-turut selama periode 2021-2024 yang berisi data serta informasi yang lengkap.
3. Perusahaan yang mempublikasikan Sustainability Reporting berturut-turut selama periode 2021-2024.
4. Perusahaan yang mempublikasikan data mengenai Kepemilikan Institusional berturut-turut selama periode 2021-2024.
5. Perusahaan harus memiliki laba positif berturut-turut selama periode 2021- 2024.
6. Perusahaan harus memiliki komite audit yang aktif.

Metode pengumpulan data dilakukan melalui teknik dokumentasi laporan keuangan serta data-data lain yang relevan dan diperlukan dalam penelitian, yang dimiliki oleh masing-masing perusahaan. Semua data diambil dari laporan tahunan yang diterbitkan oleh perusahaan selama periode 2021–2024 dan dapat diakses melalui situs resmi www.idx.co.id.

4.2. Pengukuran Manajemen Laba

- a. Menentukan skor total accruals

$$TAC_{i,t} = NI_{i,t} - CFO_{i,t}$$

- b. Menentukan skor accruals dengan persamaan regresi OLS

$$\frac{TAC_{i,t}}{A_{i,t-1}} = \beta_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta REV_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right)$$

- c. Menentukan skor non discretionary accrual (NDA)

$$NDA_{i,t} = \beta_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right)$$

- d. Menghitung nilai DA (discretionary accruals) yang menjadi ukuran manajemen laba menggunakan rumus

$$DA_{i,t} = \left(\frac{TAC_{i,t}}{A_{i,t-1}} \right) - NDA_{i,t}$$

Keterangan:

$DA_{i,t}$	= Discretionary accruals perusahaan i pada tahun t
$NDA_{i,t}$	= Nondiscretionary accruals perusahaan i pada tahun t
$\beta_1, \beta_2, \beta_3$	= Koefisien regresi
$TAC_{i,t}$	= Total accruals perusahaan i pada tahun t
$NI_{i,t}$	= Laba bersih perusahaan i pada tahun t
$CFO_{i,t}$	= Arus kas aktivitas operasi perusahaan i pada tahun t
$A_{i,t-1}$	= Total asset untuk perusahaan i pada periode t-1
$\Delta REV_{i,t}$	= Perubahan pendapatan perusahaan tahun t-1 ke tahun t
$\Delta REC_{i,t}$	= Perubahan piutang perusahaan tahun t-1 ke tahun t
$PPE_{i,t}$	= Aset tetap perusahaan i pada tahun t

4.3. Sustainability Report

$$SRDI = \frac{\sum_{i=1}^n}{K}$$

SRDI : Sustainability Report Disclosure Index

n : Total item yang diungkapkan

k : Total keseluruhan item yang di syaratkan.

4.4. Kepemilikan Institusional

$$KI = \frac{\text{Total Saham Yang Dimiliki Institusi}}{\text{Total Saham Beredar}} \times 100\%$$

KI : Kepemilikan Institusional

4.5. Komite Audit

$$KA = \sum \text{Anggota Komite Audit di Perusahaan}$$

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THE EFFECT OF PROMOTION, PRICE PERCEPTION, CUSTOMER EXPERIENCE ON REPURCHASE INTENTION THROUGH BRAND TRUST AS A VARIABLE INTERVENING AT FORE COFFEE IN SOUTH JAKARTA

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Abstract

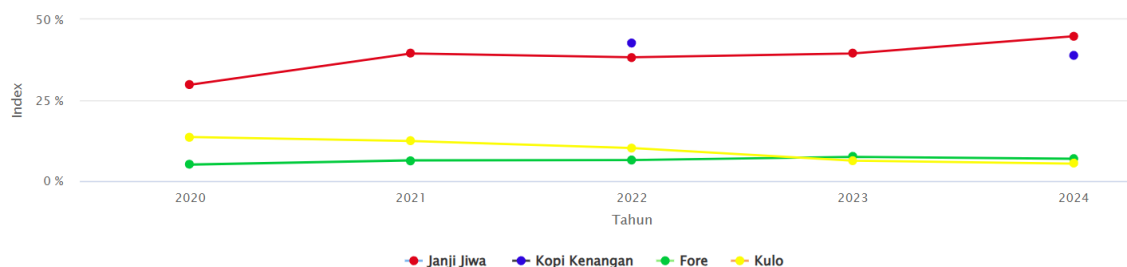
This study aims to analyze the influence of promotion, price perception, and customer experience on repurchase intention, with brand trust as a mediating variable at Fore Coffee in South Jakarta. The research method used is quantitative with a survey approach, where data was collected through questionnaires distributed to Fore Coffee customers. Data analysis was conducted using the Structural Equation Modelling (SEM) method with SmartPLS software.

The results indicate that promotion and price perception have a positive and significant influence on repurchase intention, both directly and through brand trust as a mediator. Brand trust is proven to mediate the influence of promotion and price perception on repurchase intention. However, brand trust does not mediate the influence of customer experience on repurchase intention. These findings provide implications for Fore Coffee to further enhance its promotional strategies and strengthen competitive price perceptions to increase brand trust and repurchase intention.

Keywords: Promotion, Price Perception, Customer Experience, Brand Trust, Repurchase intention, Fore Coffee, South Jakarta.

1. Introduction

In Indonesia's rapidly growing coffee industry, competition among coffee brands has intensified, making effective marketing strategies crucial for sustaining customer loyalty. Repurchase intention serves as a key indicator of business success, as it reflects customers' willingness to continue purchasing after prior positive experiences. Previous studies indicate that promotion, price perception, and customer experience significantly affect repurchase intention. However, research findings on these variables remain inconsistent some show positive relationships, while others report insignificant effects. These contradictions create a research gap that calls for a deeper understanding of the factors influencing customer repurchase behavior.



Data from The Brand Index (2020–2024) show that Fore Coffee's performance fluctuated, with slower growth compared to its competitors, indicating unstable repurchase behavior. This phenomenon suggests that while promotional activities and pricing strategies are implemented, they may not consistently foster customer trust and loyalty. Brand trust emerges as a crucial mediating factor capable of explaining how promotional efforts, price perceptions, and

customer experiences collectively shape repurchase intention.

The novelty of this research lies in integrating brand trust as a mediating variable to address inconsistencies found in earlier studies. By doing so, this study contributes to the theoretical understanding of consumer behavior and offers practical insights for improving marketing effectiveness in the coffee retail sector. The objective of this research is to empirically analyze the effect of promotion, price perception, and customer experience on repurchase intention through brand trust as a mediating variable at Fore Coffee in South Jakarta. Ultimately, this study aims to develop a model that strengthens brand trust as a driver of customer retention and business sustainability.

2. Theory and Hypotheses Development

2.1. Theoretical Background

Marketing management theory frames this study by emphasizing the design and coordination of marketing activities to create customer value and sustain competitive advantage (marketing mix: product, price, place, promotion; extended 7P). Consumer behaviour theories, notably Maslow's hierarchy of needs, inform how motives and needs shape purchase decisions. Theory of Planned Behaviour (TPB) is used to explain repurchase intention: TPB states that behavioral intention (here, repurchase intention) is influenced by attitude toward the behavior, subjective norms, and perceived behavioral control (Ajzen, 1991). In the marketing context, promotion, price perception, and customer experience shape attitudes and perceived control, while social influence contributes to subjective norms, jointly affecting repurchase intention. The role of brand trust is theorized as a mediator that translates promotional activities, perceived price fairness, and customer experience into stronger intentions to repurchase.

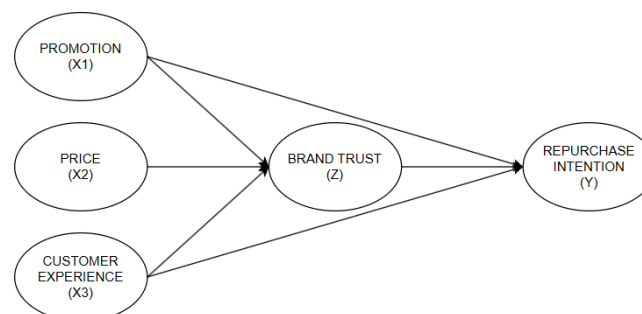
2.2. State of Art

Prior empirical studies show mixed results regarding the effects of promotion, price perception, and customer experience on repurchase intention and on brand trust:

- Promotion → Repurchase Intention: some studies report a positive significant effect (Pudjoprastyono, 2023), while others find no significant effect (Prihatma et al., 2024).
- Price Perception → Repurchase Intention: several studies report a positive significant effect (Setiobudi, 2022; Pratama, 2017), but some report no significant effect (Safitri, 2023).
- Customer Experience → Repurchase Intention: evidence is mixed — positive effects appear in some contexts (Sumartik, 2024; Dina et al., 2023), whereas other studies find non-significant results (Pranatika, 2022).
- Brand Trust → Repurchase Intention: multiple investigations indicate a positive and significant influence (Indira, 2023; Ghifari, 2022; Heryanto, 2020).

When citing multiple papers, arrange them alphabetically (e.g., Cortina, 2008; Loi et al., 2013; Miner & Eischeid, 2012; Welbourne et al., 2015). The inconsistent empirical results create a gap that motivates testing brand trust as a mediating variable linking promotion, price perception, and customer experience to repurchase intention.

2.3. Theoretical model framework



The conceptual model posits three exogenous constructs: Promotion (X1), Price Perception (X2), Customer Experience (X3) affecting Repurchase Intention (Y) directly and indirectly through Brand Trust (Z) as a mediating variable. This model is grounded in TPB (intentions formed by attitudes and social influences) and marketing management theory (marketing mix influences perceived value and trust). Key measurement ideas:

- Promotion (X1): measured via advertising, sales promotion, public relations (Kotler & Armstrong framework).
- Price (X2): measured via price quality fit, affordability, comparison to competitors, and discount perception.
- Customer Experience (X3): measured across cognitive, emotional, physical, sensory, and social dimensions (Keiningham et al.).
- Brand Trust (Z): measured as perceived reliability, safety, and honesty of the brand.
- Repurchase Intention (Y): measured by transactional, referential, preferential, and explorative intention indicators (Hasan, 2018)

Guided by the underlying conceptual framework, the study proposes ten hypotheses (H1–H10). Each hypothesis is briefly elaborated upon, with supporting justification grounded in existing theoretical and empirical literature.

H1: Promotion (X1) has a positive and significant effect on Repurchase Intention (Y). Based on fundamental theory, effective promotion can encourage customers to consider repurchasing by increasing brand awareness and perceived value. According to previous research, Denniswara (2016) found that effective promotional activities are able to attract consumer attention and increase their interest in making repeat purchases. In his study, promotion was considered more significant compared to price and product quality factors.

H2: Price Perception (X2) has a positive and significant effect on Repurchase Intention (Y). The better customers perceive the price offered, the higher the likelihood that they will repurchase. Price perception differs from the actual price; it is a subjective evaluation influenced by several factors, such as past experience, social comparison, and psychological influences. Previous research indicates that price perception has a positive and significant effect on repurchase intention (Pratama, 2017).

H3: Customer Experience (X3) has a positive and significant effect on Repurchase Intention (Y).

A good customer experience creates a positive impression of a brand, which ultimately encourages repeat purchase decisions. Factors such as service quality, store atmosphere, and transaction convenience play important roles in shaping positive customer experience. Prior research also shows that customer experience has a positive and significant effect on repurchase intention (Putra, 2024).

H4: Promotion (X1) has a positive and significant effect on Brand Trust (Z). Effective promotion can enhance customer trust in a brand, as proper communication can build positive brand perceptions. However, the effectiveness of promotion in building brand trust also depends on how the message is delivered and received by consumers. Previous findings show a positive and significant relationship between promotion and brand trust (Hardiyanti, 2023).

H5: Price Perception (X2) has a positive and significant effect on Brand Trust (Z). When customers feel that the price offered is aligned with the quality of the product and service, their trust in the brand tends to increase. A favorable price perception indicates that consumers view the price as fair and reasonable, thereby strengthening their attachment to the brand. Prior studies also demonstrate that price perception significantly influences brand trust (Eprilliana, 2015).

H6: Customer Experience (X3) has a positive and significant effect on Brand Trust (Z). The better customers' experience with a product or service, the greater their trust in the brand. Factors such as staff friendliness, service quality, and satisfaction during product usage contribute to the formation of brand trust. Previous research shows that customer experience has a positive and significant effect on brand trust (Yasa, 2024).

H7: Brand Trust (Z) has a positive and significant effect on Repurchase Intention (Y). Brand trust is one of the key factors that motivates consumers to continue purchasing products from the same brand. When customers have high trust in a brand, they tend to be more loyal and are more likely to repurchase. Prior studies indicate that brand trust has a positive and significant effect on repurchase intention (Indira, 2023).

H8: Brand Trust (Z) mediates the effect of Promotion (X1) on Repurchase Intention (Y). In a study conducted by Hudatama (2023), the effect of promotion on brand trust was found to have a strong correlation. According to Kotler and Armstrong in Devi (2019), promotion is defined as an activity used to communicate product advantages and influence consumers to purchase. Santoso in Ana et al. (2021) also states that promotion is a marketing activity intended to maximize sales levels by influencing buyers either directly or indirectly.

H9: Brand Trust (Z) mediates the effect of Price Perception (X2) on Repurchase Intention (Y). Consumers' perception of product pricing not only directly affects repurchase intention, but also indirectly through the establishment of brand trust. Previous research shows that brand trust can mediate the effect of price perception on repurchase intention (Syafitri, 2024).

H10: Brand Trust (Z) mediates the effect of Customer Experience (X3) on Repurchase Intention (Y).

Positive experiences felt by consumers when interacting with products, services, and throughout the shopping process not only directly influence their repurchase decision, but also build trust in the brand, which subsequently strengthens repurchase intention. Prior studies also indicate that brand trust can mediate the effect of customer experience on repurchase intention (Yasa, 2024).

3. Methodology

3.1. Sample and Data Collection

This study employs a quantitative research design to investigate the influence of promotion, price perception, and customer experience on repurchase intention, with brand trust as a mediating variable. The target population comprises Fore Coffee consumers in South Jakarta who have purchased Fore Coffee at least once.

A purposive sampling technique was used to ensure respondents met the research criteria:

- aged 18–45 years,
- made at least one Fore Coffee purchase in the last three months,
- active users of Fore Coffee's digital platforms, and
- residing in South Jakarta.

Data collection was carried out through a web-based self-administered questionnaire, distributed via Google Forms. The survey link was circulated through social media platforms and online consumer communities to reach the intended audience efficiently. A total of 112 valid questionnaires were collected, representing a 100% usable response rate, as all returned responses met the screening criteria and contained complete information.

3.2. Measurement

This study employed structured measurement scales to assess the latent constructs. All variables were measured using a five-point Likert scale ranging from 1 = *Strongly Disagree* to 5 = *Strongly Agree*. The indicators for each construct were adapted and modified from

previously validated scales to fit the Indonesian coffee retail context, specifically Fore Coffee consumers. Adopting and modifying existing scales ensures conceptual accuracy and maintains content validity while providing contextual relevance to this research setting.

3.2.1. Promotion

The measurement items for promotion were adapted and slightly modified from prior research in marketing communication and digital promotion studies. The indicators capture consumers' perceptions of promotional tools such as digital campaigns, discounts, loyalty rewards, and platform-based offers. Modifications were made to reflect Fore Coffee's marketing channels, including mobile app promotions and social media campaigns

3.2.2. Price Perception

Price perception was measured by adapting established scales used in pricing and consumer behavior research. The indicators assess perceived fairness of pricing, price-value ratio, transparency, and consistency. Several items were contextualized to align with Indonesia's coffee market trends and price comparisons among similar chain coffee brands.

3.2.3. Customer Experience

Customer experience was measured using items adopted and modified from scales commonly used in service quality and experiential marketing research. The items reflect both online and offline touchpoints, including product quality, store ambiance, digital ordering experience, and service interaction. Adaptation was conducted to ensure the indicators represent omnichannel service experiences relevant to Fore Coffee's business model.

3.2.4. Brand Trust

Brand trust items were adopted from prior brand loyalty and trust studies and modified to emphasize reliability, confidence, and perceived honesty of the Fore Coffee brand. The adjustments reflect consumers' trust in product quality, service consistency, and data security in the digital application environment.

3.2.5. Repurchase Intention

Repurchase intention was measured using items adopted from established consumer behavior models focusing on repeat purchase behavior. The indicators evaluate the likelihood of consumers purchasing Fore Coffee again, recommending the brand to others, and continuing to choose the brand over competitors. Minor wording adjustments were made to highlight purchase intention specific to Fore Coffee outlets and online ordering features.

3.3. Data analysis

This study employed Structural Equation Modeling using Partial Least Squares (SEM-PLS) to analyze the proposed research model. SEM-PLS was chosen due to its suitability for predictive research, its ability to handle complex relationships among latent variables, and its effectiveness with relatively small sample sizes. The method allows simultaneous evaluation of the measurement model and structural model, providing a comprehensive assessment of construct validity and hypothesis testing.

The analysis procedure consisted of two stages. First, the measurement model was assessed to evaluate indicator reliability, internal consistency, and convergent and discriminant validity. Second, the structural model was examined to test the effect of promotion, price perception, and customer experience on repurchase intention, as well as the mediating role of brand trust. SEM-PLS enables estimation of both direct and indirect effects, making it appropriate for testing mediation in behavioral research.

4. Results and discussion

This section reports the empirical findings derived from the data analysis. All results are

presented in alignment with the research objectives and the hypotheses formulated earlier. Descriptive statistics, measurement model evaluation, and hypothesis testing results are provided. The results are presented objectively without interpretation, which will be addressed in the subsequent discussion section. Statistical outputs are summarized in tables and figures to ensure clarity and avoid raw system generated displays

Table 1. Responder's Profile

Variable	Frequency	%
Gender		
Male	41	37%
Female	71	63%
Age		
20 – 30 years old	48	43%
31 - 40 years old	46	43%
Above 40 years old	16	14%
Under 20 years old	2	
Occupation		
Employee	72	64%
Housewife	12	11%
Student / University Student	10	9%
Others	6	5%
Unemployed	3	3%
Shopping Frequency in the Last 3 Months		
1 Time	31	28%
2 – 3 Times	46	41%
More than 3 Times	35	31%

(Source: Processed data, 2025)

The respondent profile shows that the majority of Fore Coffee customers in South Jakarta are women (63%), while men make up 37% of the total respondents. Most respondents are within the 20–40 age range (86%), consisting mainly of students, young workers, and professionals who consider coffee consumption part of their lifestyle and daily productivity. In terms of occupation, the largest group is employees (64%), followed by housewives (11%) and students (9%), indicating that Fore Coffee's main customer base comes from the working professional segment. Regarding purchase frequency, most customers reported buying coffee 2–3 times in the last three months (41%), with 31% purchasing more than three times, suggesting a strong pattern of repeat buying behavior. Overall, these findings highlight that Fore Coffee's key market segment consists of young, active professionals particularly women who have a consistent habit of repurchasing coffee products.

Table 2. Statistic descriptive construct

Variable	Mean	Std Deviation
Promotion	4,27	1,08
Price perception	4,31	0,96
Customer Experience	4,49	0,79
Brand Trust	4,64	0,74
Repurchase Intention	4,42	0,87

(Source: Processed data, 2025)

The descriptive analysis shows that all variables scored above the midpoint scale,

indicating generally positive respondent evaluations. Customer experience recorded the highest mean ($M = 4.01$, $SD = 0.79$), followed by brand trust ($M = 4.64$, $SD = 0.74$) and repurchase intention ($M = 4.42$, $SD = 0.87$). Meanwhile, promotion ($M = 3.82$, $SD = 1.05$) and price perception ($M = 3.85$, $SD = 0.96$) also demonstrated favorable responses. These findings suggest that respondents had good experiences, trusted the brand, and displayed a tendency toward repeat purchases

Table 3. Reliability and Validity of Constructs

Variable	Composite Reliability	Cronbach's Alpha	AVE
Promotion	0,733	0,501	0,482
Price perception	0,839	0,722	0,637
Customer Experience	0,862	0,802	0,557
Brand Trust	0,903	0,842	0,842
Repurchase Intention	0,842	0,749	0,644

(Source: Processed data, 2025)

Reliability and convergent validity met the recommended criteria, with composite reliability values ranging from 0.733 to 0.903 and AVE values between 0.482 and 0.842. Although the Cronbach's Alpha value for promotion was slightly lower (0.501), the construct remained acceptable due to a CR value above 0.70, as recommended for PLS-SEM. All AVE values exceeded the 0.50 threshold except for promotion, which remained close to the criterion but was retained to preserve theoretical relevance. Discriminant validity was established using the Fornell–Larcker criterion, where the square root of each AVE exceeded its correlations with other constructs. This indicates that each construct was empirically distinct.

Table 4. Hypothesis Testing - Direct Effects

Path	Coefficient (β)	p-value	Result
Promotion $\rightarrow$ Brand Trust	0.146	0.024	Significant
Promotion $\rightarrow$ Repurchase Intention	0.094	0.100	Not Significant
Price Perception $\rightarrow$ Brand Trust	0.060	0.206	Not Significant
Price Perception $\rightarrow$ Repurchase Intention	0.351	<0.001	Significant
Customer Experience $\rightarrow$ Brand Trust	0.687	<0.001	Significant
Customer Experience $\rightarrow$ Repurchase Intention	0.450	<0.001	Significant
Brand Trust $\rightarrow$ Repurchase Intention	0.147	0.024	Significant

(Source: Processed data, 2025)

The direct effect analysis revealed that promotion significantly influenced brand trust ($\beta = 0.146$, $p = 0.024$) but did not significantly affect repurchase intention ($\beta = 0.094$, $p = 0.100$). Price perception showed a significant direct effect on repurchase intention ($\beta = 0.351$, $p < 0.001$) but not on brand trust ($\beta = 0.060$, $p = 0.206$). Customer experience significantly affected both brand trust ($\beta = 0.687$, $p < 0.001$) and repurchase intention ($\beta = 0.450$, $p < 0.001$). Brand trust itself significantly influenced repurchase intention ($\beta = 0.147$, $p = 0.024$). These results indicate that customer experience plays the most influential role in shaping both brand trust and repeat purchasing tendencies.

Table 5. Mediation Testing - Indirect Effects

Mediation Path	Indirect Effect	p-value	Conclusion

Promotion → Brand Trust → Repurchase Intention	0.021	0.340	No Mediation
Price Perception → Brand Trust → Repurchase Intention	0.009	0.432	No Mediation
Customer Experience → Brand Trust → Repurchase Intention	0.101	0.027	Partial Mediation

(Source: Processed data, 2025)

Brand trust was tested as a mediating variable. The results showed that brand trust partially mediated the relationship between customer experience and repurchase intention (indirect effect = 0.101, $p = 0.027$). However, no significant mediation was found for promotion or price perception, as their indirect effects were not statistically significant ($p > 0.05$). These findings suggest that brand trust serves as a meaningful mechanism through which customer experience enhances repurchase intention, while promotion and price perception influence repurchase intention more directly.

The findings indicate that customer experience is the most influential determinant of both brand trust and repurchase intention in the coffee retail context. This emphasizes the importance of experiential value, aligning with the service-dominant logic which suggests that value is co-created through interactions between customers and the service environment (Vargo & Lusch, 2004). Positive experiences enhance emotional engagement and satisfaction, which subsequently foster continued patronage.

Brand trust was found to partially mediate the relationship between customer experience and repurchase intention, supporting prior research that identifies trust as a key driver of long-term consumer relationships (Morgan & Hunt, 1994). While strong customer experiences directly encourage repeat purchases, trust further reinforces customers' confidence in the brand, strengthening loyalty.

Price perception demonstrated a significant direct effect on repurchase intention, indicating that consumers consider value for money when deciding to repurchase. However, its lack of influence on brand trust suggests that price evaluation is perceived more as a transactional factor than a relational one. This aligns with behavioral pricing theory, which states that perceived value arises from a rational assessment of benefits relative to cost (Monroe, 2003). Promotion showed no significant effect on repurchase intention, though it contributed to brand trust. This supports findings that promotional incentives alone do not sustain loyalty unless supported by strong experiential and relational value (Sharp & Romaniuk, 2010). In premium beverage settings, consumers prioritize product quality, consistency, and service atmosphere over short-term deals or discounts.

Overall, the study highlights that experiential quality and trust formation serve as primary drivers of repeat purchasing, while pricing plays a supporting role and promotions have limited long-term impact.

5. Conclusion

This study examined the effects of promotion, price perception, and customer experience on brand trust and repurchase intention in the coffee retail industry. The findings demonstrate that customer experience is the most influential factor driving both brand trust and repeat purchasing. Brand trust also plays a mediating role, reinforcing that loyalty derives not only from direct experiential satisfaction but also from psychological assurance and confidence in the brand.

Price perception positively contributes to repurchase intention, indicating that perceived

value remains relevant in consumer decision-making. However, price does not significantly shape trust, suggesting that rational value judgments differ from emotional brand attachment. Meanwhile, promotion showed limited effect, implying that incentive-based marketing alone is insufficient to secure repeat patronage in premium coffee markets.

5.1. Research implications

The results of this study provide meaningful implications for both practice and academic development. Practically, the findings emphasize that customer experience plays the most substantial role in strengthening brand trust and encouraging consumers to make repeat purchases. Coffee retailers should therefore prioritize initiatives that improve the customer journey, including service interaction, product consistency, ambience, and digital convenience. Enhancing these touchpoints will help create positive impressions that translate into continued purchase behaviour.

Price perception was also shown to influence repurchase intention, suggesting that consumers actively evaluate value for money when deciding whether to return. Companies should manage pricing strategies carefully by maintaining a balance between perceived quality and affordability. Promotional strategies, however, demonstrated limited direct effect, indicating that short-term marketing incentives alone are insufficient to sustain repeat purchases. Retailers should view promotions as complementary tools to support customer experience rather than as primary drivers of behavioural outcomes.

From a theoretical standpoint, this study contributes to the literature by demonstrating the pivotal role of customer experience and brand trust in influencing repurchase intention in the premium beverage sector. The partial mediating effect of brand trust clarifies the psychological pathway through which customer experience translates into repeated purchasing behaviour.

5.2. Limitations of Research and Suggestions

This study has several limitations that should be acknowledged. First, the research was conducted solely among customers of Fore Coffee in South Jakarta, which may limit the generalizability of the findings. Consumer behavior may differ across regions and coffee brands; therefore, future studies are encouraged to include broader geographic areas and compare multiple coffee chains to provide more comprehensive insights into consumer loyalty dynamics.

Second, the study employed a cross-sectional design, which captures consumer perceptions at a single point in time. Consumer trust and repurchase behaviour may evolve due to changes in market conditions, brand strategies, or competitive landscape. Longitudinal research is recommended to observe changes in brand trust and repurchase intention over time, particularly in fast-growing lifestyle markets such as coffee retail.

Third, the study relied on self-reported data through questionnaires, which may introduce response bias. Future research may incorporate mixed-method approaches, such as combining survey data with interviews or analysing actual purchase behaviour, to strengthen validity and enrich interpretation.

Fourth, although this study examines promotion, price perception, and customer experience, other psychological or experiential factors may also influence repurchase behaviour. Variables such as brand image, service quality, customer satisfaction, or digital engagement could be integrated in future models to provide a more holistic understanding of customer loyalty in the coffee industry.

Lastly, this study utilized the SEM-PLS approach. Future studies may explore additional analytical techniques, such as covariance-based SEM or machine learning predictive modelling, to compare results and improve robustness.

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THE INFLUENCE OF CONTENT MARKETING, ONLINE CUSTOMER REVIEWS, AND INFLUENCER MARKETING ON PURCHASING DECISIONS OF WARDAH GLASTING LIQUID LIPSTICK ON TIKTOK SOCIAL MEDIA IN SOUTH JAKARTA

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Abstract

This study was designed to assess the relationship between content marketing, online customer reviews, and influencer marketing with the purchasing decisions of Wardah Glasting Liquid Lipstick on TikTok among the people of South Jakarta. The research sample was selected using a purposive sampling technique in a quantitative approach and the participation of 96 TikTok user respondents in South Jakarta. The questionnaire was used as a primary data source and then analyzed with multiple linear relationships between variables using SPSS 23. Based on the analysis results, it was found that Content Marketing has a positive and significant effect on Purchasing Decisions, Online Customer Reviews have a positive and significant effect on Purchasing Decisions, and Influencer Marketing has a positive and significant effect on Purchasing Decisions. This study is expected to support decision making related to Wardah Glasting Liquid Lipstick which is influenced by content marketing, online customer reviews and influencer marketing. Wardah Glasting Liquid Lip needs to improve the accuracy of product information on TikTok, improve the quality of online customer reviews, and build trust based on influencer marketing in an effort to contribute to increasing purchasing decision behavior. Keywords: Content Marketing, Online Customer Reviews, Influencer Marketing, Decisions Purchase.

1. Introduction

The Indonesian cosmetics industry boasts a variety of brands, including Wardah, known as an authentic Indonesian halal brand. Wardah leverages social media platforms for more interactive and effective marketing, particularly TikTok. The social media platform is currently experiencing rapid user growth. TikTok has recently introduced a digital commerce platform called the TikTok online store. This innovative feature is recognized for connecting merchants and consumers in a more imaginative and engaging way (Mokodompit et al., 2022). This is further supported by Wardah lipstick sales data over the past five years.

Table 1. Wardah Lipstick Sales Data in the Last 5 Years

Year	Wardah Lipstick Sales
2020	25.8%
2021	21.1%
2022	22.9%
2023	19.4%
2024	10.6%

Source:<https://www.topbrand-award.com>

Using information from 2020-2024, Wardah lipstick experienced fluctuations that tended to decrease, with a sharp decline occurring from 2023 to 2024. The data above illustrates a

problem in consumer purchasing behavior, specifically purchasing decisions. The problem in Wardah lipstick purchasing decisions can be influenced by content marketing, online customer reviews, and influencer marketing.

In the field of marketing, the decisions consumers make when purchasing products are one of the main measures for assessing the success of a company's marketing strategy. In the context of consumer behavior, purchasing decisions include the study of how individuals, communities, and institutions determine, obtain, apply, and manage products, services, ideas, or activities designed to meet their needs and expectations (Kotler & Keller, 2016:194).

Purchasing decisions can be influenced by content marketing (Satiti & Wajdi, 2023). Content marketing is a form of process management that companies use to identify and utilize digital platforms to analyze customer needs and meet those needs for profit.

Purchasing decisions in making purchases can be influenced by product assessments conducted by consumers online, known as Online Customer Reviews (OCR/X2) (Mo & Fan in Mulyati & Gesitera, 2020). Online Customer Reviews are product evaluations submitted by consumers and presented from various perspectives. The available information allows customers to obtain an overview of product quality according to their expectations through reviews and the experiences of previous buyers in online stores.

Consumer purchasing decisions can be influenced through Influencer Marketing (Sudha & Sheena, 2017). Influencer marketing is a strategy that focuses on identifying and activating influential individuals within a target audience or media as a component of a brand campaign, with the goal of increasing reach, sales, and engagement.

2. Hypothesis development

In this study, the independent variables used are Content Marketing (X1), Online Customer review (X2), Online customer review (X3) and Purchase Decision (Y). The formulation of the problem in this study is to see whether Content Marketing (X1), Online Customer review (X2), Online customer review (X3) influence the purchase decision of Wardah Glasting Liquid Lipstick on Tiktok Social Media in South Jakarta.

2.1. Purchase Decision (Y)

Consumer purchasing decisions, as stated by Kotler and Keller (2016:194) As consumer behavior, purchasing decisions emphasize how individuals, organizations, and communities make choices, buy, use, and control resources, services, concepts, or experiences that meet their needs and preferences. Purchasing decisions are influenced by consumer attributes, so that each person goes through the purchasing process in a unique way and with unique habits.

2.2. Content Marketing (X1)

Content Marketing Institute states that this marketing strategy focuses on delivering relevant, useful, and sustainable content to attract audiences while increasing business profits.

2.3. Online Customer Review (X2)

Suryani et al. (2022) state that online customer reviews are consumer opinions regarding information about a product. These reviews aim to provide details to other buyers when considering a product or service.

2.4. Influencer Marketing (X3)

Hariyanti & Wirapraja (2018:141) define influencers as individuals on social media with a significant following, whose shared information has the potential to influence their followers' actions. In addition to disseminating information, influencers also serve as role models for their followers, shaping their audience's thinking and habits.

2.5. The Influence of Content Marketing on Purchasing Decisions

Research by (Rahmadani & Eka Febriansah, 2024) Content Marketing (X1) has a positive influence on Purchasing Decisions (Y), so the more content presented, the higher the likelihood of consumers purchasing the product.

H1: *Content Marketing* have a positive and significant impact on decisions purchases on Tiktok in South Jakarta.

2.6. *The Influence of Online Customer Reviews on Purchasing Decisions*

Research conducted by Khotimah et al. (2024) shows that online customer reviews influence consumer purchasing decisions. This means that the more electronic customer reviews published and read by consumers, the greater their purchasing decisions will be.

H2: Online Customer Reviews significantly and positively influence purchasing decisions on TikTok in South Jakarta.

2.7. *The Influence of Influencer Marketing on Purchasing Decisions*

Similar research by Mubarak et al. (2024) stated that Influencer Marketing has a significant influence on purchasing decisions (Y), which indicates that the right Influencer Marketing strategy can encourage consumers to purchase a product.

H3: Influencer Marketing is proven to have a positive and significant influence on purchasing decisions on the TikTok platform in the South Jakarta area.

2.8. *Research Model*

In this study, Content Marketing (X1), Online Customer Review (X2), and Influencer Marketing (X3) are the independent variables, while Purchase Decision (Y) is the dependent variable. This analytical framework is used to explain the relationship between these variables, which is described as follows:

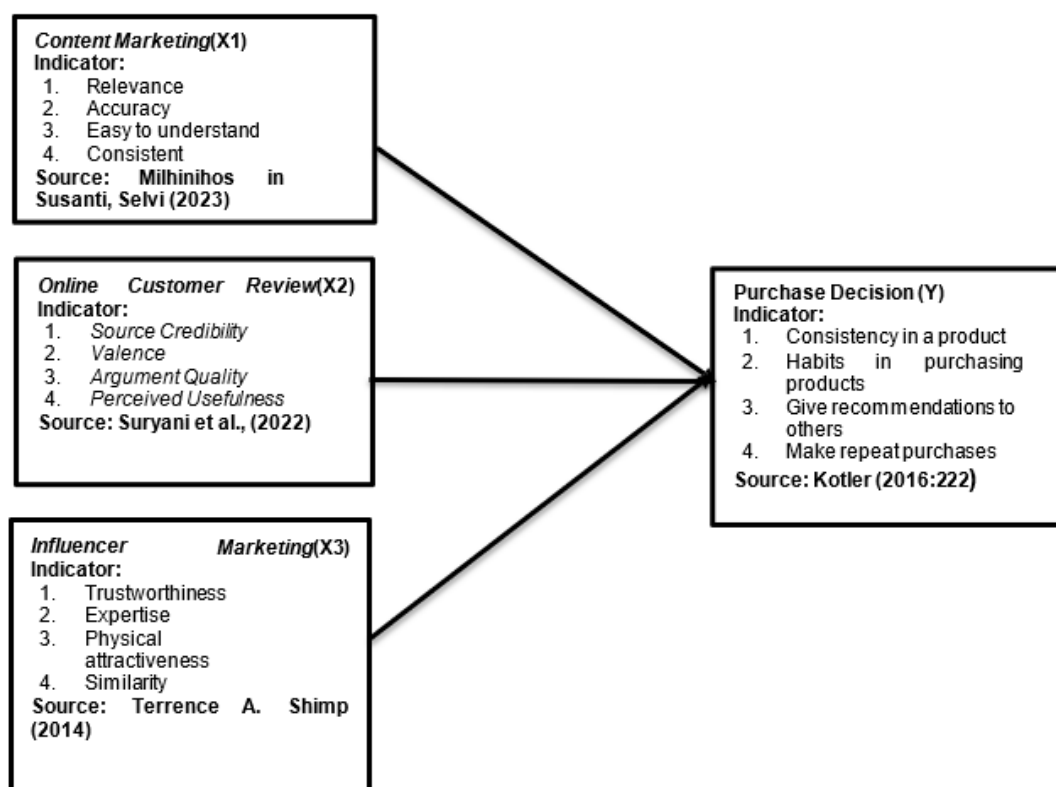


Figure 1. Analysis Framework

3. **Methodology**

3.1. *Sample and Data Collection*

This study focuses on the purchasing decision of Wardah Lipstick on TikTok in South Jakarta, with content marketing, online reviews, and influencer marketing as influencing variables. This study collected data from respondents who were TikTok users in South Jakarta who had seen or interacted with these three variables on TikTok. The sample collection method used non-probability sampling and purposive sampling, through the distribution

of Likert-scale questionnaires based on the Lemeshow formula. The sample size was 96 respondents.

3.2. Measurement

3.2.1. Content Marketing (X1)

Content Marketing is a strategy that provides valuable and relevant content to the target market on an ongoing basis with the aim of driving customer purchasing decisions (Prastiwi & Utomo, 2024).

Measured using four indicators, namely: relevance, accuracy, ease of understanding, and consistency. Milhinhos in Susanti, Selvi (2023).

3.2.2. Online Customer Review (X2)

OCRs are consumer reviews provided after online product purchases, comprising information, experiences, and opinions. These reviews are often used as a reference because they are considered trustworthy (Khotimah et al., 2024).

Measured using four indicators, namely: source credibility, valence, opinion quality, and perceived benefits. Suryani et al., (2022).

3.2.3. Influencer Marketing (X3)

Hariyanti & Wirapraja (2018:141) define influencers as individuals on social media with a significant number of followers, where the information they share has the potential to influence the actions of their followers.

Measured using four indicators, namely: trustworthiness, expertise, physical attractiveness, and similarity. Terrence A. Shimp (2014).

3.2.4. Purchase Decision (Y)

Consumer purchasing decisions, as stated by Kotler and Keller (2016:194) As consumer behavior, purchasing decisions emphasize how individuals, organizations and communities make choices, buy, use and control resources, services, concepts or experiences that meet their needs and preferences.

Based on four indicators, namely consumer confidence in the item, purchasing behavior, giving recommendations to others, and the tendency to make repeat purchases. Kotler (2016:222).

3.3. Data analysis

This analysis method used multiple linear regression using SPSS version 23, with validity, reliability, and classical assumption tests conducted before testing the hypotheses. Furthermore, hypothesis testing involved F-tests, t-tests, and R² to analyze the simultaneous and partial effects and contributions of the independent variables.

4. Results and Discussion

The research results answer the proposed hypothesis based on the analytical techniques described. The research results directly present the data and results obtained from the study. This section only provides a narrative description of the research results without any interpretation or evaluation. In this section, each statistical test we conducted must be thoroughly explained. This section is crucial for explaining the research methodology used. Each statistical finding must be summarized, summarized, and presented in tabular or graphical form, not simply copied and pasted from our statistical tools (The tables shown do not copy the original output of the data processing software).

The table title is written above the table, in bold, and placed on the left. Vertical lines in tables do not need to be displayed, while horizontal lines are only displayed in the table title and closing. As in the following example:

Table 1. Validity Test Results

Variables	Item	R Count	R Table	Information

Content Marketing (X1)	X1.1	0.772	0.2006	Valid
	X1.2	0.815	0.2006	Valid
	X1.3	0.784	0.2006	Valid
	X1.4	0.839	0.2006	Valid
Online Customer Review (X2)	X2.1	0.818	0.2006	Valid
	X2.2	0.823	0.2006	Valid
	X2.3	0.787	0.2006	Valid
	X2.4	0.823	0.2006	Valid
Influencer Marketing (X3)	X3.1	0.852	0.2006	Valid
	X3.2	0.772	0.2006	Valid
	X3.3	0.810	0.2006	Valid
	X3.4	0.817	0.2006	Valid
Purchase Decision (Y)	Y1.1	0.830	0.2006	Valid
	Y1.2	0.820	0.2006	Valid
	Y1.3	0.801	0.2006	Valid
	Y1.4	0.793	0.2006	Valid

(Source: Processed data from SPSS 23, 2025)

Based on Table 1, an instrument is declared valid if it meets the requirements. Each instrument item is said to be valid if the calculated R exceeds the table R. With 96 respondents and a significance level of 5%, the table R is set at 0.2006. The results in the table show that all items are valid because the R value obtained from the calculation exceeds the table R.

Table 2. Reliability Test Results

Variables	Reliability	Alpha	Information
Content Marketing	0.815	0.60	Reliable
Online Customer Review	0.819	0.60	Reliable
Influencer Marketing	0.819	0.60	Reliable
Buying decision	0.818	0.60	Reliable

(Source: Processed data from SPSS 23, 2025)

Based on Table 2, the Cronbach's Alpha value for all four variables is above 0.60.

Among them, Content Marketing (X1) with a value of 0.815, Online Customer Review (X2) with a value of 0.819, Influencer Marketing (X3) with a value of 0.819, and Purchasing Decision (Y) with a value of 0.818. This indicates that all research instruments have met the reliability requirements and are declared reliable.

Table 3. Multiple Linear Regression Analysis

Coefficients ^a						
Model		Unstandardized		Standardized Coefficients	t	Sig.
		Coefficients				
		B	Std. Error			
(Constant)		1,309	1,102		1,187	,238
Content Marketing		1,694	,317	,400	5,341	,000
Online Customer Review		1,394	,248	,413	5,619	,000
Influencer Marketing		,522	,233	,172	2,242	,027
a. Dependent Variable: Purchase Decision						

a. Dependent Variable: Purchase Decision

(Source: Processed data from SPSS 23, 2025)

Based on table 3, it shows the results of the regression equation calculated from the Standardized Coefficients column, namely as follows:

- The positive regression coefficient of 0.400 on the Content Marketing variable (X1) indicates a direct relationship, the higher the level of Content Marketing, the greater the purchasing decision.
- The positive regression coefficient of 0.413 on the Online Customer Review variable (X2) shows that a greater number of consumer reviews will encourage higher purchasing decisions.
- The positive regression coefficient of 0.172 on the Influencer Marketing variable (X3) indicates that marketing activities by influencers have an influence on increasing purchasing decisions.

Table 4. F Test Results
ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	608,650	3	202,883	,000b

Residual	326,683	92	3,551
Total	935,333	95	

a. Dependent Variable: Purchasing Decision

b. Predictors: (Constant), Influencer Marketing, Online Customer Reviews, Content Marketing

(Source: Processed data from SPSS 23, 2025)

Based on table 4, the calculated F value, as shown in Table 4.19, is 57.136 with a significance level of 0.00. According to the F test criteria, the regression model is feasible if the calculated F is greater than the F table and the significance is <0.05 . The F table with 96 respondents and 4 variables is 2.704. Since the calculated F is $57.136 > 2.704$ and sig. $0.00 < 0.05$, this regression model can be considered valid for use in subsequent analysis.

Table 5. Results of the Determination Coefficient (R2) Test

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	,834a	,695	,685	1,76085
a. Predictors: (Constant), Influencer Marketing, Online Customer Reviews, Content Marketing				

(Source: Processed data from SPSS 23, 2025)

Based on Table 5, with an Adjusted R2 value of 0.685 (68.5%) in Table 4.20, it can be concluded that influencer marketing, online customer reviews, and content marketing all influence purchasing decisions. The remaining 31.5% is contributed by variables other than these three.

Table 6.t-Test Results

Coefficientsa		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
Model		B	Std. Error			
1	(Constant)	1,309	1,102		1,187	,238
	Content Marketing	1,609	,317	,400	5,341	,000
	Online Customer Review	1,309	,248	,413	5,619	,000

	4			0
Influencer	,5	,233	,172	2,
Marketing	2			24 0
	2			2 2
				7

. Dependent Variable: Purchase Decision

(Source: Processed data from SPSS 23, 2025)

The test results listed in the table above show the conclusions from the data successfully collected in this study:

- With a significance level of 0.000, the test results show that Content Marketing (X1) has a t-value of 5.341. Because this value exceeds the t-table value of 1.661, H_a is accepted and H_0 is rejected. This indicates that purchasing decisions (Y) are significantly and positively influenced by content marketing (X1).
- The Online Customer Review variable (X2) has a t-value of 5.619 with a significance level of 0.000, based on the test results. H_0 is rejected, while H_a is accepted because the t-value is higher than the t-table ($5.619 > 1.661$). This indicates that online customer reviews (X2) have a large and positive influence on Purchasing Decisions (Y).
- With a t-test estimate of $2.242 > t\text{-table } 1.661$ and a significance of 0.027, the test results show that Marketing Influencers (X3) have a positive and significant influence on Purchasing Decisions (Y). As a result, H_0 is rejected and H_a is accepted.

4.1. The Influence of Content Marketing on Purchasing Decisions

It has been proven that content marketing using the metrics of Relevance, Accuracy, Ease of Understanding, and Consistency has a significant and positive influence on the decision of South Jakarta consumers to purchase Wardah Glasting Liquid Lipstick on TikTok. This is evidenced by the results of the t-test which is greater than the t-table ($5.341 > 1.661$), this indicates that purchasing decisions are significantly and positively influenced by content marketing.

To attract an audience, Wardah frequently utilizes popular features and trends on TikTok, such as music and visual effects, to create engaging and easily shareable content. Content marketing on the TikTok platform has been shown to significantly impact purchasing decisions. Content that is regularly published and follows trends has the potential to reach the For Your Page (FYP), reaching a wider audience and potentially going viral. This, in turn, leads to increased consumer consumption and product purchases.

This finding is supported by Andriana (2023), in her research on the influence of online customer reviews, content marketing, and brand love in the context of purchasing decisions on TikTok Shop. It has been proven that content marketing has a significant and beneficial effect. Good content can increase consumer desire to buy a product. Therefore, Wardah Glasting Liquid Lip continues to carry out interesting content marketing in the form of presenting content in the form of videos, the content can be information about the product, video tutorials on use, or explaining the benefits, how to use, and solutions offered by the product.

4.2. The Influence of Online Customer Reviews on Purchasing Decisions

According to the research findings, online customer reviews that include factors such as valence, opinion quality, perceived benefits, and source credibility have a positive and substantial influence on consumer decisions to purchase Wardah Glasting Liquid Lipstick on TikTok in South Jakarta. The t-test shows a t-count of $5.619 > t\text{-table of } 1.661$, confirming the significant influence of Online Customer Reviews on purchasing decisions.

Online customer reviews play a significant role in providing consumers with information about Wardah Glasting Liquid Lipstick. This indicates that increasing the number of reviews consumers see increases their likelihood of making a purchase. By reading more online customer reviews, it's easier to understand a product's strengths and weaknesses and its popularity, thus facilitating a more informed purchasing decision.

The findings of Sinaga & Rochdianingrum's (2024) study, which found that online customer reviews significantly impact skincare product purchases on Shopee, align with the findings of this study. In conclusion, online customer reviews influence purchasing decisions because they facilitate transactions and serve as a benchmark for consumers regarding a product's popularity and value, which influences their intention to purchase.

4.3. The Influence of Influencer Marketing on Purchasing Decisions

The results of the study indicate that, particularly for customers in South Jakarta, influencer marketing, which encompasses trust, expertise, physical attractiveness, and audience similarity, has a positive and significant impact on purchasing decisions for Wardah Glasting Liquid Lipstick on TikTok. This is evidenced by a t-test that is higher than the t-table ($2.242 > 1.661$). These findings indicate that purchasing decisions are significantly and positively influenced by influencer marketing.

Influencer Marketing TikTok plays a significant role in building perceptions. Marketing strategies involving influencers build trust through engaging visual content, and influencers can enhance a product's appeal to consumers. Influencer marketing has been shown to positively impact purchasing decisions. Reputable social media influencers can influence consumers by providing product reviews, thus aiding purchasing decisions.

This finding is in line with the results reported by Primandaru et al. (2025), which validated that Influencer Marketing significantly influences purchasing decisions on TikTok and plays a key role in shaping the behavior of young digital consumers.

5. Conclusion

Research findings regarding the influence of content marketing, online customer reviews, and influencer marketing on Purchasing Decisions for Wardah Glasting Liquid Lipstick on Tiktok Social Media in South Jakarta, In conclusion, content marketing, online customer reviews, and influencer marketing significantly influence Purchasing Decisions. Content Marketing the more content marketing initiatives will result in more purchases, online customer reviews show that the more reviews can convince customers to make purchases, and Influencer Marketing the increase in influencer activity will encourage consumers to buy.

5.1. Implications of the research

The findings of this study are expected to provide important information for Wardah regarding the effectiveness of their digital marketing strategies. This study combines three main variables: content marketing, online customer reviews, and influencer marketing, simultaneously within the context of the TikTok platform for Wardah Glasting Liquid Lipstick in South Jakarta. This combination of variables and research context has not been widely studied before.

5.2. Research Limitations and Suggestions

Content marketing applied by Wardah lipstick is effective because influence purchasing decisions. However, Wardah needs to place more emphasis on improving the accuracy of information by providing clear and reliable data on TikTok regarding its products, thereby strengthening consumer trust and increasing its influence on purchasing decisions. Furthermore, Wardah's online customer reviews have also been shown to influence purchasing decisions, but the quality of opinions needs to be improved by presenting more helpful and convincing reviews to increase their influence on purchasing decisions. Furthermore, Wardah's influencer marketing is also effective in influencing purchasing decisions, but it needs to focus

on increasing trust through influencer recommendations on TikTok to optimize its impact on purchasing decisions.

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THE EFFECT OF DEBT EQUITY RATIO AND EARNING PER SHARE ON STOCK RETURNS THROUGH PROFITABILITY IN SRI-KEHATI (2020-2024)

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Abstract

The purpose of this study is to examine the partial effect of DER, EPS, and Profitability on Stock Returns, both directly and through the intervening variable Profitability, on the SRI-KEHATI Stock Index. The research method is quantitative. The research location is the SRI-KEHATI Index. The stable banking population includes SRI-KEHATI Indeks from the beginning until 2024. The research period is 2020-2024. The type of data is secondary data. The data collection technique is literature study. The data analysis technique is ordinary least square (SPSS). The results of the study indicate that DER has no significant effect on profitability or stock returns. (ii) EPS has a positive and significant effect on profitability, but does not directly affect stock returns. (iii) Profitability has a positive and significant effect on stock returns. (iv) Profitability mediates the effect of DER on stock returns and partially mediates the effect of EPS on stock returns. Thus, profitability is a key variable that bridges the influence of a company's internal financial performance (EPS and DER) on stock market performance.

Keywords: Debt Equity Ratio, Earning Per Share, Stock Returns, Profitability

1. Introduction

Stock return is the level of profit received by investors over a specific period, consisting of capital gains (losses) and dividend yields, and reflects the change in investment value compared to the initial price (Elton & Gruber, 1995). Damodaran (2012) states that stock return reflects the expected return as compensation for risk and forms the basis for calculating the cost of equity, which can be predicted using models such as the CAPM or multifactor models.

Stock return has several important functions: (i) as a measure of investment performance, to assess the effectiveness of returns relative to risk (Sharpe, 1966); (ii) as a basis for investment decision-making by considering the expected return and risk trade-off (Elton & Gruber, 1995); (iii) as an indicator of market efficiency and economic expectations because it reflects investor reactions to company fundamentals and macroeconomic conditions (Fama & French, 2004); and (iv) as a component in calculating the cost of equity in corporate finance (Damodaran, 2012).

Table 1 shows that stock index returns in the 2020–2024 period fluctuated from negative to positive, as seen in Table 1 and Figure 1.

Table 1. Fluctuations in SRI-KEHATI Index Stock Returns (2020-2024)

Year	Annual Return (%)
2020	-3,5
2021	+12,4
2022	+6,8
2023	-2,1
2024	+4,3

Source: Reprocessed from Investing.com (2025)

Table 1 shows that the annual performance of the SRI-KEHATI Index for the 2020-2024 period shows fluctuations, the highest return was achieved in 2021 of +12.4%, and the lowest

return was experienced in 2020 of -3.5% (Investing.com, 2025). The fluctuation in the performance of the SRI-KEHATI Index stock returns is visualized in the following Figure 1:



Figure 1. SRI-KEHATI Index Stock Return Fluctuation Line Chart (2020-2024)

Source: Reprocessed from Investing.com (2025)

This research focuses on stock returns of the SRI-KEHATI Index. Although it only includes around 25–30 issuers, rigorously selected based on financial ratios such as ROA, ROE, EPS, and leverage, this index still faces return issues. First, its short-term performance tends to be volatile and sensitive to external sentiment. A Sinarmas AM report (2024) shows that although SRI-KEHATI's returns outperformed the LQ45 and IDX30 in 2020–2023, its year-to-date (ytd) performance as of June 11, 2024, actually declined significantly to -12.81%. This indicates that historical returns do not guarantee short-term profits if investors ignore market factors and external risks.

Second, the index's return volatility is also high and asymmetric to news. Ponziani's (2022) study showed that the GJR-GARCH (1,1) model best describes the conditional variance of SRI-KEHATI and LQ45 returns in daily data from January 2, 2019, to November 1, 2021. These findings indicate a stronger reaction to negative news than to positive news, resulting in more extreme return fluctuations during negative sentiment.

These issues are important to research because: (i) investors need more realistic risk and return predictions, including the effects of news; (ii) ESG-based portfolio managers need to understand the influence of sustainability disclosure on returns and volatility; (iii) regulators must ensure information efficiency to encourage sustainable investment. Furthermore, there is a research gap regarding the determinants of stock returns. Research by Yulia (2021) and Utama (2023) found a negative impact on returns from DER, while Rosyafah et al. (2022) found an insignificant positive effect.

Inconsistencies also occur in EPS. Rahmat & Fatima (2022) and Ramli (2023) showed a positive and significant effect, but Amaliyah (2022) stated it was insignificant. Profitability variables also showed mixed results. Lim et al. (2024) found that changes in profitability affected expected returns internationally, while studies by Lasa et al. (2022/2023) and Rahmat & Fatima (2022) in Indonesia showed that the effects of ROA/ROE were inconsistent and highly dependent on sample control, period, and other variables such as size and leverage.

Thus, the state of the art (SOTA) research on the effect of DER, EPS, and profitability on stock returns shows fluctuating and inconsistent results, and is heavily influenced by control variables. This underscores the need for further research on the SRI-KEHATI Index to examine

whether this pattern of inconsistency also occurs in the ESG context in Indonesia.

Therefore, the purpose of this study is to examine the partial effect of DER, EPS, and Profitability on stock returns, both directly and through the intervening variable Profitability, on the SRI-KEHATI Stock Index.

2. Hypothesis development

2.1. Research framework

The Debt to Equity Ratio (DER) describes the ratio of debt to equity used to finance assets. A high DER can increase financial risk but also has the potential to increase profits if borrowed funds are used productively. Brigham and Houston (2019) emphasize that an optimal capital structure will reduce the cost of capital and maximize company value, while excessive debt can reduce profitability due to interest expenses.

Earnings per Share (EPS) reflects net income per share and is a key indicator for investors in assessing potential returns. Fama and French (2015) state that corporate earnings significantly influence stock prices and returns because they reflect growth expectations. Gitman and Zutter (2020) emphasize that EPS indicates profitability from an investor perspective, so higher EPS generally reflects increased profitability.

DER also influences risk perception and stock returns. Damodaran (2015) states that high leverage can increase bankruptcy risk and depress stock prices. However, when the economy is stable, efficiently managed debt can increase investor returns.

Profitability (e.g., ROA/ROE) reflects a company's ability to generate profits from assets or capital. Tandelilin (2017) stated that high profitability increases the likelihood of stock returns, aligning with the findings of Rani and Batool (2021), who demonstrated profitability as a strong predictor of returns on Asian stock exchanges.

Profitability can also mediate the effect of DER and EPS on stock returns. Baron and Kenny (1986) explain that mediation occurs when an independent variable influences a dependent variable through an intervening variable.

2.2. Influence between Variables

H1: The Effect of DER on Profitability/Return

Rosyafah et al. (2022) found that DER was partially insignificant on IDX30 returns, but significant when tested together with PER and ROE. Yulia (2021) showed that DER had a negative impact on returns in the property/real estate sector. Utama (2023) also found that DER's contribution tended to be negative on returns, although the significance level varied across sectors.

H2: The Effect of EPS on Profitability/Return

Rahmat & Fatima (2022) found that the effect of EPS was inconsistent in non-bank LQ45 companies—significantly positive in some models, but insignificant in others. Amaliyah (2022) concluded that EPS was insignificant after controlling for additional variables. Conversely, Ramli (2022) showed that EPS had a significant positive effect in the short-term manufacturing sector.

H3: The Effect of DER on Stock Returns

Lim et al. (2024) found that profitability (ROA/ROE) was strongly related to expected returns internationally, especially when profits declined. Lasa et al. (2022/2023) found that ROA/ROE was sometimes significant and positive on returns, depending on the period and sector. Rahmat & Fatima (2022) also reported a positive effect of ROA/ROE on LQ45 returns, with significance depending on controls such as size, leverage, and market price.

H4: The Effect of EPS on Stock Returns

Hsu (2022) showed that EPS growth was strongly positively related to returns in emerging markets. Ramli (2023) also found that EPS had a significant positive effect on returns in cement subsector companies on the IDX.

H5: The Effect of Profitability on Stock Returns

Lim (2024) reported that profitability growth was positively correlated with future stock returns, although dependent on company size. Riani et al. (2024) in Indonesia also found that ROA/ROE was related to changes in returns, with ROE being a positive predictor.

H6: Profitability as a Mediator of DER–Return

Chauhan (2023) highlighted profitability as a mediator of the effect of leverage on returns. Nurwulandari et al. (2024) found that capital structure interacts with profitability to influence stock prices through intervening variables.

H7: Profitability as a Mediator of EPS–Return

Syam (2024) tested a mediation model of EPS and ROA on stock prices and demonstrated the relevance of profitability in mediating the influence of EPS on returns, although the results differed across sectors.

2.3. Research Model

Based on the research objectives, previous research studies, framework of thought, and hypotheses, a research model was prepared which is visualized in Figure 1.

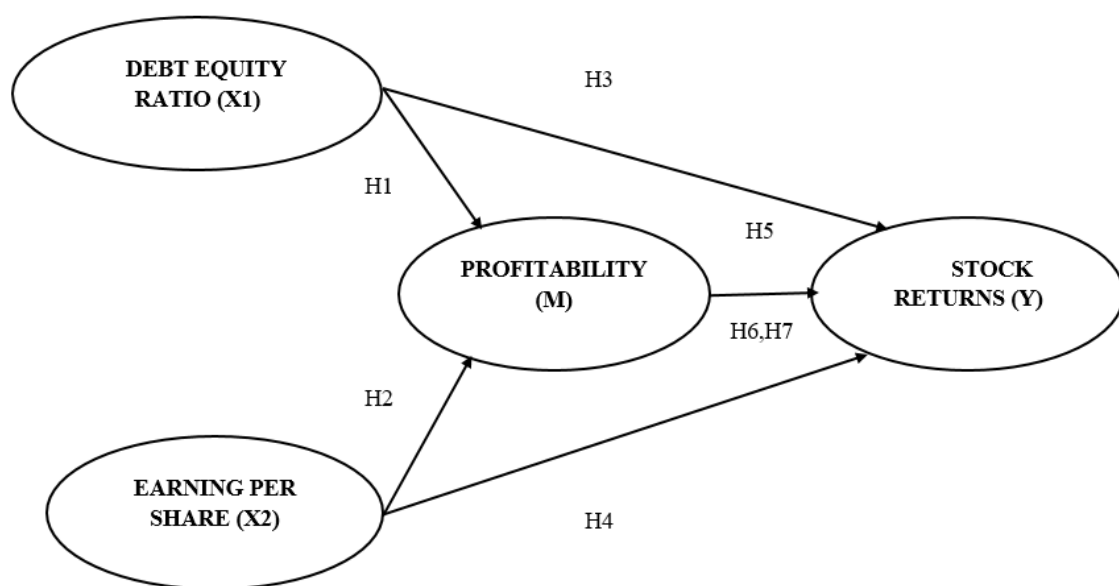


Figure 1. Research Model

Source: Research results (2025)

3. Methodology

3.1. Sample and Data Collection

The study was conducted on the SRI-KEHATI index for the 2020–2024 period, focusing on four consistently listed banks: BBKA, BBNI, BMRI, and BBRI. This study is a time series study (Notoatmodjo, 2012). The population includes quarterly data on four variables (DER, EPS, DPR, and stock returns) for these four banks during the observation period. The sampling technique used was saturated sampling, as the entire population was sampled (Sugiyono, 2013), using a purposive sampling approach in accordance with the banking sector criteria in the SRI-KEHATI index.

Data was obtained secondary from financial reports, stock prices, and other financial information from the official IDX website (www.idx.co.id) and from individual companies. The variables collected included DER, EPS, ROE, and stock returns throughout the study period.

3.2. Measurement

The formula for calculating each research variable is as presented in Table 2.

Table 2. Formula for Calculating Research Variables

No	Variable	Calculation Formula
1	Stock Returns	$\text{Stock Return} = \frac{P_t - P_0 + D}{P_0}$ Information: □ P_t = Stock price at the end of the period (closing price or current price) □ P_0 = Stock price at the beginning of the period (initial price) □ D = Dividend received during the period □ Stock Return = Rate of return on the stock, representing the total gain or loss (capital gain plus dividend yield) relative to the initial investment. (Brigham & Houston, 2019).
2	Profitability	$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Shareholders' Equity}}$ Description: □ ROE (Return on Equity) = A measure of a company's profitability that shows how effectively it uses shareholders' equity to generate net income. □ Net Income = The company's total profit after deducting all expenses, taxes, and costs during a specific period. □ Shareholders' Equity = The total amount of owners' capital invested in the company, including retained earnings and paid-in capital. (Brigham & Houston, 2019).
3	Earning Per Share (EPS)	$\text{Earnings per Share (EPS)} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Number of Outstanding Shares}}$ Information: □ EPS (Earnings per Share) = A financial ratio that indicates how much profit is earned for each outstanding share of common stock. It reflects the company's profitability on a per-share basis. □ Net Income = The company's total profit after all expenses, interest, and taxes have been deducted.

		□ Preferred Dividends = The portion of earnings distributed to preferred shareholders before common shareholders receive dividends. □ Number of Outstanding Shares = The total number of common shares currently held by all shareholders, including institutional investors and insider (Brigham & Houston, 2019).
4	Debt Equity Ratio (DER)	$\text{Debt to Equity Ratio (DER)} = \frac{\text{Total Liabilities}}{\text{Shareholders' Equity}}$ Information: □ DER (Debt to Equity Ratio) = A financial leverage ratio that measures the proportion of a company's total liabilities to its shareholders' equity. It indicates how much debt is used to finance the company's assets relative to equity. □ Total Liabilities = The total amount of short-term and long-term obligations that the company must pay to external parties (such as loans, bonds, and accounts payable). □ Shareholders' Equity = The total amount of capital invested by the owners, including retained earnings and paid-in capital (Brigham & Houston, 2019).

3.3. Data analysis

Data analysis was conducted using ordinary least squares (OLS) using SPSS version 24 with simple linear regression (Santoso, 2017). A hypothesis is declared significant if the calculated t-value is greater than the t-table and the p-value is <0.05. Because the research model uses path analysis, the test also includes mediation effects.

The mediation test refers to the Variance Accounted For (VAF) method by Preacher and Hayes (Hair et al., 2014). The VAF value is calculated by dividing the indirect effect by the total effect, then multiplying by 100%. Mediation criteria are divided into three: (i) full mediation if VAF >80%, (ii) partial mediation if VAF is between 20–80%, and (iii) no mediation if VAF <20%.

4. Results and discussion

The research results cover both the simultaneous and partial effects on profitability and stock returns. The results of the simultaneous effects of DER and EPS on profitability are presented in Table 3.

Table 3. Simultaneous Effects on Profitability.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.396 ^a	.157	.135	2.11128	.157	7.158	2	77	.001	.515

- a. Predictors: (Constant), EPS, DER
b. Dependent Variable: Profitability

Table 3 shows that the **correlation coefficient ($R = 0.396$)** reflects a positive, moderate effect DER and EPS toward profitability, meaning both variables move in line with changes in company profitability. The **coefficient of determination ($R^2 = 0.157$)** indicates that 15.7% of profitability variation is explained by DER and EPS together, while the remaining 84.3% is influenced by other factors outside the model. The **adjusted R^2 value of 0.135** shows that after accounting for the number of variables and sample size, about 13.5% of profitability variation is still attributable to DER and EPS, suggesting a moderate overall contribution.

How significant the influence of these three variables (DER and EPS) on profitability can be seen from the ANOVA in Table 4.

Table 4. ANOVA of the Simultaneous Effect of DER and EPS on Profitability

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	63.817	2	31.908	7.158	.001 ^b
Residual	343.229	77	4.458		
Total	407.046	79			

- a. Dependent Variable: Profitability
b. Predictors: (Constant), EPS, DER

Table 4 shows an F calculated value of 7.158 with a Sig. F Change of $0.001 < 0.05$, indicating that the regression model is significant. This means that the DER and EPS variables simultaneously have a significant effect on profitability, so the hypothesis is accepted.

Furthermore, the simultaneous effect of DER, EPS, and profitability on stock returns is presented in Table 5.

Table 5. Simultaneous Effect on Stock Returns

Model Summary^b

Model	R	R Square	Adjusted Square	Std. Error of the Estimate	Durbin-Watson
1	.311 ^a	.097	.061	.09751	1.933

- a. Predictors: (Constant), Profitability, DER, EPS
b. Dependent Variable: Return Saham
Source: Research results (2025)

Table 5 shows that the R value of 0.311 indicates a positive but weak relationship between Profitability, DER, and EPS and Stock Return. The R-square value of 0.097 means that only 9.7% of the variation in Stock Return is explained by the three variables, while the rest is influenced by factors outside the model. The adjusted R-square of 0.061 indicates that the model's ability to explain changes in Stock Return is relatively low. The significance of the three variables (Profitability, DER, and EPS) on stock returns can be seen from the ANOVA in Table 6.

Table 6. ANOVA: Simultaneous Effect of DER, EPS, & Profitability on Stock Returns

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.078	3	.026	2.721	.050 ^b
	Residual	.723	76	.010		
	Total	.800	79			

a. Dependent Variable: Return Saham

b. Predictors: (Constant), Profitability, DER, EPS

Source: Research results (2025).

Table 6 shows an F-value of 2.721 with a significance level of 0.050. Since $\text{Sig.} = 0.050 \leq 0.05$, the regression model is simultaneously significant, meaning Profitability, DER, and EPS jointly influence Stock Return. Although model strength is modest (as seen in the previous R^2 of 0.097), the model is statistically valid in explaining variation in Stock Return. The partial effects of these variables are detailed in Table 7.

Table 7. Partial Effect of DER and EPS on Profitability

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3.778	.402		9.387	.000		
DER	.130	.001	.041	.321	.749	.674	1.483
EPS	.312	.004	.371	2.912	.005	.674	1.483

a. Dependent Variable: Profitability

Source: Research results (2025)

Table 7 shows a constant of 3.778, meaning that if DER and EPS are zero, profitability is estimated at 3.778. The DER coefficient ($B = 0.130$) indicates an extremely positive effect, with $t = 0.321$ and $\text{Sig.} = 0.749 > 0.05$, so DER has no significant impact on profitability. This suggests leverage does not meaningfully influence profit levels, possibly due to reliance on equity or suboptimal debt use. The EPS coefficient ($B = 0.312$) shows a positive effect, with $t = 2.912$ and $\text{Sig.} = 0.005 < 0.05$, meaning EPS significantly increases profitability. Higher earnings per share reflect better managerial efficiency in generating net income. Next, substructure 2, namely the simultaneous effect of DER, EPS, and Profitability on Stock Returns, is presented in Table 8.

Table 8. Partial Effect of DER, EPS, and Profitability on Stock Returns.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	6.83145	.027		.231	.818		
DER	.180	.000	.152	1.145	.256	.673	1.485
EPS	.295	.000	.135	.968	.336	.607	1.646
Profitability	.413	.005	.293	2.468	.016	.843	1.186

a. Dependent Variable: Return Saham

Source: Research results (2025).

Table 8 shows that DER has a very small negative effect on stock returns ($B = -6.831E-5$), with $t = -1.145$ and $\text{Sig.} = 0.256 > 0.05$, indicating no significant impact. EPS also shows a weak negative effect ($B \approx 0$, $\text{Beta} = -0.135$) with $t = -0.968$ and $\text{Sig.} = 0.336 > 0.05$, meaning it does not significantly influence stock returns. In contrast, profitability has a positive and significant effect ($B = 0.013$, $t = 2.468$, $\text{Sig.} = 0.016 < 0.05$), showing that higher profitability increases stock returns and is a key determining factor.

Based on the above research results, the results of the five partial hypotheses (H1, H2, H3, H4, and H5) can be summarized in Table 9 below.

Table 9. Partial Hypothesis Test Results

Hypothesis model	Independent Variable	Dependent Variable	Coefficient	Direction of Influence	Significance	Conclusion
H1	DER	Profitability	0,130	Positif	Not significance	Not supported
H2	EPS	Profitability	0.312	Positif	Significance	Supported
H3	DER	Stock Returns	0.180	Positive	Not significance	Not supported
H4	EPS	Stock Returns	0,295	Positive	Not significance	Not supported
H5	Profitability	Stock Returns	0,413	Positive	Significance	Supported

Source: Research results (2025).

Next, we test the hypothesis for the indirect influence through intervening variables (path analysis). Table 6 shows the results of the indirect influence hypothesis test through intervening variables (Profitability), namely H6 to H7.

Table 10. Indirect Influence Hypothesis Test (Path Analysis)

Hypothesis Model	Analysis	Hypothesis Testing
H6- DER (X1) -> Profitability (M) -> Stock Returns (Y)	Direct effect (DER --> Stock Returns)= 0.180 Indirect effect (DER --> Profitability) x (Profitability --> Stock Returns)= $0.130 \times 0.413 = 0.05369$ Total effect (direct effect + indirect effect)= $0.180 + 0.05369 = 0.23369$ $\text{VAF} = 0.05369 / 0.23369 \times 100\% = 22,97\%$ (20%-80%) (partial mediation)	Supported
H7- EPS (X2) -> Profitability (M) -> Stock Returns (Y)	Direct effect (EPS--> Stock Returns)= 0.295 Indirect effect (EPS --> Profitability) x (Profitability --> Stock Returns)= $0.312 \times 0.413 = 0.128856$ Total effect (direct effect + indirect effect)= $0.295 + 0.128856 = 0.423856$ $\text{VAF} = 0.128856 / 0.423856 \times 100\% = 30,40$ (20%- 80%) (partial mediation)	Supported

Source: Research results (2025)

Based on the research results presented in Table 10, it appears that both hypotheses of indirect influence through the intervening variable are proven. The VAF value for H6 is 22.97% (between 20% and 80%), indicating partial mediation, thus H6 is accepted. The same is true for H7, namely the VAF value of 30.40% (between 20% and 80%), indicating partial mediation, thus H7 is accepted.

4.1. Discussion

The results of the study show variations in the influence of capital structure, earnings performance, and stock returns. First, DER has no significant effect on profitability, indicating that the use of debt is not yet effective in increasing profits. This finding is consistent with previous research that suggests high financial risk can depress corporate profits. Second, EPS has a positive and significant effect on profitability, in line with signaling theory, which states that earnings per share reflects financial performance and serves as a positive signal to investors.

Third, neither DER nor EPS has a direct effect on stock returns, indicating that external factors such as market conditions and investor risk are more dominant in shaping returns. Fourth, profitability has a significant positive effect on stock returns, indicating that profit levels are a primary consideration for investors. Mediation analysis also shows that profitability mediates the effects of both DER and EPS on stock returns, although partly indirectly. Overall, profitability is proven to be a central variable linking internal financial performance with stock market performance.

5. Conclusion

The results of the study indicate that DER has no significant effect on profitability or stock returns. EPS has a positive and significant effect on profitability, but has no direct effect on returns. Profitability itself has a significant positive effect on stock returns. Furthermore, profitability mediates the effect of DER on returns and partially mediates the effect of EPS on stock returns. Thus, profitability is a key variable linking EPS and DER to stock market performance.

5.1. Research implications

5.1.1. Theoretical Implications

This research supports signaling theory and profitability-based valuation theory, which emphasize that profitability is the primary signal for investors in assessing a company's value. The findings indicate that EPS and DER only influence returns if they are first reflected in profitability. Thus, this study provides empirical evidence regarding the mediating role of profitability in the relationship between DER and EPS and stock returns.

5.1.2. Managerial Implications

Practically, companies need to focus their strategies on increasing profitability, not just improving DER or EPS. Profitability can be improved through cost efficiency, asset optimization, and operational management. Financial managers need to understand that increasing EPS does not automatically increase market confidence without sustained profitability. For investors, profitability can be a key indicator for assessing potential stock returns.

5.1.3. Limitations of Research and Suggestions

This study has several limitations. First, it uses only two independent variables (DER and EPS), so it does not include other factors such as firm size, liquidity, or market risk. Second, the sample only includes companies in the SRI-KEHATI Index on the IDX, so the findings cannot be generalized to other sectors or markets. Third, the use of secondary data over a limited period does not adequately reflect long-term market dynamics.

For future research, it is recommended to add financial and non-financial variables such as firm size, liquidity, market risk, or economic growth to strengthen the model. More complex analytical methods such as panel data regression or SEM can also be used for more comprehensive results. Furthermore, comparative studies across industries or across ASEAN countries are recommended to examine the differences in the influence of financial variables in diverse economic contexts.

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THE INFLUENCE OF FINANCIAL LITERACY, ELECTRONIC MONEY USE, AND LIFESTYLE ON CONSUMPTIVE BEHAVIOR AMONG YOUNG PEOPLE IN PASAR MINGGU SUBDISTRICT, SOUTH JAKARTA

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Abstract

This study aims to analyze the influence of financial literacy, electronic money usage, and lifestyle on the consumptive behavior of young people in Pasar Minggu Subdistrict, South Jakarta, in the digital economy era. This study uses a descriptive quantitative approach with primary data obtained through questionnaires. The research sample was determined using the Lemeshow method, consisting of 100 respondents aged 17–26 years. Data analysis was performed using multiple linear regression with SPSS, supplemented with validity, reliability, and classical assumption tests. The results of this study are expected to show that financial literacy, electronic money usage, and lifestyle have a significant influence on consumptive behavior. This research provides benefits for the young generation in increasing financial awareness, for researchers in expanding scientific knowledge, and for the faculty as material for developing financial management research in the digital era.

Keywords: Financial Literacy, Use of Electronic Money, Lifestyle, Consumptive Behavior, Lemeshow.

THE INFLUENCE OF TAXPAYER UNDERSTANDING, TAXPAYER AWARENESS, AND TAXPAYER COMPLIANCE ON THE USE OF E-FILING

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Abstract

This study aims to analyze the influence of taxpayer understanding, taxpayer awareness, and taxpayer compliance on the use of e-filing among individual taxpayers. Tax administration digitalization is expected to enhance the efficiency and ease of reporting taxes. However, e-filing remains underutilized; many taxpayers do not know tax procedures, do not show much consciousness about the tax itself, or do not comply completely with their tax obligations. A quantitative approach is adopted in this research, which seeks to collect data by distributing questionnaires to individual taxpayers. Data would be analyzed using multiple linear regression to see the relationship of tax understanding, tax awareness, and tax compliance toward e-filing usage. It is hoped that the findings of this study will inspire the thinking of revenue agencies toward coming up with more efficient education and socialization programs to promote e-filing methodologies among taxpayers.

Keywords: Tax Understanding, Tax Awareness, Tax Compliance, e-Filing.

1. Introduction

Taxes were of utmost significance in Indonesia's national development accounting for more than 83% of state revenue in 2022 (Ministry of Finance, 2023). The Directorate General of Taxes (DGT) introduced an e-filing system as an online tax return filing platform in line with their ongoing program of digital transformation. The platform intends to enhance the management of tax processes with greater transparency, shorter waiting periods, enhanced accuracy, and faster reporting. However, very few of the benefits accrue to individual taxpayers as regards the e-Filing. Studies indicate that e-Filing adoption is significantly influenced by perceived usefulness and satisfaction of taxpayers, while perceived understanding and ease of use do not show significant impact (Lizkayundari & Kwarto, 2018).

Empirical evidence suggests that both tax understanding and awareness significantly affect the adoption of e-Filing (Aditya & Nurul, 2020). Rahayu (2020) found that understanding and awareness were positively associated with e-Filing use, while compliance did not show a significant effect. In contrast, Sari and Putra (2022) demonstrated that understanding, awareness, and compliance all significantly influenced e-Filing adoption. These inconsistencies indicate the need for further investigation, particularly in different tax office contexts. This study aims to examine the simultaneous influence of understanding, awareness, and compliance on the use of e-Filing among individual taxpayers registered at KPP Pratama Jakarta Jatinegara. The findings are expected to inform tax authorities on improving education, outreach, and system accessibility to enhance voluntary compliance and digital engagement.

2. Literature Review

2.1. Theory of Planned Behavior (TPB)

Theory of Planned Behavior (TPB) developed by (Ajzen, 1991) was developed in 1991 as a model explaining and predicting individual behavior through three main components - attitude toward the behavior, subjective norms, and perceived behavioral control in terms of the planned behavior. Tax compliance according to TPB suggests that the intentions formed by the taxpayer's subjective accounting of his attitude to paying taxes and all social pressures in their environment, which he calls subjective norms, may be affected by their perception or access as

well to the possible ability or ease of compliance with their obligations concerning taxes. Attitudes can also develop by raising understanding, awareness, and comfort in e-filing.

This framework has been widely applied in taxation studies, particularly in digital tax services. For instance, Aditya and Nurul (2020) found that both taxpayer understanding and awareness, which are linked to attitudes and norms, significantly influenced e-Filing adoption. Similarly, Rahayu (2020) reported that understanding and awareness were significant predictors of e-Filing usage, although compliance (linked to behavioral control) was not statistically significant. In contrast, Sari and Putra (2022) concluded that understanding, awareness, and compliance all significantly affect the use of e-Filing, aligning fully with TPB's structure.

These studies confirm TPB's applicability in understanding taxpayer behavior in the digital context. When taxpayers are well-informed, aware of their obligations, and perceive the e-Filing system as easy and accessible, they are more likely to adopt it voluntarily. Therefore, improving tax understanding, increasing awareness, and simplifying the e-Filing process are key strategies aligned with TPB to enhance digital compliance behavior.

2.2. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) introduced by Davis, (1989) explains that an individual's acceptance of technology is influenced by two main factors: perceived ease of use and perceived usefulness. In this regard, taxpayers are more likely to use the e-Filing system if they perceive that the system is easy to use and beneficial in simplifying the tax reporting process.

Based on previous studies, these two variables are very important in enhancing e-Filing adoption. According to Rahmadani & Prasetyo (2021), perceptions of the ease, convenience, and safety of e-Filing largely determine the choice of taxpayers in using e-Filing. Hence, knowledge of technology and belief in the system are the two most significant and essential factors for one to take action.

2.3. Tax Understanding

Tax understanding refers to the taxpayer's level of knowledge regarding tax regulations, obligations, rights, as well as the procedures for filing and payment. When taxpayers understand how the tax system works, including the legal and procedural aspects, they are more likely to fulfill their obligations accurately and on time. According to Handayani and Mulyani (2020), tax understanding significantly influences compliance in using e-Filing systems, as better comprehension fosters confidence and independence in tax reporting.

Similarly, Lizkayundari and Kwarto (2018) found that while perceived usefulness and satisfaction significantly influenced the use of e-Filing, perceived understanding and ease of use did not have a significant effect. This indicates that the adoption of digital tax systems may depend more on user experience and the practical benefits of the system rather than mere comprehension. In the same vein, Utami and Siregar (2022) found that tax understanding positively affects the decision to adopt e-Filing, reinforcing the importance of education in improving digital tax participation. Furthermore, Rizky et al. (2021) argued that understanding is not only linked to compliance but also serves as a prerequisite for taxpayers to perceive the benefits and usability of online tax platforms.

These findings confirm that increasing taxpayer understanding is a foundational step toward enhancing voluntary compliance and encouraging wider adoption of digital tax systems.

2.4. Tax Compliance

Tax compliance is defined as the willingness and ability of taxpayers to fulfill their tax obligations in accordance with applicable laws and regulations. The Directorate General of Taxes (2023) describes compliance as timely submission of tax returns (SPT), accuracy in reporting income and deductions, and correctness in tax payments. Compliance is not only

influenced by enforcement but also by a taxpayer's internal motivation to fulfill their obligations voluntarily.

Utami and Siregar (2022) found that tax compliance significantly influences the use of e-Filing, suggesting that compliant taxpayers are more likely to engage with official digital systems. In line with this, Sari and Putra (2022) demonstrated that understanding, awareness, and compliance each play a significant role in encouraging taxpayers to adopt e-Filing. However, Rahayu (2020) presented a contrasting result, indicating that while understanding and awareness had significant effects, compliance did not. This discrepancy highlights the complexity of taxpayer behavior and the possibility that compliance may be conditional on other factors, such as user experience or technical ease. Rizky et al. (2021) also emphasized that compliance is positively related to e-Filing use when combined with clear sanctions and structured enforcement.

These findings confirm that tax compliance, especially when supported by awareness and understanding, plays an important role in shaping taxpayer behavior in adopting digital platforms such as e-Filing.

2.5. Tax Awareness

Tax awareness refers to the internal attitude of taxpayers to voluntarily and responsibly fulfill their tax obligations. It encompasses a sense of duty, recognition of the importance of taxes for national development, and a willingness to comply without coercion. Awareness is shaped by prior knowledge, socialization, and personal experience with the tax system. According to Aditya and Nurul (2020), tax awareness significantly influences the decision to use e-Filing, as it encourages proactive and independent tax reporting.

Rahayu (2020) also found that awareness had a significant positive impact on e-Filing adoption, even though compliance did not show the same effect. This suggests that awareness acts as a motivational factor that bridges knowledge and action. Supporting this, Sari and Putra (2022) emphasized that awareness, when coupled with understanding and compliance, enhances the likelihood of adopting digital tax platforms. Similarly, Utami and Siregar (2022) demonstrated that tax awareness contributes to the behavioral intention to use e-Filing, especially when supported by effective tax education and accessible systems.

2.7. Use of e-Filing

E-Filing is an electronic tax reporting system that enables taxpayers to submit their Annual Tax Return (SPT) online without visiting a tax office. As stated in PER-02/PJ/2019 by the Directorate General of Taxes, the e-Filing system is intended to simplify and accelerate the tax reporting process while promoting transparency, efficiency, and accountability. Through this platform, taxpayers can file their returns anytime and anywhere, reducing time and administrative burdens.

Despite its benefits, the adoption rate of e-Filing among individual taxpayers is still not optimal. Utami and Siregar (2022) found that the use of e-Filing is significantly influenced by taxpayers' understanding, awareness, and compliance behavior, highlighting the importance of behavioral readiness in digital adoption. Likewise, Sari and Putra (2022) demonstrated that when taxpayers have strong comprehension, are aware of their tax responsibilities, and feel confident in their compliance, they are more likely to adopt e-Filing. Their findings also underline the importance of trust in the system and user-friendly design to encourage wider usage.

In conclusion, the successful implementation of e-Filing depends not only on technological infrastructure but also on the taxpayers' readiness and trust. A collaborative approach between tax authorities and taxpayers is essential to create a reliable, accessible, and efficient digital tax reporting ecosystem.

3. Methodology

4. Result and Discussion

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THE EFFECT OF SERVICE QUALITY, CUSTOMER EXPERIENCE, AND BRAND IMAGE ON CUSTOMER SATISFACTION AT FAMILYMART PEJATEN CONVENIENCE STORE

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Abstract

The problem in this study is based on the low rating and various negative reviews received by FamilyMart Pejaten convenience store on Google Review, which indicate problems related to customer satisfaction levels. Therefore, this study aims to analyze the effect of service quality, customer experience, and brand image on customer satisfaction at FamilyMart Pejaten. This study uses a quantitative method with data collection techniques by distributing a digital questionnaire using Google Forms to 100 respondents who have directly made purchases at FamilyMart Pejaten. The sampling technique used is purposive sampling. The data will be analyzed using SPSS version 30 through validity and reliability tests, multiple linear regression, and classical assumption tests. The results of this study are supposed to prove that service quality, customer experience, and brand image have a positive and significant effect on customer satisfaction. This study is also aimed to provide practical insights for FamilyMart Pejaten management to consider in improving customer satisfaction in the future.

Keywords: Service Quality, Customer Experience, Brand Image, Customer Satisfaction

THE INFLUENCE OF EMPLOYER BRANDING, CORPORATE REPUTATION, AND E-RECRUITMENT ON GENERATION Z'S JOB APPLICATION INTENTION (A STUDY ON UNDERGRADUATE MANAGEMENT STUDENTS CLASS OF 2022 AT UNIVERSITAS NASIONAL)

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Abstract

Technological developments and digital transformation have significantly changed recruitment patterns. Generation Z, as digital natives, has unique characteristics and considerations in choosing a workplace, making them a crucial subject for research on job application behavior. This study aims to analyze the influence of Employer Branding, Corporate Reputation, and E-Recruitment on the Job Application Intention of Generation Z. This research uses a quantitative approach with a survey method. The population is 352 undergraduate Management students from the class of 2022 at Universitas Nasional, with a sample of 78 respondents selected through simple random sampling. Data were collected using a Likert-scale questionnaire and analyzed using multiple linear regression analysis with the help of SPSS. The results of this study are expected to show that Employer Branding, Corporate Reputation, and E-Recruitment have a positive and significant influence on the Job Application Intention of Generation Z. The findings of this research are anticipated to contribute to the development of human resource management science, particularly in recruitment strategy, and provide practical recommendations for companies to enhance their appeal to Generation Z job seekers through strengthening employer branding, corporate reputation, and optimizing e-recruitment systems..
Keywords: Employer Branding, Corporate Reputation, E-Recruitment, Job Application Intention, Generation Z.

1. Introduction

The introduction describes the research background and problems based on the literature review (for example, research gaps). Like as data related to research variables, that can be used as a logical basis for developing research hypotheses or propositions and research models (if deemed necessary) and contain objectives research and research originality. The components that can be considered in the introduction are the importance of the articles in general and specific topics, limitations of previous research and solutions to solve these limitations leading to novelty and originality, and general and specific research objectives. At the end of the introduction, the author must convey the state of the art, novelty, gaps, and research objectives.

There are no subsections in the introduction, and a brief and direct introduction to the subject is essential in this paper. Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified, margins follow the provided template. The citation uses the APA standard. We can write citing articles as follows: Parenthetical citations for a single author (Cortina, 2008), for articles with more than one author (Miner & Eischeid, 2012), and with more than two authors (Loi et al., 2013). Narrative citations for a single author Cortina (2008); for two authors Miner and Eischeid (2012); for more than two authors Loi et al. (2013). If you want to cite more than a few papers, arrange them alphabetically from AZ, not the year of publication, as follows (Cortina, 2008; Loi et al., 2013; Miner & Eischeid, 2012; Welbourne et al., 2015).

1.1. Hypothesis development (quantitative) or mind mapping (qualitative)

1.1.1. Subchapter

This section allows you to add subchapters. Provide an explanation of the *theoretical background, state of the art*, theoretical model framework, and proposed hypotheses. If your research is qualitative, provide a path to form your mind map. The citation uses the APA standard. You can write it down as follows: Parenthetical citations for a single author (Cortina, 2008), for articles with more than one author (Miner & Eischeid, 2012), and with more than two authors (Loi et al., 2013). Narrative citations for a single author Cortina (2008); for two authors Miner and Eischeid (2012); for more than two authors Loi et al. (2013). If we want to cite more than a few papers, arrange them alphabetically from AZ, not the year of publication, as follows (Cortina, 2008; Loi et al., 2013; Miner & Eischeid, 2012; Welbourne et al., 2015). Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified.

1.2. Relationship between variables (if your paper is quantitative)

If our research/paper is quantitative, please provide prior research that agrees, supporting the development of our proposed hypothesis.

H1: Hypothesis one and so on here.

1.3. Research Model

After the hypothesis section, if our study is quantitative, provide a research model here, or our mind map, if qualitative. Images must be of good quality. And make it into a group so it doesn't shift. Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified.

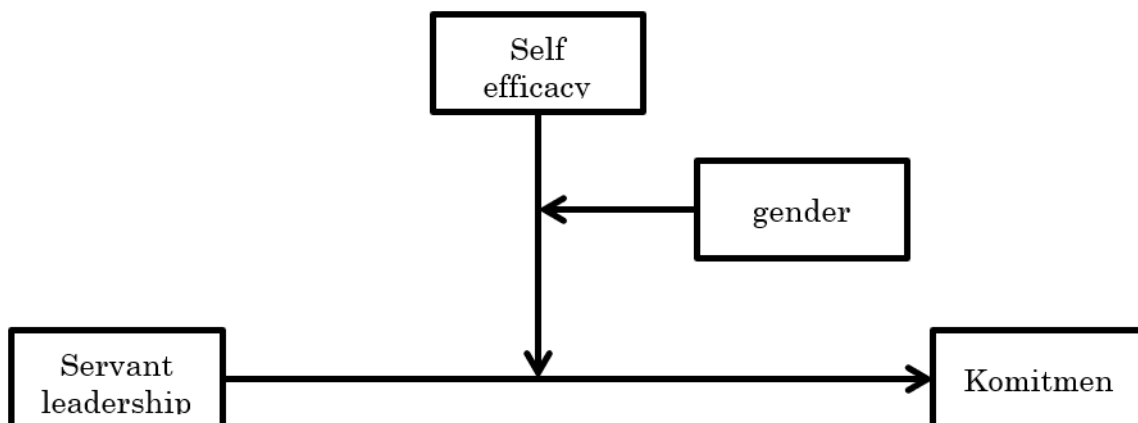


Figure 1. Research Model

2. Methodology

2.1. Sample and Data Collection

The methodology consists of sampling and data collection, measurement, and data analysis. The methodology is optional, depending on our type of research or manuscript. The methodology is mainly devoted to the type of original research paper manuscript. Briefly describe our research design here, population, measurement and sampling techniques, data collection methods, and response rates. Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified.

2.2. Measurement our variable name

Describe our measurement of variables (adapting, adopting, modifying, or developing your own (if developing your own, please explain the stages of developing the measurement)).

Describe our measurement of variables (adapting, adopting, or modifying, or developing your own (if developing your own, please explain the stages of developing the measurement)).

2.3. Data analysis

The analytical technique used in the research.

3. Results and discussion

The results of the study answered the proposed hypothesis based on the analytical techniques that have been described. The results of the study directly present the data and results obtained from the research. This section only provides a narrative description of the research results without any interpretation or evaluation. In this section, each statistical test that we perform must be explained thoroughly. This section is very important to describe the research methodology used. Any statistical findings should be summarized, summarized, and presented in tables or graphs, not just copy-paste from our statistical tool (The table shown does not copy the original output of the data processing software).

The table title is written above the table, in bold, and positioned on the left. The vertical lines in the table do not need to be displayed, while the horizontal lines are only shown in the headings and closings of the table. Like the following example:

Table 1. Multiple Linear Regression Test Results

Variable	B	t	sig	description
Constant	2.235	.783	.435	
Leadership	.191	3.107	.002	supported
Self efficacy	.285	3.102	.002	supported
Communication	.226	3.072	.003	supported
Adj R ²	.547			
F	32,647		.000	

(Source: Processed data, 2020)

If there is an image, the display image must be of good quality. If there is a formula, write the formula, not the result of cropping. Every table. Figures and formulas must be numbered. How to refer to tables, figures, and formulas by mentioning table numbers, figures, or formulas, not with mentions like above or below. Example "Based on table 1" instead of "based on the table above".

In this section, you can display sub-chapters if you feel it is necessary. Arial 11 bold font for subchapter titles. The following example is below:

Subchapter

Subchapter

This section allows us to describe our findings academically. Explain and interpret the meaning of our research results. We may not enter figures related to our statistical test here (as these are in "RESULTS"); instead, you should structure your discussion with academic support.

In this section, we can display sub-chapters if we feel it is necessary. Arial 11 bold font for subchapter titles. The following example is below:

Subchapter

Arial font 11, Space 1.15, before 6 pt, first line 1 cm except for the first paragraph, justified.

Conclusion

Restate the main argument, and present the conclusion of the analysis in the form of a narrative instead of numbering.

Research implications

Explain the practical implications of the research results and the extent to which the originality of the study has been addressed.

Limitations of Research and Suggestions

Statement of research limitations and suggestions for further research. In narrative form, not numbers.

References

References use the APA (*American Psychological Association*) style format. To learn and see examples of reference writing with APA style guidelines, please visit the link <https://apastyle.apa.org/style-grammar-guidelines/references/examples>. The use of reference manager applications, such as Zotero, and Mendeley, is recommended.

Cite major scientific publications on which our work is based, which we have read, and which we have written in the manuscript. Avoid excessive self-citations of no more than 5. Avoid excessive citations from publications from the same area.

For Research Papers, the references used to use a ratio of at least 80% of primary references (Journal Articles) or a maximum of 20% of textbooks. The novelty of the reference is our main concern. It is recommended to use the most recent references (10 years for textbooks) and the last 5 years for journal articles (special note: main research/initial research may optionally be included to provide insight into the main contributors to the topic).

Arial letter 10, before 6 pt, spaced 1, hanging 0.5, justified. Sort alphabetically.

Example

Example for a book

Hartono, J. (2013). *Portfolio theory and investment analysis*. BPFE. Yogyakarta.

Example for Journal Article with DOI

Sari, SR, & Thawil, SM (2016). The role of locus of control on the relationship between job insecurity, commitment, and job satisfaction. *Journal of Business Research and Management*, 1 (1), 71–80. <https://doi.org/10.36226/jrmb.v1i1.12>

Example of a journal article without DOI

Winarto, MRA, & Widyastuti. (2021). The influence of brand image and brand love on repurchase intention (a case study on consumers of Gucci products in Surabaya). *Journal of Economics and Business Innovation*, 1 (2). Retrieved from <https://journal.inspirasi.or.id/nomicpedia/article/view/65>

examples of theses, theses, and dissertations

Zambrano-Vazquez, L. (2016). *The interaction of state and trait worry on response monitoring in those with worry and obsessive-compulsive symptoms* [Doctoral dissertation, University of Arizona]. UA Campus Repository. <https://repository.arizona.edu/handle/10150/620615>

Web Example

Kho, B. (2019, August 22). *Understanding equity (equity) elements of equity* . <https://sciencemanajemenindustri.com/pengertian-ekuitas-equity-elemen-elemen-ekuitas/>

To learn more complete guidelines for writing references using APA Style that are not in the example above, please visit <https://apastyle.apa.org/style-grammar-guidelines/references/examples>

THE INFLUENCE OF SOFT SKILLS, DIGITAL COMPETENCE, AND WORK EXPERIENCE OF FINAL YEAR STUDENTS AT THE FACULTY OF ECONOMICS AND BUSINESS, NATIONAL UNIVERSITY

Adriansyah Chandra Aminudin, Lisa Sarinah
National University

Abstract

This study aims to analyze the influence of soft skills, digital competence, and work experience on the work readiness of final semester students at the Faculty of Economics and Business, Universitas Nasional. The underlying phenomenon is the low readiness of graduates to face the world of work, which demands a balance of technical and non-technical skills. The research approach used is quantitative associative with a sample of 154 respondents determined using the Slovin formula from a population of 250 students, using purposive sampling. Primary data was collected through a five point Likert scale questionnaire, while secondary data was obtained from relevant scientific sources. Data analysis was performed using SPSS with multiple linear regression, supplemented by validity, reliability, classical assumption, F-test, t-test, and coefficient of determination (R^2) tests. The research results are expected to show that the three independent variables have a positive and significant effect on student work readiness and provide theoretical and practical contributions to the development of an employability skills-based curriculum.

1. Introduction

This research is motivated by the rapid changes in the world of work due to technological developments and the Fourth Industrial Revolution. College graduates now need more than just academic abilities; they must also possess non-technical skills such as soft skills, digital competence, and relevant work experience. Based on data from the Indonesian Central Statistics Agency 2024, the open unemployment rate of college graduates still reaches 5.25 percent. This figure shows a gap between the competencies of graduates and the needs of the industrial world. Therefore, this study focuses on analyzing the influence of soft skills, digital competencies, and work experience on the work readiness of final semester students at the Faculty of Economics and Business, National University.

1.1. Problem Formulation

1. Do soft skills have a significant effect on students' work readiness?
2. Do digital competencies have a significant effect on students' work readiness?
3. Does work experience have a significant effect on students' work readiness?

1.2. Research Objectives & Benefits

1.2.1. Research Objectives

1. To analyze the influence of soft skills on students' work readiness.
2. To analyze the influence of digital competence on students' work readiness.
3. To analyze the influence of work experience on students' work readiness.

1.2.2. Research Benefits

1. Theoretically, this research is expected to enrich the study of human resource management, especially in the field of employability.

2. Practically, the results of this research are expected to provide input for universities to strengthen competency-based curricula and for students to better prepare themselves for the world of work.

2. Theoretical Study

2.1. Soft Skills

Soft skills are non-technical abilities that include communication, teamwork, leadership, work ethic, and adaptability. According to Tushar and Sooraksa (2023), soft skills play an important role in increasing the employability or competitiveness of graduates in the world of work. Employees who have good communication skills, are able to work in teams, and can lead and adapt quickly, tend to be more easily accepted by companies. In the context of students, soft skills are essential for navigating the dynamics of the workplace and interacting professionally in a work environment

2.2. Digital Competence

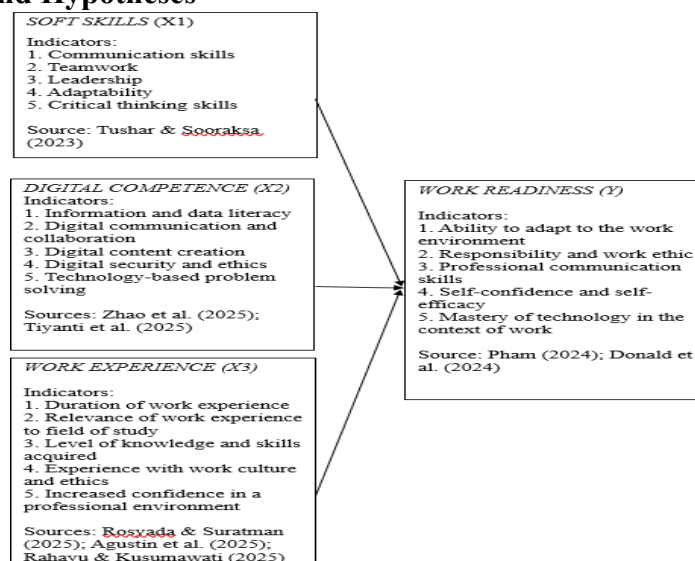
Digital competence is the ability to use information and communication technology effectively, efficiently, and safely. According to Zhao et al. (2025), digital competence includes aspects of information literacy, online collaboration, digital content creation, cybersecurity, and technology-based problem-solving skills. In the modern workplace, digital skills are essential, as almost all work processes are now integrated with technology. Students with high digital competencies tend to be better prepared to adapt to technology-based work systems and have better career opportunities in the future.

2.3. Work Experience and Work Readiness

Work experience is one of the factors that influence an individual's readiness to enter the workforce. According to Rosyada and Suratman (2025), work experience can be gained through internships, part-time jobs, or work experience programs relevant to one's field of study. Through these experiences, students can understand work culture, improve practical skills, and develop professional confidence.

Furthermore, according to Pham (2024), work readiness is defined as a person's ability to adapt to work demands involving cognitive, social, emotional, and technological aspects. Thus, the better the work experience students have, the higher their level of readiness in facing the real world of work.

3. Framework and Hypotheses



Based on the theoretical framework described above, this study proposes a framework in which the variables of soft skills (X_1), digital competence (X_2), and work experience (X_3) influence students' work readiness (Y). The relationships between these variables are formulated in the following hypotheses:

H₁ states that soft skills have a positive and significant effect on students' work readiness.

H₂ states that digital competence has a positive and significant effect on students' work readiness.

H₃ states that work experience has a positive and significant effect on students' work readiness. This conceptual framework serves as the basis for testing the extent to which each of these factors contributes to preparing students for the world of work

3.1. Object, Population, and Sample

The research object is final semester students of the Faculty of Economics and Business, National University, academic year 2025. The research population consists of 250 students. The sample was determined using the Slovin formula with a 5% margin of error :

$$n = \frac{250}{1 + 250 (0.05)^2} = 154 \text{ respondent}$$

Sampling technique: Purposive sampling, with criteria of active students in their final semester who have participated in internship or practical work programs.

3.2. Data Collection Techniques & Instruments

3.2.1. Types of Data

1. Primary data, obtained through questionnaires.
2. Secondary data, obtained from books, journals, and other scientific sources.

3.2.2. Research Instruments

1. Questionnaires are compiled based on variable indicators.
2. Using a Likert scale (1–5), ranging from Strongly Disagree (1) to Strongly Agree (5).

3.3. Data Analysis Techniques & Statistical Tests

Data analysis was performed using SPSS with a multiple linear regression model, as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

3.3.1. Analysis Step

1. Validity Test – items are considered valid if $r \text{ count} > r \text{ table}$.
2. Reliability Test – instruments are considered reliable if Cronbach's Alpha > 0.70 .
3. Classical Assumption Test – includes normality, multicollinearity, heteroscedasticity, and auto correlation.
4. F Test – tests the simultaneous effect of independent variables on the dependent variable.
5. t Test – tests the partial effect of each independent variable.
6. R^2 Test (Coefficient of Determination) – examines the ability of independent variables to explain the dependent variable.

With this test, it is hoped that the research results will show that soft skills, digital competencies, and work experience have a positive influence on students' work readiness.

THE EFFECT OF QUICK RATIO, TOTAL ASSET TURNOVER, AND DEBT TO EQUITY RATIO ON RETURN ON ASSETS IN MINING COMPANIES ON THE INDONESIA STOCK EXCHANGE FOR THE 2020-2024 PERIOD

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Abstract

This study aims to analyze the effect of Quick Ratio (QR), Total Asset Turnover (TATO), and Debt to Equity Ratio (DER) on Return on Asset (ROA) in mining companies listed on the Indonesia Stock Exchange (IDX) for the 2020–2024 period. This research is descriptive quantitative using secondary data obtained from annual financial reports. The sample was determined using the purposive sampling method, resulting in 20 companies with a total of 100 observations over five years. Data analysis was conducted using Eviews 12 software with panel data regression methods through the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) tests, along with classical assumption testing. The research results are expected to show that QR, TATO, and DER have a significant effect both partially and simultaneously on ROA. These findings contribute to investors and company management in financial decision-making, as well as to academics as a reference for further research in the field of financial management.

Keywords: Quick Ratio, Total Asset Turnover, Debt to Equity Ratio, Return on Asset, Mining Companies.

THE INFLUENCE OF BRAND IMAGE, SALES PROMOTION, AND ELECTRONIC WORD OF MOUTH (E-WOM) ON IMPULSIVE BUYING OF BATA SHOES ON SHOPEE E-COMMERCE AMONG GEN Z AT UNIVERSITAS NASIONAL JAKARTA SELATAN

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Program Study Management Faculty Ekonomi And Bussiness University Nasional

1. Introduction

In the fashion world, Bata Shoes is one of the longstanding brands. However, on the Shopee ecommerce platform, this brand faces quite stiff competition. Bata's shoe sales have experienced a significant decline.

- The fierce competition from rival brands has affected the market.
- There has been a shift in consumer consumption patterns that influences purchasing preferences.

Picture 1. Sales Comparison Of Pt Sepatu Bata Tbk From 2021 To 2025



Source: Top Brand Indeks

1.1. Problem Formulation

- To determine and analyze the influence of brand image on impulse buying of Bata Shoes on Shopee among Gen Z students at the National University of South Jakarta.
- To determine and analyze the influence of sales promotions on impulse buying of Bata Shoes on Shopee among Gen Z students at the National University of South Jakarta.
- To determine and analyze the influence of E-WoM (Electronic Word of Mouth) on impulse buying of Bata Shoes on Shopee among Gen Z students at the National University of South Jakarta.

1.2. Research Objectives

- To determine and analyze the influence of brand image on impulse buying of Bata Shoes on Shopee among Gen Z at the National University of South Jakarta

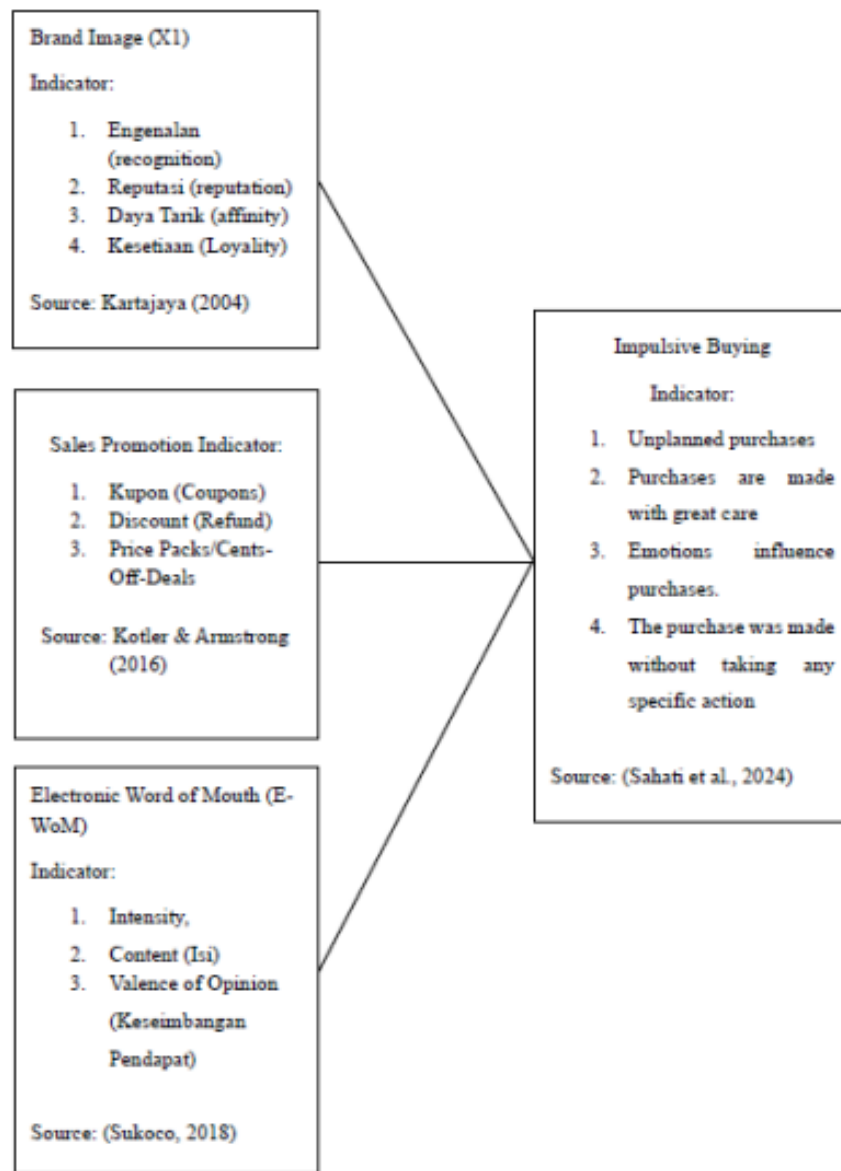
- To determine and analyze the influence of sales promotions on impulse buying of Bata Shoes on Shopee among Gen Z at the National University of South Jakarta
- To determine and analyze the influence of electronic word of mouth (E-WoM) on impulse buying of Bata Shoes on Shopee among Gen Z at the National University of South Jakarta.

2. Theoretical Review

variables	theoretical studies
Brand Image	Brand image or corporate image is the consumer's perception of the brand, which is formed from marketing messages and associations (Ali and Naushad, 2023; Khoirunnisa and Albari, 2023). Brand image according to Henslowe (2008:45) is the impression gained according to the level of knowledge and understanding of facts about people, products, or situations (image can be defined as being: the impression gained according to the level of knowledge and understanding of facts, about people, products, situations
Sales Promotion	Sales promotion is a key element in marketing campaigns. It consists of a collection of incentive tools, mostly short-term, designed to stimulate quicker or greater purchase of particular products or services by consumers or customers (Kotler and Keller, 2016:622). Sales promotion can also be defined as a set of incentive tools used to stimulate the quick and larger purchase or sale of a product or service, which is usually short-term in nature (Wahyuni & Setyawati, 2020)
Electronic Word of Mouth (E-WoM)	According to Tariq et al. (2017), word of mouth that occurs through electronic systems encourages individuals to seek information about desired brands or products. Meanwhile, Yan et al. (2018), citing Erkan and Evans (2016), stated that before shopping, consumers always try to find information shared by previous consumers on social media or Social Network Sites (SNS), such as blogs, online discussion forums, shopping reviews, and others
Impulsive Buying	Impulse buying is defined as "unplanned purchases" characterized by relatively quick decision-making and a subjective bias directly supporting ownership (Rook & Gardner, 1993; Rook, 1987; Rook & Hoch, 1985 in Kacen & Lee, 2002). With the rise of e-commerce, a phenomenon called impulse buying has emerged. Buyers purchasing products they did not plan to buy is called impulse buying (Tirmizi, 2009).

3. Hypothesis And Analytical Framework

No.	Researcher's Name	Research Title	Variable	Variable
1	Salam, A. (2023).	The Influence of Promotion, Brand Image, and Shopping Lifestyle on Impulse Buying on Shopee	X1: Promotion X2: Brand Image X3: Shopping lifestyle Y: Impulsive Buying	This study proves that brand image has a positive and significant influence on impulsive buying. In addition, promotion and shopping lifestyle also have a positive and significant influence on impulsive buying.
3	Adzqia, D., & Adialita, T. (2024)	The Influence of Sales Promotion on Impulse Buying through Positive Emotion of Shopee E-Commerce Users	X1: Sales promotion Y : Impulsive buying	In this research, it can be concluded that sales promotion has a positive influence on impulsive buying.
5	Wibowo, Adelio Talenta (2025)	The Influence of Price Perception, Influencer Marketing, and E-WOM on Impulsive Buying of Tokopedia E-Commerce Users in South Jakarta	X1: Price Perception X2: Influencer marketing X3: Electronic word of mouth	The results of this analysis show that electronic word of mouth has a positive and significant influence on impulsive buying. In addition, price perception and influencer marketing also have a positive and significant influence on impulsive buying.



3.1. Research Methods

- Population: Customers who purchased Bata shoes on the Shopee app
- Quantitative research method using questionnaires
- Classical Assumption Test
 - Normality Test
 - Multicollinearity Test
 - Autocorrelation Test
 - Heteroscedasticity Test
- Multiple Linear Regression
- Hypothesis Test
 - Partial F-Test
 - Coefficient of Determination

STRATEGI SEGMENTING, TARGETING, DAN POSITIONING TERHADAP PENINGKATAN PENJUALAN DI WARUNG KOPI DI WILAYAH PAMULANG, PONDOK AREN TANGERANG SELATAN

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Abstract

This research was conducted with the aim of proving the Increase in Sales through Segmenting, Targeting, and Business Positioning of Coffee Shops in Pamulang, Pondok Aren South Tangerang" in Pamulang, Pondok Aren South Tangerang. Sampling based on the Purposeive Sampling technique, as many as 50 respondents who are Coffee Shop Business Actors using proportional random sampling. The analysis method used was statistic-partial least square using the SEM PLS 3.0 software analysis tool. The results of the study show that segmentation does not have a positive and significant effect on increasing sales, targeting has a positive and significant effect on sales rate, positioning has a positive and significant effect on sales rate.

Keywords: Segmenting, Targeting, and Positioning, Sales

1. Introduction

Cafe Angkringan is a cafe that has been operating for more than three years. In its development, Cafe Angkringan has experienced a decline in sales, which is suspected to be due to intense competition. Although Cafe Angkringan has combined a comfortable design concept with affordable prices for young people with an attractive and unique layout and interior, it seems that it is still unable to compete well. Therefore, the owner of Cafe Angkringan plans to implement an appropriate and realistic business model to address these shortcomings. Zafriana, Lusi.

Marketing strategy serves as a guideline or foundation for developing a product marketing plan and marketing tactics. This strategy also functions as a guide for product sales and distribution. Marketing strategy is a crucial component of the overall marketing system and marks the initial step in creating a marketing plan. M. Lutfi et al., 2020.

2. Methodology

2.1. Theoretical Framework

Based on the research title "Segmenting, Targeting, and Positioning Strategies to Increase Sales at Coffee Shops in the Pamulang Area, Pondok Aren, South Tangerang," the following research framework diagram can be created:

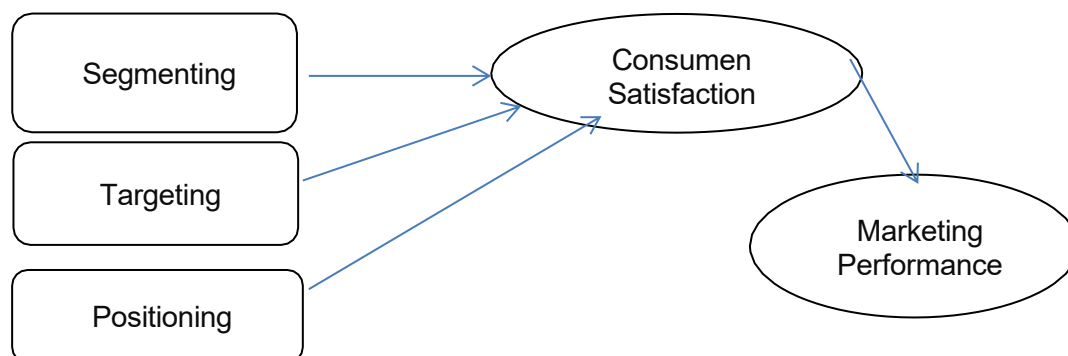


Figure 1.1 Theoretical Framework

2.2. Problems

The problems faced by coffee shop sellers in the Pamulang, Pondok Aren, South Tangerang area include:

1. Does the segmenting strategy affect the increase in coffee shop sales in the Pamulang, Pondok Aren, South Tangerang area?
2. Does the targeting strategy affect the increase in sales of coffee shops in the Pamulang, Pondok Aren, South Tangerang area?
3. Does the positioning strategy affect the increase in sales of coffee shops in the Pamulang, Pondok Aren, South Tangerang area?

2.3. Benefits of Research

The benefits of conducting this research are expected to provide solutions for coffee shop owners in the Pamulang and Pondok Aren areas of South Tangerang, including:

1. Providing answers to the problems faced by coffee shop sellers in the Pamulang, Pondok Aren, South Tangerang area in their business activities
2. Encouraging coffee shop owners in the Pamulang, Pondok Aren, South Tangerang area to be more active in developing their businesses so that their sustainability becomes longer and they are not affected by other issues that may arise during the course of their business operations.

2.4. Research Objectives

The objectives of this research include:

1. To assist coffee shop vendors in the Pamulang and Pondok Aren areas of South Tangerang in solving problems related to increasing sales in line with current developments.
2. To assist coffee shop vendors in the Pamulang and Pondok Aren areas of South Tangerang in utilizing current technology through the introduction of *digital marketing* tailored to market competition conditions

3. Results and discussion

3.1. Research results

3.1.1. Evaluation Inner Model

An evaluation of the inner model in partial least squares analysis was conducted to determine the suitability of the developed structural model. The inner model evaluation will describe the R-square (R²) value and the testing of the research hypotheses.

Based on data processing using PLS, the coefficient of determination (R²) value is shown in Table 1.

Table 1. Model R-square Values		
	R-Square	R – Square Adjusted
Costumer Satisfaction	0.934	0.932
Market Performance	0.054	0.043

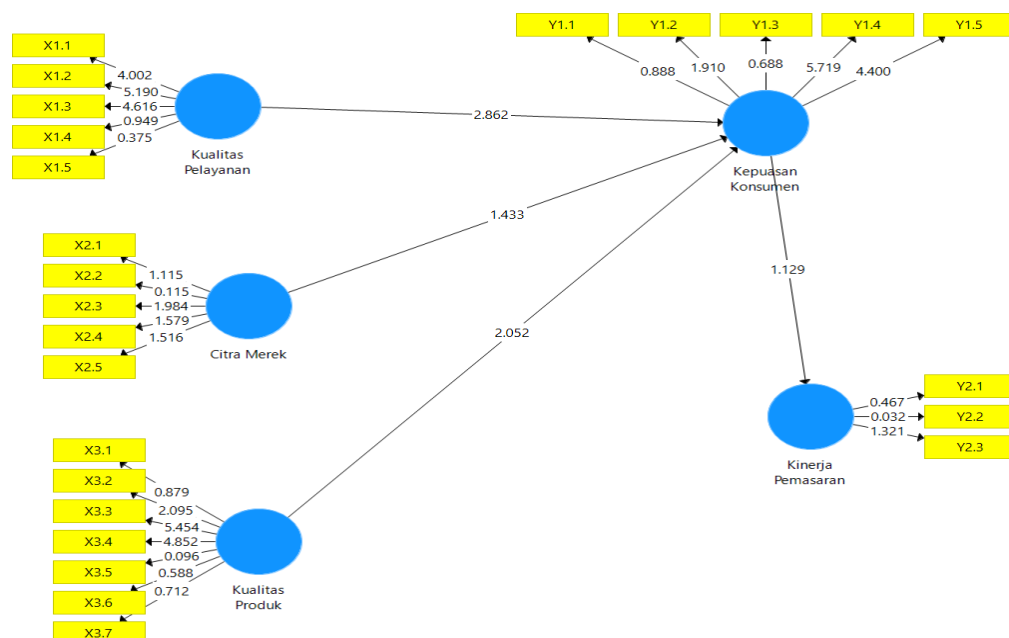
Processed data sources SmartPLS, 2022

R-square is used to determine the goodness of fit of the influence model of exogenous variables on endogenous variables, where the higher the R-square value, the more significant the influence given (Ghozali 2014). It is known that the R-square value for the consumer satisfaction variable is 0.934, which means that service quality and brand image and product quality can explain marketing performance by 93.4%. For the R-square value for the marketing

performance variable, the value obtained is 0.054, which means that service quality, brand image and product quality and consumer satisfaction can explain marketing performance by 5.4%.

3.1.2. Inner Weight

Evaluation of inner weights is used to assess the magnitude of influence on each path in the structural model, where the values obtained are the result of bootstrapping from the existing sample.



Source: Data processed by SmartPLS, 2022

Figure 1. Bootstrapping Result Values

Table 2. The Influence of Variables on Structural Equations and Hypothesis Testing

Original sample				P Values		Information
H ₁	Quality of service	□	0.503	2.862	0.004	accepted
H ₂	Brand image	□	0.145	1.433	0.153	rejected
H ₃	Product quality	□	0.421	2.052	0.041	accepted
H ₄	customer satisfaction	□	0.233	1.129	0.260	rejected
	Marketing performance					

Source: Data processed by SmartPLS, 2022

3.2. Research Discussion

Based on the research results, the research discussion is as follows:

1. Service Quality on Customer Satisfaction

The results of the study indicate a positive and significant effect of service quality on

customer satisfaction. This finding is inconsistent with research by Hasna and Budi (2022), which found that service quality has no impact on customer satisfaction. This is because service and serving customers according to the queue are not factors that influence customer satisfaction.

2. Brand Image on Customer Satisfaction

The results of the study indicate a positive but insignificant effect of brand image on customer satisfaction. This finding is inconsistent with research by Hasna and Budi (2022), which found that brand image significantly impacts customer satisfaction.

This is because, for the brand image variable, the more easily the Noni Juice brand is remembered by consumers, the higher the level of customer satisfaction.

3. Product Quality on Customer Satisfaction

The results of the study indicate a positive and significant effect of product quality on customer satisfaction. This finding is inconsistent with research by Hasna and Budi (2022), which found that product quality does not impact customer satisfaction. This is because quality and confidence in its distinctive taste are not factors that influence customer satisfaction.

4. Consumer Satisfaction with Marketing Performance

The results of this study indicate a positive but insignificant effect of consumer satisfaction on marketing performance. This finding is inconsistent with the research of Akhmad, Sugeng, and Rini (2019), which found that Customer Satisfaction (Y1) influences Business Performance (Y2), with a structural coefficient of 0.364 and a P-value of 0.364.

4. Conclusion and Suggestion

4.1. Conclusion

The conclusions in this study are as follows:

1. Service quality on customer satisfaction

The results of the study indicate a positive and significant effect of service quality on customer satisfaction.

2. Brand image on customer satisfaction

The results of the study indicate a positive but insignificant effect of brand image on customer satisfaction.

3. Product quality on customer satisfaction

The results of the study indicate a positive and significant effect of product quality on customer satisfaction.

4. Consumer satisfaction on marketing performance

The results of the study indicate a positive but insignificant effect of consumer satisfaction on marketing performance.

4.2. Suggestion

Based on the conclusions of this study, the following recommendations are made:

1. The company must further improve service quality to maintain and enhance customer satisfaction.
2. Brand image should be further enhanced, with the hope that this strategy will create customer satisfaction.
3. Product quality should be further improved to enhance customer satisfaction, thereby increasing the number of satisfied customers.
4. Consumer satisfaction should be further enhanced, with the hope of improving marketing performance.

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2.5. Example and Data Collection

The object of this study is the marketing performance of Yakult beverage products, which is the dependent variable, influenced by product quality, price perception, and brand image, which are the independent variables. The subjects were Yakult beverage consumers in Kampung Bulak, RT 04, Jatiasih. The data source is primary data. The data type used is quantitative.

The population in this study includes all respondents, namely Yakult beverage consumers in Kampung Bulak, RT 04, Jatiasih. The researcher used a non-probability sampling approach with a purposive sampling technique, with a sample size of 100 respondents. The technique used in this study is a quantitative approach. The method used is a questionnaire using a Likert scale.

2.6. Measurement

Product Quality, Price Perception, Brand Image, and Marketing Performance. All variables were measured using a Likert scale ranging from 1 to 5, indicating strongly disagree to strongly agree. All variable measurements underwent validity testing using factor analysis and reliability testing using Cronbach's Alpha. All variable measurements met the criteria and were deemed appropriate.

2.7. Data Analysis

Descriptive analysis can be used when only the purpose is to describe sample data and not draw conclusions applicable to the population from which the sample was drawn (Sugiyono, 2017). The method used in this study was to examine the focus variables: product quality, price perception, and brand image, which were used as independent variables, and marketing performance as the dependent variable.

Inferential analysis is used to analyze sample data and apply the results to the population. Data processing in this study was conducted using SPSS for Windows version 25.00, starting with multiple linear regression analysis, instrument testing, classical assumption testing, model feasibility testing, and hypothesis testing. This study was designed to analyze the influence of independent variables, namely product quality, price perception, and brand image, and the dependent variable, namely marketing performance. The multiple linear regression equation used in this study is as follows:

$$KP = b_1KPK + b_2PH + b_3CM$$

3. Result

The variables of product quality, price perception, brand image, and marketing performance are declared valid. This is evident from the calculation results, where the calculated r is greater than the r table (0.195). Based on Table 1, it can be seen that the Cronbach's Alpha value for the four variables above is 0.6. Therefore, the values of these four variables are declared reliable.

Table 1. Reliability Test Results

variables	Reliabilit y	Alpha decision	
Product Quality	0,872	0,6	Reliable
Price Perception	0,849	0,6	Reliable
Brand Image	0,835	0,6	Reliable
Marketing Performance	0,877	0,6	Reliable

Source: Data processed by SPSS version 25.00

The *Kolmogorov – Smirnov* Test was conducted as a normality test, the unstranded residual *Kolmogorov Monte Carlo Sig.* (2-tailed) was $0.094 > 0.05$ so it can be concluded that the data is normally distributed. Based on the results of the multicollinearity test, it can be concluded that the regression equation model does not experience multicollinearity, because the VIF value is > 10 and the Tolerance value is > 0.10 for all variables. Meanwhile, the heteroscedasticity test using the Glejser test obtained a significance value > 0.05 which means there is no heteroscedasticity problem.

Table 2. Hypothesis Testing Results

Variables	B	t	sig
Constants		-.981	.329
Product Quality	.444	3.868	.000
Price Perception Brand Image	.006	.063	.950
Adj R ² F	.556		.000
			40.151

Source: Processed data, 2021.

Based on Table 2, the significance value is $0.000 > 0.05$. This means that the model used in this study is considered significant and feasible, allowing the study to proceed. All independent variables significantly influence changes in the dependent variable. Meanwhile, the coefficient of determination (R^2) is 0.556. This means that the independent variables explain 55.6% of the changes in the dependent variable, namely marketing performance, while the remaining 44.4% is explained by factors outside the study.

Based on the t-test results in Table 2 above, the calculated t-value for product quality is 3.868 and the significance value is $0.000 < 0.05$. Therefore, H_0 is rejected and H_a is accepted regarding the influence of Product Quality on Marketing Performance. Therefore, it can be concluded that Product Quality has a positive and significant effect on Marketing Performance. The t-value of price perception is 0.063 and the

significance is $0.950 > 0.05$, then the influence of the Price Perception variable on Marketing Performance, H_0 is accepted and H_a is rejected, so it can be concluded that Price Perception has an influence but is not significant on Marketing Performance. The t-value of brand image is 2.985 and the significance is $0.004 < 0.05$, then the influence of the Brand Image variable on Marketing Performance, H_0 is rejected and H_a is accepted, so it can be concluded that Brand Image has a positive and significant influence on Marketing Performance.

3.1. Discussion

3.1.1. The Influence of Product Quality on Marketing Performance

(Kotler & Armstrong, 2015) state that product quality is the value of a product that satisfies consumers both physically and psychologically, reflecting the attributes or characteristics contained within the product or outcome. A product must strive to create product quality that meets consumer expectations to create effective marketing performance and ultimately benefit both the company and the product itself.

Based on the results of hypothesis testing, this study indicates that product quality within a company is one of the factors favored by consumers, therefore, quality must be maintained and improved. This aligns with research by (Maulidiyah & Sudarwanto, 2021), which states that good quality is expected to meet consumer expectations, thus improving marketing performance. Related to this description, research results on product quality demonstrate a positive and significant impact on the marketing performance of Yakult beverage products. This aligns with previous research by (Kasmiruddin, 2016), which found that product quality has a positive and significant impact on marketing performance.

3.1.2. The Influence of Price Perception on Marketing Performance

(Kotler & Keller, 2016) state that price perception is the amount of money charged for a product or service and the value traded by consumers to obtain benefits from using the product or service. Consumers need to consider price perception as a consideration in marketing performance. This is because price perception is the tendency of consumers to use price to assess the quality of a product. Pricing is a crucial factor in increasing business profits. Gaining significant profits doesn't require high prices. This aligns with research by (Nawangasasi & Friantin, 2020), which revealed that setting the right price can attract specific consumers, thereby increasing sales volume. Sales volume is a form of marketing performance.

Related to this, research results on price perception indicate that it has an insignificant effect on the marketing performance of Yakult beverage products. This is because price perception has not been fully implemented and understood by Yakult beverage consumers in Kampung Bulak, RT 04, Jatiasih. While Yakult consumers are aware of price perception, they do not yet understand how to apply it effectively. Therefore, there was no significant change in improving marketing performance. This research aligns with research by Maharani (2021), which found that price perception had an insignificant effect on marketing performance.

3.1.3. The Influence of Brand Image on Marketing Performance

Kotler & Keller (2016) stated that brand image reflects the external characteristics of a product or service, such as how a brand strives to meet the psychological or social needs of its customers. A well-established brand image in consumers' minds significantly helps the company deliver its best, especially to loyal consumers of Yakult beverages. This aligns with research by Alam (2015), which found that a good corporate reputation improves marketing performance because a good reputation

reflects the company's competence and excellence, which in turn increases customer satisfaction.

Related to this description, research on brand image demonstrates a positive and significant effect on the marketing performance of Yakult beverages. This finding aligns with previous research by Jasmani (2018), which found that brand image has a positive and significant effect on marketing performance.

4. Conclusion

The results of the hypothesis test indicate that product quality has a positive and significant effect on marketing performance. This means that if a product creates product quality that meets consumer needs, it will create effective marketing performance and generate profits for the company and its products. Furthermore, the results of the price perception hypothesis test also indicate that price perception has an insignificant effect on marketing performance. This means that consumers do not yet understand how to properly apply price perception. Consequently, there is no significant change in improving marketing performance. The results of the brand image hypothesis test also indicate that brand image has a positive and significant effect on marketing performance. This means that if a company has a good brand image, marketing performance will also improve. This is because it reflects a company's capabilities and excellence, which will ultimately satisfy consumers.

4.1. Research Implications

Yakult beverage products must focus on improving product quality to achieve effective marketing performance. Similarly, with regard to price perception, Yakult beverage products must also maximize price perception to achieve optimal marketing performance. Furthermore, Yakult beverage products must maintain their brand image to improve marketing performance. Having a good brand image reflects the company's excellence.

4.2. Research Limitations and Recommendations

This research was limited to the population of Yakult beverage consumers in Kampung Bulak, RT 04, Jatiasih. Therefore, to provide stronger support for the theory, future research should expand or expand the population size and coverage.

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THE INFLUENCE OF BRAND COMMUNITY, PRODUCT QUALITY, AND DIGITAL PROMOTION ON BONDS BY IQOS USER LOYALTY IN WEST JAKARTA

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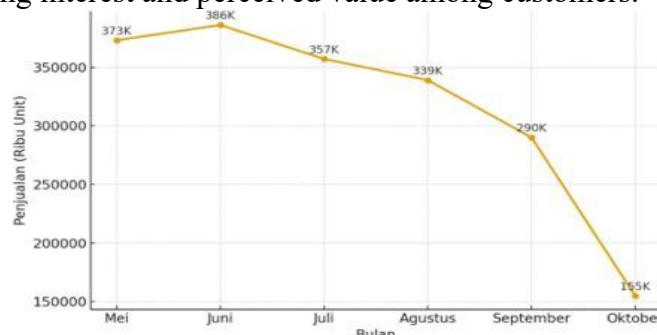
Abstract

This research aims to analyze the influence of brand community, product quality, and digital promotion on the loyalty of BONDS by IQOS users in West Jakarta. The background of this study is the rapid growth of smoke-free tobacco products and the shift in consumer behavior towards modern and healthier alternatives. BONDS by IQOS, as one of the innovative heated tobacco products, has shown significant sales growth in West Jakarta; however, user loyalty remains unstable despite intensive brand community engagement and digital marketing efforts. This study uses a quantitative approach with a survey method, applying a probability sample to BONDS by IQOS users in West Jakarta. Data were collected using a Likert-scale questionnaire and analyzed through multiple linear regression using IBM SPSS Statistics. This study is expected to provide theoretical contributions to the development of marketing and consumer behavior studies, particularly regarding loyalty formation in the digital brand ecosystem. Practically, the results are expected to help companies and brand managers in formulating more effective strategies to strengthen user loyalty through community engagement, product quality improvement, and digital promotion optimization.

Keywords: User Loyalty, Brand Community, Product Quality, and Digital Promotion

1. Introduction

The data in the graph above identifies a significant decline in sales performance from May to October. This indicates that the company faces various issues and challenges in maintaining sales stability. This decline could be due to several factors, including suboptimal digital marketing strategies, declining consumer loyalty, and a lack of product innovation and promotional effectiveness. Furthermore, consumer relationship management (brand community) and consistent product quality have also not been fully implemented, resulting in a decline in purchasing interest and perceived value among customers.



1.1. Research Purposes

This research aims to provide answers to the problem formulation above and to obtain a clear picture of the purpose of this research. The research objectives are:

- To analyze the influence of Brand Community on BONDS by IQOS User Loyalty in West Jakarta
- To analyze the influence of Product Quality on BONDS by IQOS User Loyalty in West Jakarta
- To analyze the influence of Digital Promotions on BONDS by IQOS User Loyalty in West Jakarta

1.2. Formulation Of The Problem

- Does Brand Community Influence the Loyalty of BONDS by IQOS Users in West Jakarta?
- Does Product Quality Influence the Loyalty of BONDS by IQOS Users in West Jakarta?
- Does Digital Promotion Influence the Loyalty of BONDS by IQOS Users in West Jakarta?

2. Literature Review

2.1. Marketing Management

Marketing Management is the process of planning, pricing, promoting, and distributing ideas, goods, or services for exchanges that satisfy the needs and objectives of an organization. (Kotler and Armstrong 2020)

2.2. Product Quality

Product Quality is the totality of features and characteristics of a product or service that determine its ability to satisfy stated or implied needs. (Kotler dan Keller 2016)

2.3. User Loyalty

User loyalty is a deep commitment from consumers to consistently choose, use, and recommend a product, despite the presence of various competing alternatives in the market (Kirillova & Zyk, 2023; Primasari & Dwita, 2025).

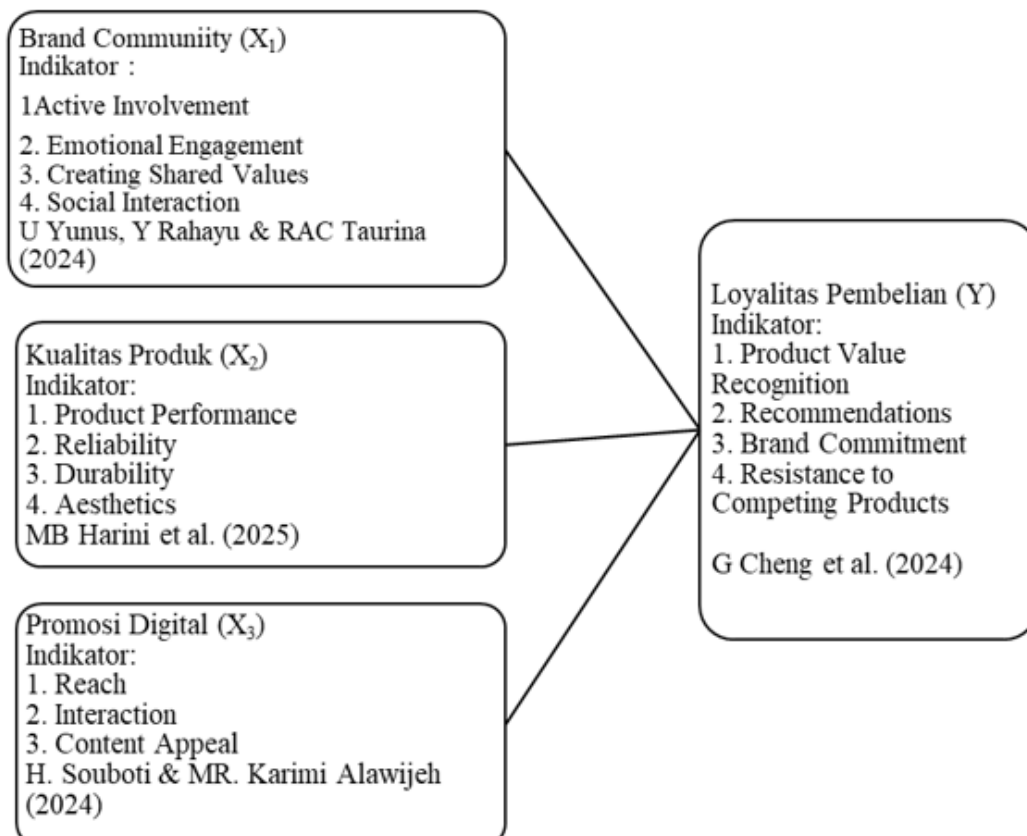
2.4. Brand Community

Brand Community is an interactive network of consumers, brands, and companies that continuously interact through digital platforms to build shared experiences and strengthen brand value. (Laroche et al, 2016)

2.5. Digital Promotion

Digital Promotion is a two-way interaction process between brands and consumers through various digital platforms with the aim of building relationships and expanding market reach. (Kotler et al, 2019)

2.6. Analitical Framework



2.7. Hypotesis

H1: Brand community (X1) has a positive and significant influence on user loyalty (Y) of BONDS by IQOS in the West Jakarta area.

H2: Product quality (X2) has a positive and significant effect on user loyalty (Y) of BONDS by IQOS in the West Jakarta area.

H3: Digital promotion (X3) has a positive and significant effect on user loyalty (Y) of BONDS by IQOS in the West Jakarta area.

3. Research Methods

3.1. Research Objects And Subjects

The object of this study is the loyalty of BONDS by IQOS users in West Jakarta, which is influenced by brand community, product quality, and digital promotion. This study involved three independent variables (X) and one dependent variable (Y). These independent variables were brand community (X1), product quality (X2), and digital promotion (X3), while the dependent variable was user loyalty (Y).

3.2. Data Sources And Data Types

The results of the questionnaire distributed to respondents will serve as primary data for this study. This study uses quantitative data, which is data in the form of numbers that can be analyzed using statistical methods.

3.3. Population & Sample

The population in this study consisted of 100 respondents. The population of this study consists of 100 respondents selected using a simple random sampling technique. The sample size was determined using the Lemeshow formula with a maximum error rate of 10%.

Lemeshow formula (2019)

$$n = \frac{Z_a(p \cdot q)}{e^2}$$

Description:

n : Number of Samples

Za : Level o Confident (Z)

(Z score = 1,96)

p : Estimated Population Proportion

q : Interval and Deviation

e : Margin of Error

(Maximum error rate 10%)

Using the formula above, the number of samples taken is

$$n = (1.962) (0.5 \times 0.5)$$

$$(0.1)^2$$

$$=96.04$$

So the sample taken was 96.4 which was rounded up to 100 respondents.

3.4. Data Collection Techniques

This study used a questionnaire distribution method via social media

3.5. Analysis Methods

1. Descriptive analysis method
2. Inferential analysis method
3. Multiple linear regression analysis method

3.6. Classical Assumption Testing

1. Normality Test
2. Multicollinearity Test
3. Heteroscedasticity Test

3.7. Instrumental Testing

Validity testing and Reliability testing

3.8. Model Fitness Test

1.Hypothesis Test (t-Test)

2.F-Test

3.Coefficient of Determination (R^2)

Research Plan	Oct 2025	Nov 2025	Des 2025	Jan 2026	Feb 2026
Proposal Preparation					
Proposal source					
Data collection					
Data Management and Analysis					
Final Thesis Preparation					
Thesis Examination					
Validation and Collection					

**THE EFFECT OF DIVIDEND POLICY AND INTELLECTUAL CAPITAL ON
COMPANY STOCK PRICES WITH FINANCIAL PERFORMANCE AS A
MODERATING VARIABLE (EMPIRICAL STUDY OF PHARMACEUTICAL
SUBSECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE
FOR THE PERIOD 2020–2024)**

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Abstract

This study aims to analyze the effect of dividend policy and intellectual capital on stock prices with financial performance as a moderating variable in pharmaceutical sub-sector companies listed on the Indonesia Stock Exchange (IDX) for the 2020–2024 period. Stock prices reflect a company's value and investor confidence in its business prospects. This research employs a quantitative approach using secondary data from annual financial reports, analyzed through Moderated Regression Analysis (MRA). The results are expected to show that dividend policy and intellectual capital have a positive effect on stock prices, while financial performance strengthens this relationship. Theoretically, this study enriches the literature on stock price determinants, and practically, it provides insights for investors and corporate management in decision-making.

Keywords: dividend policy, intellectual capital, financial performance, stock price, IDX

THE INFLUENCE OF CAREER DEVELOPMENT, ORGANIZATIONAL CULTURE, AND TEAMWORK ON EMPLOYEE PERFORMANCE AT THE DIRECTORATE GENERAL OF GENERAL JUDICIARY WITH JOB SATISFACTION AS AN INTERVENING VARIABLE

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Abstract

This study examines the impact of career development, organizational culture, and teamwork on employee performance at the Directorate General of General Judiciary. A total of 110 respondents from various departments currently working at the Directorate General of General Justice participated in this study. It further investigates the mediating role of job satisfaction in these relationships. By analyzing these factors, the research aims to provide insights into how enhancing career growth opportunities, fostering a supportive organizational culture, and promoting effective teamwork can improve employee performance, with job satisfaction serving as a key mechanism in this process.

Keywords: *career development, organizational culture, teamwork, employee performance, job satisfaction.*

1. INTRODUCTION

In today's complex and fast-paced organizational world, employees' performance stands out as a central pillar determining the success and sustainability of institutions (Robbins, 2003), especially in the public sector. Organizations such as the Directorate General of General Judiciary are continuously challenged to provide excellent public services while ensuring operational efficiency (Gibson, 1997). Achieving these goals depends largely on the quality of human resources and how well organizations manage and nurture their workforce (Dessler, 2020).

A variety of factors influence employee performance, but career development, organizational culture, and teamwork are frequently cited as critical determinants. Career development offers employees pathways to grow and achieve higher potential, thereby boosting motivation and productivity. Prosperous organizational culture creates a safe working environment and make employees communicate that they value it and they have the same vision as the organization. Similarly, the effective teamwork promotes collaboration and shared problem solving—principles that are pivotal in achieving organizational results.

Reviewing previous studies reveals several research gaps. While many researchers agree on the significance of career development and organizational culture in enhancing job performance, effects of teamwork vary across samples and contexts. Moreover, past studies often neglect the mediating role of job satisfaction, which can deepen the understanding of how these factors translate into better employee outcomes. In Indonesia's public sector context, and specifically within the Directorate General of General Judiciary, these dynamics are not yet fully understood or empirically substantiated. Data for this study were systematically collected through questionnaires distributed to employees within the Directorate, providing a solid empirical foundation to test these relationships using structural equation modeling.

2. LITERATURE REVIEW

2.1. The Direct Career Development affecting job satisfaction

According to Robbins and Judge (2013), continuous career development is a significant factor in employee motivation. They explain that employees who have opportunities for growth within the organization tend to be more satisfied because their need for self-actualization is fulfilled.

This view is reinforced by Mathis and Jackson (2011), who state that, "employees who feel that their organization cares about their career development will tend to have higher job satisfaction." Mathis and Jackson indicate that organizations that invest in employee development will ultimately enjoy increased job satisfaction, which positively impacts employee retention and productivity.

Clear career development within an organization can increase employees' desire to perform their jobs, thus creating a sense of satisfaction in performing their work. Career development is an effort to improve employees' technical, theoretical, conceptual, and moral abilities in line with job/position requirements through education and training. Prior research conducted by (Sinaga, 2021), (Suyaman, 2022), and (Saefullah, 2022) states that career development influences job satisfaction.

Thus, investment in career development not only enhances employee skills and competencies but also creates a supportive and pleasant work environment, which directly increases job satisfaction.

2.2. The Direct Influence of Organizational Culture on Job Satisfaction

According to Cameron and Quinn (2011), an adaptive and open organizational culture plays a crucial role in creating job satisfaction. In *Diagnosing and Changing Organizational Culture*, Cameron and Quinn highlight that a culture that is inclusive and supports innovation significantly encourages employee satisfaction and engagement. They conclude that, "when the organizational culture allows employees to contribute and feel involved, the level of job satisfaction tends to increase."

Schneider et al. (2017), in *Organizational Climate and Culture*, found that an organizational culture that prioritizes employee well-being and development positively impacts job satisfaction. According to them, "a culture that places employee welfare as a top priority creates an environment where employees feel valued and enthusiastic to contribute maximally." This study emphasizes that an organizational culture that supports openness and development creates higher satisfaction and loyalty among employees.

Research conducted by Sofiya Ningsih and Tristiana Rijanti (2022) also supports that organizational culture has a positive and significant influence on employee job satisfaction. This means that the stronger the culture within an organization, the higher the job satisfaction of the employees will be.

2.3. The Direct Influence of Teamwork on Job Satisfaction

According to Dr. Rina Sari, a human resource management expert, "good teamwork not only increases productivity but also contributes to job satisfaction. Employees who feel connected in a team tend to be more satisfied with their work because they feel valued and have a meaningful role," (Sari, 2022).

This view is supported by research conducted by Salas, Reyes, and McDaniel (2018), who revealed that well-functioning teams with high levels of collaboration significantly increase employee job satisfaction. In their research titled *The Science of Teamwork*, they emphasize that effective teamwork allows employees to work more efficiently and be more satisfied because they feel supported and involved in achieving team goals.

Furthermore, a study by Mathieu, Gallagher, Domingo, and Klock (2019) in *Team Effectiveness 1997–2017: A Review of Recent Advancements and a Glimpse Into the Future* states that, "teams that work well and have high involvement create an environment that directly

increases job satisfaction." They stress that structured teamwork and trust within the team play a vital role in building job satisfaction because employees feel valued and confident in their contribution to achieving team results.

Teamwork is closely linked with employee job satisfaction, as teamwork demonstrates, among other things, effective communication, task and responsibility assignment, involvement and participation, and overcoming challenges together. Job satisfaction significantly influences aspects, both individually and collectively, that encourage employees to build positive working relationships (Hidayat et al., 2019).

Teamwork involves open communication, mutual understanding, and effective task distribution. The results of this study are in line with the research of Gita and Saragih (2020) and Nainggolan et al. (2020), who reveal that teamwork has a positive and significant influence on job satisfaction.

2.4. The Direct Influence of Career Development on Employee Performance

Koster, Grip, and Fouarge (2020), in *The Impact of Training and Development on Employee Performance*, highlight that, "well-planned and continuous development programs strengthen employee skills and abilities and enhance their performance." They emphasize that organizations supporting employee career development will achieve better overall performance because employees are better prepared to address increasingly dynamic work demands.

According to research conducted by Dr. Ahmad Rizal and his team in 2021, "Effective career development not only improves individual skills but also contributes to the overall enhancement of employee performance. Employees who feel supported in their career development tend to be more productive and committed to the organization," (Rizal, 2021).

This is in line with research conducted by Balbed & Sintaasih (2019), Novitayanti et al. (2018). The information in the above papers are: Qodriyah and Kaerana (2020), Bela et al. (2020), Utama, Aditya et al. (2021), Januari wau & Purwanto (2021), Putu Eko Wahyudi et al. (2021), and Hidayat et al. (2022), who find that career development has a significant impact on employee performance.

2.5. The Direct Influence of Organizational Culture on Employee Performance

A positive organizational culture not only creates a sense of togetherness and loyalty but also supports employees to contribute optimally. An environment that values ethics, respects differences, and encourages collaboration makes employees feel appreciated and supported, which ultimately impacts performance improvement. With a strong culture, employees can work effectively, better overcome work challenges, and achieve higher-quality results.

This view is supported by research from Schneider, Ehrhart, and Macey (2013), who state that a supportive organizational culture has a close relationship with employee performance. In their research, *Organizational Climate and Culture*, it is mentioned that "a strong culture aligned with organizational goals increases employees' motivation to work well and achieve performance targets."

Furthermore, Hartnell, Kinicki, and Lambert (2019), in *Organizational Culture and Employee Performance*, found that a culture emphasizing collaboration, innovation, and reward has a direct and significant effect on employee performance. According to them, "employee performance can be enhanced by an inclusive and collaborative organizational culture because this culture creates positive emotional bonds and motivates employees to excel."

This research is supported by Maharani and Efendi (2017), Jamaludin et al. (2017), and Fauzi et al. (2016), who state that organizational culture has a positive and significant influence on employee performance.

2.6. The Direct Influence of Teamwork on Employee Performance

Teamwork is an activity managed and carried out by a group of people who are members of one organization. Working together in a team requires individuals who are truly willing to collaborate. Team collaboration also reflects a crucial role in achieving optimal performance (Nainggolan et al., 2020). According to (Judge, 2021), teamwork can significantly improve performance compared to working alone. Research by Sari and Evie Permata (2019) also shows that teamwork influences employee performance. Thus, it can be concluded that teamwork has a significant influence on employee performance.

2.7.The Direct Influence of Job Satisfaction on Employee Performance

Sinambela (2020) explains the importance of increasing employee job satisfaction for better work results. Individuals who are involved in their work will have strong motivation, strong commitment to their organization, and work participation that will continue to improve the quality of their work. Job satisfaction influences employee performance; employees who are proud of their work consistently increase their productivity because they can use the job as a guide for self-development and as a basis for improving their quality (Nainggolan et al., 2020). Based on the results of research conducted by Rosita, et al. in 2016, it was concluded that there is an influence of job satisfaction on employee performance, and it has a positive and significant influence on the factors of employee performance.

According to research conducted by (Sari, 2022), "Job satisfaction has a significant influence on employee performance. Employees who are satisfied with their work tend to be more productive, engaged, and committed to the organization."

2.8.The Indirect Influence of Career Development on Employee Performance through Job Satisfaction

Career development is a structured effort by an organization to improve the knowledge, skills, and abilities of employees in achieving personal and professional goals. In the context of employee performance, career development is often considered a crucial factor that can directly enhance individual work effectiveness. However, research indicates that career development also has an indirect influence on employee performance through job satisfaction. In other words, when employees are satisfied with the career development paths available to them, their motivation and commitment increase, which in turn affects performance.

Wijayanti et al. (2021) found that effective career development can increase job satisfaction, which subsequently positively influences employee performance. This research mentions that when career development is accompanied by appropriate guidance and training, employees feel more confident about their career future and are more motivated in achieving work goals.

Similar findings were reported by Ariyanto and Prihanto (2022), who found that career development is one of the important factors that simultaneously influence job satisfaction and employee performance. They conclude that organizations focusing on career development can create a work environment conducive to performance improvement because employees feel recognized and have opportunities for further growth.

In other words, effective career development has an indirect influence on performance through increased job satisfaction.

2.9.The Indirect Influence of Organizational Culture on Employee Performance through Job Satisfaction

Organizational culture is a set of values, norms, beliefs, and behaviors adopted by members of an organization. A strong and positive culture can create a supportive environment where employees feel engaged, valued, and motivated to contribute maximally. In the context of performance, organizational culture not only has a direct influence but also an indirect impact

through job satisfaction. When employees feel aligned with the organizational culture, they tend to be more satisfied with their jobs, which ultimately affects their performance.

Job satisfaction is a psychological factor that reflects how satisfied employees are with various aspects of their work, such as working relationships, the physical environment, and the clarity of organizational goals. A good organizational culture gives employees a sense of belonging and deep involvement and encourages them to take the initiative in their work.

Susanto and Sari (2021) found that an inclusive and collaboration-based organizational culture has a significant impact on job satisfaction, which then encourages an increase in employee performance. They show that an open culture that promotes good communication among employees provides space for employees to feel valued and influential, thus making them more enthusiastic in carrying out their duties.

A similar view was conveyed by Rahmawati and Hidayat (2022), whose research revealed that an organizational culture that supports values such as honesty, commitment, and innovation can indirectly enhance employee performance through job satisfaction. They note that a strong and positive culture creates a sense of togetherness among employees, which ultimately improves their performance because they feel emotionally tied to the organization.

Thus, a healthy organizational culture aligned with positive values not only affects performance directly but also through job satisfaction.

2.10. The Indirect Influence of Teamwork on Employee Performance through Job Satisfaction

Teamwork is the ability of employees to work together effectively, share information, and support each other in achieving common goals. In the modern work environment, teamwork has become an essential factor determining organizational success. Teamwork not only influences performance directly but also has an indirect impact through increased job satisfaction.

Job satisfaction is an important aspect that reflects how satisfied employees are with their work and work environment, including in terms of colleague support, communication, and recognition.

Research by Pratama and Lestari (2021) shows that good teamwork can increase employee job satisfaction, which then positively impacts their performance. They found that teams with strong coordination and mutual trust will increase employee motivation and commitment, making them more enthusiastic in completing their tasks.

In line with this, research by Nugroho and Fitriani (2022) revealed that effective teamwork, where there is open communication and a clear division of tasks, positively influences employee job satisfaction. This research found that job satisfaction acts as an intervening variable connecting teamwork and performance. Employees who feel comfortable with their team members tend to show higher performance because they feel the support and togetherness in their team.

Thus, effective teamwork has a significant impact on employee performance through job satisfaction. Organizations that encourage teamwork and create a supportive work environment will be better able to achieve optimal performance because employees feel supported, motivated, and satisfied with their work.

3. METHODOLOGY

3.1. Sample and Data Collection

This study takes a look at observe adopts an explanatory quantitative technique to research the causal relationship between the variables studied. The research populace consists of employees inside the Directorate General of General Judiciary with a complete productive age populace of 112 human beings based on data from human resource department. The sampling approach carried out is purposive sampling, where respondents are selected based totally on

particular criteria which have been set to make sure relevance to the research objectives (Scott, 2017). The inclusion standards encompass: work in Directorate General of General Judiciary, status as a full-time employee, and having a minimum working period of one year with measurable performance. Sample size determination following recommendations (Hair et al., 2010) which suggests a ratio of 5 to 10 respondents in keeping with indicator for Structural Equation Modeling analysis. With a complete of 22 indicators used in the research instrument, the sample size was set at 110 respondents ($5 \times 22 = 110$), a number of that become taken into consideration good enough to supply strong and reliable parameter estimates. Primary records became accumulated through a structured questionnaire distributed to respondents, while secondary information changed into received from educational literature, previous studies reports, and other applicable files that guide the theoretical framework of the research. The data obtained were measured using an interval scale with a five-point Likert scale according to Ghozali (2011) and Sugiyono (2012), where respondents were asked to provide an assessment based on the options Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1).

3.2. Measurement

Employee performance is assessed through multiple dimensions that cover both the quality and quantity of work, as well as timely completion and autonomy in task execution. Below are specific indicators commonly used and adapted in this study to measure employee performance, based primarily on Robbins (2016), including: Quality of Work, Quantity of Work, Timeliness, Independence, Effectiveness. The measurement instrument used a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), allowing respondents to express their level of perception of the extrinsic motivation received.

Career development is a crucial factor in enhancing employee potential and job performance. According to Studi et al. (2018), career development can be comprehensively measured through several key indicators, including: Work Achievement, Training, Educational Background, Organizational Policies, Work Experience. The measurement scale used is a five-point Likert scale to quantify respondents' perceptions of career development in organization.

Organizational culture is an essential factor influencing employee behavior, satisfaction, and performance. According to Emron and Yohny (2018), organizational culture can be evaluated by examining the following indicators, including: Self-Awareness, Aggressiveness, Team Orientation, Personality. These indicators are typically measured through survey items where employees express their perceptions of these cultural attributes on Likert scales. Assessing these dimensions provides a comprehensive understanding of the culture that drives organizational functioning and the work environment. The measurement uses a five-point Likert scale to capture variations in respondents' organizational culture levels.

Teamwork represents the systematic integration of individual efforts toward achieving common organizational goals. According to West (2012), extensive research shows that group collaboration leads to higher efficiency and effectiveness compared to individual work. The following indicators, adapted from Hidayat et al. (2019), provide a comprehensive measurement of teamwork: Shared Goals, Roles and Responsibilities, Effective Communication, Conflict Resolution. These indicators are typically operationalized through Likert-scale questionnaire items, enabling quantitative assessment of teamwork quality as perceived by members. Proper measurement of these dimensions helps organizations diagnose and enhance teamwork effectiveness, thereby impacting overall performance outcomes.

Job satisfaction refers to employees' feelings and attitudes toward their jobs and various aspects of their work environment. According to Sule and Priansa (2018, p. 292), job satisfaction is closely related to the degree to which employees feel content or discontented with their jobs. The measurement of job satisfaction is operationalized through nine key

indicators: Salary and Additional Benefits, Promotion and Rewards, Co-workers and the Job Itself, Procedures and Work Regulations. These dimensions are assessed using Likert-scaled questionnaire items wherein employees rate their level of satisfaction with each aspect. Measuring these factors comprehensively captures the multi-faceted nature of job satisfaction as experienced by employees, providing critical insights for organizational development and personnel management.

3.3. Data analysis

This research employs a comprehensive and rigorous analytical technique designed to uncover the causal relationships among career development, organizational culture, teamwork, job satisfaction, and employee performance within a public institution setting.

The primary analytical framework is Structural Equation Modeling (SEM) using Partial Least Squares (PLS) methodology, which excels in handling complex variable interrelationships involving latent constructs and mediating variables, such as job satisfaction. This approach allows the simultaneous testing of multiple direct and indirect effects, providing stronger validity for theory building and empirical testing.

Initially, descriptive statistics summarize the data characteristics, including respondent demographics and variable distributions, setting a quantitative landscape for deeper analysis. Next, rigorous measurement model validation is conducted through Confirmatory Factor Analysis (CFA) to assess convergent and discriminant validity of the constructs, followed by reliability testing via Cronbach's Alpha coefficients to ensure internal consistency of the scales.

SEM analysis proceeds with path coefficient estimation and significance testing via nonparametric bootstrapping techniques at a standard 5% significance level. These tests determine which hypothesized relationships are statistically supported.

The evaluation of model fit includes R-square values to assess variance explained, Q-square for predictive relevance, and testing for multicollinearity through Variance Inflation Factors (VIF) to confirm independent variable distinctiveness.

The entire analysis process is carried out with WarpPLS software version 7.0 which is able to estimate path coefficients, mediation effects, and relationships between variables more accurately.

4. RESULTS AND DISCUSSIONS

Table 1. Respondent Profile

Variable	Frequency	%
Gender		
Male	55	50%
Female	55	50%
Age		
≤ 25 years old	1	0,9%
26 – 30 years old	9	8,2%
31 – 35 years old	23	20,9%
36 – 40 years old	24	21,8%
41 – 45 years old	21	19,1%
46 – 50 years old	13	11,8%
Above 51 years old	19	17,3%
Education		
SLTA / Sederajat	7	6.4%
D3	7	6.4%
S1	57	51.8%
S2	38	34.5%
S3	1	0.9%
Work Period		
0 - 5 years	26	23.6%
> 5 - 10 years	14	12.7%
> 10 - 15 years	24	21.8%
> 15 - 20 years	24	21.8%
> 20 - 25 years	7	6.4%
> 25 - 30 years	8	7.3%
> 30 - 35 years	6	5.5%
> 35 years	1	0.9%

(Source: Processed data, 2025)

The responder's profile in this study consists of a balanced gender distribution with 50% male and 50% female respondents. The age distribution shows a diverse range, primarily concentrated in the working-age population, with the largest groups being 36-40 years old (21.8%), 31-35 years old (20.9%), and 41-45 years old (19.1%). This indicates a mature workforce within the sample, with fewer respondents below 25 years old (0.9%) and above 51 years old (17.3%).

Education levels among the respondents are predominantly higher education, with the majority holding a bachelor's degree (S1) at 51.8%, followed by master's degree holders (S2) at 34.5%. There is a small representation of secondary education or equivalent (6.4%) and diploma (D3) graduates (6.4%), and a very minor percentage holding a doctoral degree (0.9%).

Regarding work experience, the respondents have varying lengths of service, with a notable portion having between 0 to 5 years of experience (23.6%), and substantial groups in the ranges of 10-15 years (21.8%) and 15-20 years (21.8%). More experienced respondents with over 20 years of service make up smaller percentages, showing a good mix of early-career to veteran employees.

This profile indicates a representative sample of the workforce in terms of gender, age, education, and work experience, supporting robust insights into employee-related variables in the research context. It reflects a mature, well-educated, and diverse group that is likely to provide comprehensive data on the topics studied.

Table 2. Reliability and Validity Test Result

NO	VARIABEL INDICATORS	KMO MSA VALUE	VALIDITY (ANTI IMAGE)	DECISION	CRONBACH ALPHA VARIABLES	RELIABILITY (CRONBACH ALPHA)	DECISION
1	CD1	0,794	0,716	Valid	0,853	0,845	Reliabel
2	CD2		0,758	Valid		0,843	Reliabel
3	CD3		0,837	Valid		0,805	Reliabel
4	CD4		0,844	Valid		0,802	Reliabel
5	CD5		0,815	Valid		0,814	Reliabel
6	OC1	0,795	0,815	Valid	0,803	0,761	Reliabel
7	OC2		0,783	Valid		0,759	Reliabel
8	OC3		0,829	Valid		0,721	Reliabel
9	OC4		0,752	Valid		0,770	Reliabel
10	TW1	0,835	0,843	Valid	0,849	0,797	Reliabel
11	TW2		0,866	Valid		0,814	Reliabel
12	TW3		0,814	Valid		0,813	Reliabel
13	TW4		0,819	Valid		0,812	Reliabel
14	EP1	0,778	0,831	Valid	0,835	0,777	Reliabel
15	EP2		0,836	Valid		0,776	Reliabel
16	EP3		0,662	Valid		0,850	Reliabel
17	EP4		0,849	Valid		0,770	Reliabel
18	EP5		0,710	Valid		0,827	Reliabel
19	JS1	0,820	0,840	Valid	0,827	0,757	Reliabel
20	JS2		0,868	Valid		0,736	Reliabel
21	JS3		0,778	Valid		0,852	Reliabel
22	JS4		0,794	Valid		0,785	Reliabel

Source: Data processed by researchers in 2025

Based on Table 2, all 22 indicators from the five research variables are declared valid because the KMO MSA value is above 0.50 according to Ghazali's (2012) criteria, and The reliability of the instrument was evaluated using the Cronbach's Alpha coefficient with a minimum criterion of 0.60 to demonstrate acceptable internal consistency (Ghozali & Latan, 2014). Based on the test results, all research variables showed Cronbach's Alpha values that exceeded the set threshold, with a value range between 0.803 to 0.853. The Career Development variable obtained a Cronbach's Alpha value of 0.853, Organizational Culture of 0.803, Teamwork of 0.849, Employee Performance of 0.835 and Job Satisfaction of 0.827.

These results confirm that the research instrument has a high level of reliability and is consistent in measuring the constructs studied, so that the collected data is worthy of further analysis.

Table 3. Reliability and Validity of Constructs

Variable	Composite Reliability	Cronbach's Alpha	AVE
Career development	0.896	0.854	0.634
Organizational culture	0,874	0,807	0.634
Teamwork	0,903	0.857	0.700
Job satisfaction	0.893	0,839	0.678
Employee performance	0.886	0.837	0.613

(Source: Processed data, 2025)

Reliability and convergent validity met the endorsed criteria, with composite reliability values starting from 0.886 to 0.903 and AVE values among 0.634 and 0.700. Although the Cronbach's Alpha value for organizational culture was slightly lower (0.807), the construct remained acceptable due to a CR value above 0.70, as recommended for PLS-SEM. All AVE values surpassed the 0.50 threshold except for organizational culture, which remained near to the criterion however changed retained to preserve theoretical relevance. Discriminant validity was set up using the Fornell–Larcker criterion, where in the rectangular root of each AVE handed its correlations with different constructs. This shows that each construct was empirically distinct.

Table 4. Hypothesis Testing - Direct Effects

Path	Coefficient (β)	p-value	Result
Career development → Job satisfaction	0.642	<0.001	Significant
Career development → Employee performance	0.153	0.049	Significant
Organizational culture → Job satisfaction	0.046	0.313	Not Significant
Organizational culture → Employee performance	0.263	0.002	Significant
Teamwork → Job satisfaction	0.300	<0.001	Significant
Teamwork → Employee performance	0.034	0.360	Not Significant
Job satisfaction → Employee performance	0.511	<0.001	Significant

(Source: Processed data, 2025)

The direct effect analysis revealed that career development significantly affected both job satisfaction ($\beta = 0.642$, $p = <0.001$) and employee performance ($\beta = 0.153$, $p = 0.049$). Organizational culture showed a significant direct effect on employee performance ($\beta = 0.263$, $p = 0.002$) but not on job satisfaction ($\beta = 0.046$, $p = 0.313$). Teamwork significantly affected job satisfaction ($\beta = 0.300$, $p < 0.001$) but did not significantly affect employee performance ($\beta = 0.034$, $p = 0.360$). Job satisfaction itself significantly influenced employee performance ($\beta = 0.511$, $p < 0.001$). The results of this study indicate that career development plays a crucial and influential role in increasing employee job satisfaction, which in turn has a significant positive impact on improving employee performance. With effective career development, employees feel more satisfied with their jobs and are motivated to contribute more optimally, thereby increasing the overall effectiveness of the organization.

Table 5. Mediation Testing - Indirect Effects

Mediation Path	Indirect Effect	p-value	Conclusion
Career development → Job satisfaction → Employee performance	0.328	<0.001	Partial Mediation
Organizational culture → Job satisfaction → Employee performance	0.023	0.363	No Mediation
Teamwork → Job satisfaction → Employee performance	0.153	0.010	Partial Mediation

(Source: Processed data, 2025)

Career development → Job satisfaction → Employee performance: The indirect effect is 0.328 with a highly significant p-value (<0.001). This indicates that job satisfaction partially mediates the relationship between career development and employee performance. In other words, career development influences employee performance in part through its positive impact on job satisfaction.

Enhancing career development programs is crucial for improving employee performance, as these programs positively raise job satisfaction, which in turn boosts performance. Organizational efforts should focus on clear career paths, growth opportunities, and development initiatives

Organizational culture → Job satisfaction → Employee performance: The indirect effect is very small (0.023) and statistically insignificant ($p = 0.363$). This suggests that there is no mediation effect of job satisfaction in the relationship between organizational culture and employee performance. The influence of organizational culture on performance does not appear to operate through job satisfaction in this model.

Since job satisfaction does not mediate the effect of organizational culture on performance, organizations might need to explore other mechanisms or mediators, such as employee engagement, commitment, or organizational support, that link culture to performance outcomes.

Teamwork → Job satisfaction → Employee performance: The indirect effect is 0.153 with a significant p-value (0.010), indicating partial mediation. Teamwork affects employee performance partially through increased job satisfaction, confirming the mediator role of job satisfaction here as well.

Promoting effective teamwork can improve performance partly by enhancing job satisfaction. Therefore, fostering a collaborative work environment, encouraging team cohesion, and supporting interpersonal relationships are strategic priorities to improve performance through satisfied employees.

5. CONCLUSION

Career development, organizational culture, and teamwork each positively affect employee performance. Job satisfaction plays a crucial role as an intervening variable, mediating these relationships by enhancing employees' motivation and commitment. Effective career development programs provide employees with skill growth and clear advancement paths, which increase job satisfaction and in turn improve performance. A supportive organizational culture fosters a motivating work environment and strengthens employee engagement, directly boosting performance. Likewise, teamwork facilitates collaboration and mutual support, contributing to higher job satisfaction and better performance outcomes. Therefore, to optimize employee performance, organizations must focus on strengthening career development, nurturing a positive culture, and promoting teamwork, all while prioritizing job satisfaction as a key mechanism of influence.

This conclusion aligns with empirical research findings highlighting the intertwined effects of these variables on fostering improved employee performance through job satisfaction mediation

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STUDY OF THE COMMUNITY SATISFACTION INDEX TOWARDS THE SERVICE OF PDAM SUMBER POCONG BANGKALAN

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Abstract

This research aims to measure the Community Satisfaction Index towards the services of PDAM Sumber Pocong Bangkalan Regency in order to assess the quality of public services provided and identify aspects that need improvement for the sake of increasing customer satisfaction. The research uses an observational method with a quantitative survey approach. Primary data were collected through questionnaires distributed to 100 PDAM customer respondents by purposive sampling. Data were analyzed using the SPSS program to obtain the Community Satisfaction Index (IKM) value based on 14 main service variables which include procedures, officer clarity, speed of service, officer courtesy, and cost aspects as well as environmental comfort. The research results show that in general the service quality of PDAM Sumber Pocong is included in the good category with an index value of 69.24 and service quality B. Service aspects that were assessed as good include ease of procedures, courtesy and friendliness of officers, certainty of costs and service schedules, as well as security and environmental comfort. However, there were significant complaints related to frequent water stoppages, decreases in water debit, poor water quality, and slow responses to customer complaints. Some customers also felt the costs paid were not always in accordance with usage. The research suggests PDAM Sumber Pocong to make improvements to the technical quality of water and the distribution system as well as increase the speed and accuracy of customer service responses. Cost transparency and fair tariff adjustments need to be upheld in order to create public trust. Increasing officer competence and innovation in marketing mix-based services are also recommended so that the image of PDAM and the level of satisfaction continue to increase. This research is limited by the use of quantitative methods with a limited sample which may not sufficiently represent the entire customer population. Qualitative aspects of customer experience have not been explored in depth. The research results are also a snapshot that only reflects conditions and perceptions at a certain time, so further research with a more comprehensive and long-term approach is greatly needed to validate the findings.

Keywords: Customer Satisfaction, Public Service, Service Quality, Water Utility.

1. Introduction

In a very competitive global market competition situation, every company needs to have a foothold to survive. This foothold is usually articulated in the business vision and mission of the respective corporation. Companies that do not have a vision and mission as well as a sufficiently established business strategy will be less proactive in facing very fast and very competitive changes. One business strategy in facing competition in the era of globalization is how to maximize the role and function of all resources owned by the company to improve service to its customers.

Customer service in a company has a very important role in helping the company to win the competition. This role is very important to be able to win the hearts of consumers, so that it can increase sales volume which in turn will bring the expected profit. Companies need to formulate strategic steps in increasing their customer satisfaction (Lutfiyah & AS, 2024). Research, is one

way to find and measure the level of customer satisfaction, the results of research can be used as a basic reference in making subsequent policies.

In the science of Marketing, the term Marketing Mix is known which consists of 4P (Product, Price, Place and Promotion) for industrial companies, and 7P for service companies (Product, Price, Place, Promotion, Personal Traits, Physycal Evidence and Process). All components of the marketing mix or marketing mix must be represented if the company wants to raise its image so that customer perceived also will increase, so that the final implication is an increase in the income or profit of the company. A company is an institution that sells service, because from this good service the company will be able to captivate the hearts of its customers. So, the keywords are services and customer satisfaction.

The main task of the government towards its people is to provide service in order to meet the needs desired by the community. The role of government indeed undergoes changes according to the demands and dynamics of community needs which are increasingly developing. The conception of public service that has been carried out so far has many shortcomings that have not shown the quality expected by the community, so there are still many community complaints found in various media that portray a poor image of the services provided.

The characteristics above can be the basis for how to provide the best service. A broader understanding was also conveyed by (Sylvana, 2006), that service is any effort that enhances customer satisfaction (whatever enhances customer satisfaction). Whereas according to Menpan decision number 81 of 1993, what is meant by public service is all forms of public service implemented by central [and] regional government agencies, within the BUMN/D environment in the form of goods and services, both in the context of fulfilling community needs and in the context of implementing statutory provisions. Thus, the services carried out by the government can be physical, non-physical, or administrative.

One effort to improve the quality of public service as per UU No 25 of 2000 Propenas concerning the Community Satisfaction Index (IKM) as a benchmark to assess the quality level of the services performed. Considering the types of service are very diverse, then to facilitate assessment there are 48 (forty-eight) important elements covering various service sectors that are very varied and from the test results 14 (fourteen) were obtained that can be used as a reference to measure the community satisfaction index.

PDAM Sumber Pocong is one of the BUMD existing in the Bangkalan Regency Government which, based on government functions in performing public services, has 3 (three) service functions, namely environmental service, development service, protective service. Meanwhile, the type of service provided by PDAM Sumber Pocong includes private services and types of services that are enjoyed collectively.

PDAM Sumber Pocong Bangkalan, is one of the regional water utility companies that has the function of organizing clean water services of both adequate and continuous quality and quantity. This company distributes clean water that is fit for consumption by the people of Bangkalan. This company has been able to serve approximately around 11,000 customers spread across several districts. In serving its customers, this company receives not a few complaints from its customers, starting from water that often stops, unstable or not smooth flow, water quality, complaints that are slow to be responded to, the occurrence of illegal water siphoning by irresponsible parties, and complaints about service at the payment counters and other complaints.

Therefore, this company must review the various service systems and water production quality that have been carried out so far, as well as try to conduct a scientific study of various customer complaints, because it could be that the service is already a standard applied by the company

but sometimes is not comprehensively understood by the customer, there is a principle that says "customers always expect service according to their wishes" even if it is beyond the company's reach.

Based on the background of the problem that has been described above, the purpose of this research is to measure the Community Satisfaction Index towards the services of PDAM Sumber Pocong Bangkalan Regency in order to assess the quality of public services provided and to identify aspects that need improvement for the sake of increasing customer satisfaction.

2. Hypothesis development

2.1. Indeks Kepuasan Masyarakat

Community Satisfaction Index Based on the service principles as stipulated in KepMenPan No.63/ KEP/M.PAN/7/2003, there are 14 elements considered valid as the minimal elements that must exist as a basis for measuring the community satisfaction index as follows:

1. Service procedures,
2. Service requirements,
3. Clarity of service officers,
4. Discipline of service officers,
5. Responsibility of service officers,
6. Ability of officers,
7. Speed of service,
8. Fairness in receiving service,
9. Courtesy in receiving service,
10. Reasonableness of service costs,
11. Cost certainty,
12. Certainty of service schedule,
13. Environmental comfort,
14. Service security,

The principles of service as per government policy regarding the improvement of service to the community, have actually also been regulated in Kep Men No 81 of 1993 which has regulated the foundations of service, among others: a. Simplicity, b. Clarity and certainty, c. Security, d. Openness, e. Efficiency, f. Economical, g. Fairness, h. Timeliness. Besides that, service procedures are also stipulated in the circular letter of Menko Wasbang No 56/ MK.Wasbang/ 6/ 98, which is addressed to all Ministers, Governors, Regents/ Mayors, the contents of which include, in the shortest possible time taking steps to improve service quality. So, if it is concluded that internal job satisfaction is more influenced by the efforts of the workers themselves, in this case PDAM Sumber Pocong, because factors that influence performance such as independence, responsibility and authority, moral values, recognition and achievement whereas external job satisfaction is job satisfaction that is triggered from outside, not from within the employees themselves (AS, 2010).

2.2. Customer Satisfaction

Linguistically, satisfaction comes from the Latin language, namely *satis* which means enough and *facere* meaning to do or to make. Based on this approach, satisfaction can be interpreted as a product or service that is able to provide more than what consumers expect.

Consumer satisfaction is a condition where consumer expectations are able to be met by the product (Armstrong et al., 2014). Consumers match expectations with product performance. This actual gap in consumer value becomes important considering that it is the results of that evaluation that will determine the product's value for the consumer.

A product is said to be able to meet the value expected by consumers when the cost or effort to obtain the product is more than the results or benefits obtained. It is not surprising when many companies only focus on price changes in order to provide greater consumer value. When consumers feel satisfied, the company has succeeded in delivering higher consumer value.

But, actually consumer value is not only obtained through the price instrument alone because a product can be defined as a collection of intrinsic attributes and extrinsic attributes, and price is only one of its attributes. Oliver (1999)) argues that satisfaction is a consumer's assessment of product and service features that succeed in providing needs fulfillment at a pleasant level, whether it is below or above expectations. Meanwhile, according to Oliver et al. (1997), [he] holds the view that product features play an important role in creating consumer satisfaction (AS & Fatmariyah, 2023).

Increasing consumer satisfaction by increasing consumer value is a main focus for every company. Therefore, in line with Oliver's thinking above, companies need to offer quality products. Quality products become important in order to increase consumer satisfaction. Product attributes are a tool for companies to create higher consumer value because consumers need to feel or experience these product features first to reach the evaluation stage. Brand name and packaging, which are one of the product attributes, are empirically proven to be able to provide a positive impact in the product quality evaluation process (Fuadah et al., 2024; Warlop et al., 2005).

The gap between consumer expectations and product performance is the core of consumer satisfaction. Consumer expectations become an important factor in the consumer satisfaction process (AS, 2010). This gap which is then evaluated is obtained by consumers from their interaction with the product in the consumption experience. This experience records consumer expectations, both those that are fulfilled and those that are not fulfilled. Through experience, consumers get information on how product performance can meet expectations, thus it can be concluded that experience is the most powerful form of information in human memory (Wangenheim & Bayón, 2007; Wangenheim & Bayon, 2004).

Attributes can be defined as tangible and intangible characteristics of a product that provide subjective satisfaction or fulfillment of needs for consumers. In measuring consumer satisfaction, product attributes or features play an important role, therefore there are several methods that can be used by asking consumers what attributes or features are considered important (Oliver, 1999). The results obtained simultaneously describe the consumer's actual expectations regarding product performance.

There are 3 (three) things that need to be studied in determining customer satisfaction. First, how to determine the right method in conducting a customer satisfaction survey. Second, how to determine the right respondents related to the accuracy of the data produced. Third, how to create customer satisfaction value to improve the product/service image subsequently. Customer satisfaction is not just done once, but continuously and is expected to be able to increase every year. Steps to build customer satisfaction according to Palupi, among others:

1. Determine the target market by making correct segmentation. Identify the most valuable

market segment for the company.

2. Manage the expectation needs of the chosen customers.
3. Pay attention to the appropriate program focus for the chosen segment.
4. Strive to fulfill the promises of service attributes.
5. The responsibility of building customer satisfaction is the responsibility of the entire company.

3. Methodology

3.1. Type of Research

This research is observational research using a survey method. In social science research, 3 (three) types of research instruments are known, namely: questionnaires, observation, interviews. To obtain data in this research is by using a closed questionnaire. Closed questionnaires are used to obtain data about the variables to be analyzed.

Population and Sample The population of this research is the customers of PDAM Sumber Pocong Bangkalan Regency, as per the opinion of (Singarimbun, 1989), that in order to provide a more representative picture and reduce the level of error (error) against the population value, then the total population or census can provide a picture that approaches the actual, considering the population reaches around 11,000 people, the researcher uses a sample in this research. The selection of the sample relates to how to choose respondents who can provide steady and reliable information, thus 100 respondents were selected, taken purposively (Sekaran, 2007)

Data Sources and Data Collection Techniques Data sources used in this research include 2 types of data, namely:

1. Primary data. Is data collected directly from the results of questionnaires answered by customers of PDAM Sumber Pocong Bangkalan.
2. Secondary data. Is data not directly related to the respondents studied and is supporting data from the research conducted. The data collection technique is a questionnaire. This questionnaire uses a Likert scale approach, because the use of this scale has the following advantages:
3. Its use and data processing are simpler
4. The time used to answer the questionnaire is very short the reasons for using a questionnaire in this research are:
5. The subject is the person who knows himself best,
6. What is revealed by the respondent to the researcher can be trusted,
7. The respondent's interpretation of the questions asked is the same as what the researcher means (Hadi, 1994).

3.2. Data Processing Method

The IKM Value Formula used is as follows:

$$\text{BobotNilaiRata - rataTertimbang} = \frac{\text{JumlahBobot}}{\text{JumlahUnsur}} = \frac{1}{14} = 0,071$$

To obtain the IKM value for the service unit, a weighted average value approach is used with the following formula:

$$IKM = \frac{\text{TotaldariNilaiPersepsiPerUnsur}}{\text{TotalUnsuryangterisi}} \times \text{NilaiPenimbang}$$

To facilitate interpretation of the IKM assessment, which is between 25 – 100, the assessment results above are converted with a base value of 25 with the following formula:

$$IKM \text{ Unit Services } \times 25$$

Considering that service units have different characteristics, then each service unit is allowed to:

- Add elements that are considered relevant
- Give different weights to the 14 dominant elements in the service unit, with the note that the total weight of all elements remains 1.

Table 1. Perception Value, IKM Interval, IKM Conversion, Service Quality and Service Unit Performance

Perception Value	IKM Interval Value	IKM Conversion Interval Value	Service Quality	Service Unit Performance
1	1.00 – 1.75	25 – 43.75	D	Bad
2	1.76 – 2.50	43.76 – 62.50	C	Not Good
3	2.51 – 3.25	62.51 – 81.25	B	Good
4	3.26 – 4.00	81.26 – 100.00	A	Very Good

Data analysis was performed using the SPSS (statistical program for social science) Ver 12 program. After data processing was carried out, analysis was then performed to obtain data information which is used as information in decision making.

3.3. Overview of the Research Process

Data collection was conducted on customers of PDAM Sumber Pocong in Bangkalan, considering that the samples used as respondents were located far from each other, the researcher determined the location as agreed by PDAM Sumber Pocong Bangkalan, 80% (± 80 respondents) around Bangkalan City and 20% (± 20 respondents) were in Kamal District. Distribution time questionnaire done about 2 weeks start November 13 – 25, 2024.

3.4. Characteristics Respondents

From the questionnaire distribution, several respondent characteristics were obtained. The following are the percentages of respondent characteristics, including gender, education, and occupation:

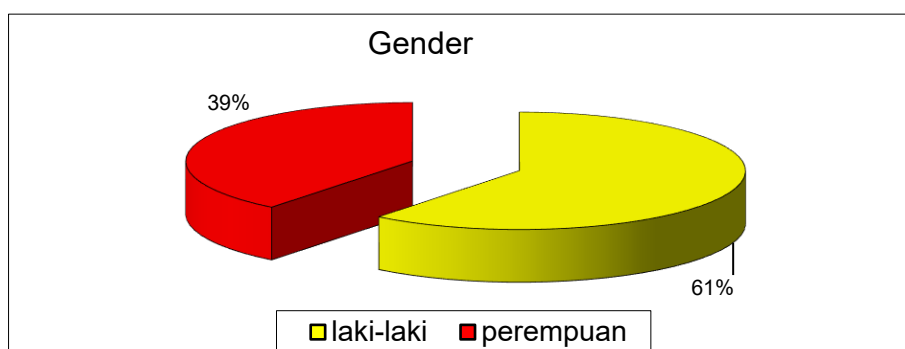


Diagram 1. Respondent characteristics based on gender

Diagram 1 shows the number of respondents based on gender characteristics, 61% of respondents were male while the remaining 39% were female.

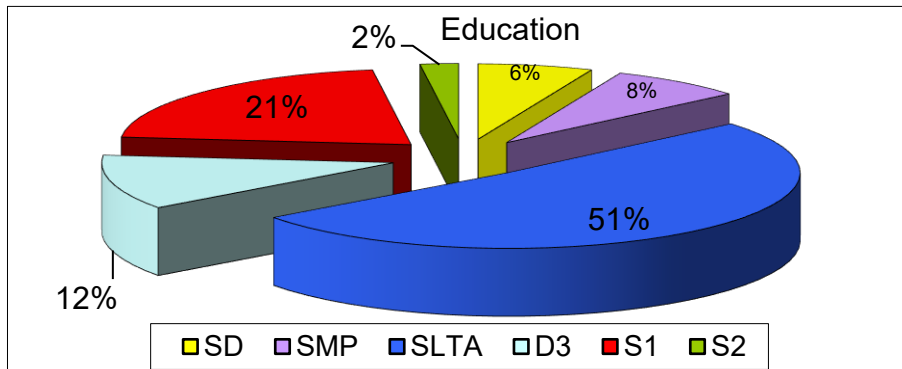


Diagram 2. Respondent characteristics based on education

Diagram 2 shows the number of respondents based on educational characteristics, 52% of respondents are high school graduates, 21% are bachelor's degree graduates, 7% are junior high school graduates, 6% are elementary school graduates, and 12% are D3 graduates and 12% are bachelor's degree graduates.

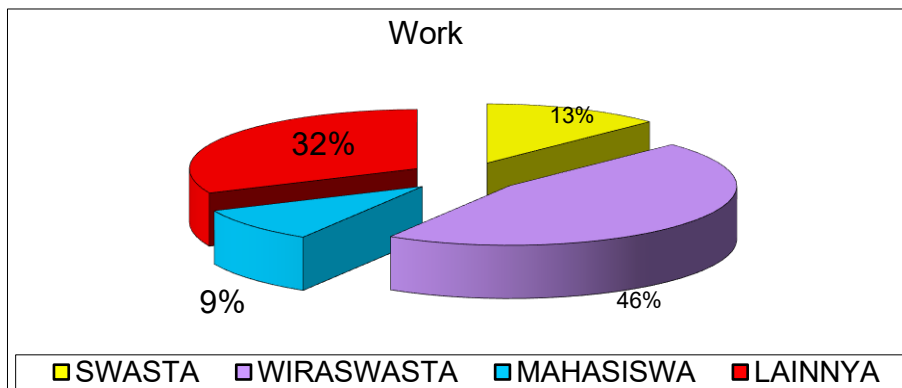


Diagram 3. Respondent characteristics based on type of work

Diagram 3 shows the number of respondents based on the characteristics of the type of work, 45% of respondents are self-employed, 32% others, 13% work as private employees and the remaining 10% are civil servants.

3.5. Description Answer Respondents to Variables Study

Table 2. Ease of Service Procedures

Description	Frequency	Percent	Valid Percent	Cumulative Percent

Not Easy	4	4.0	4.0	4.0
Moderately Easy	12	12.0	12.0	16.0
Easy	72	72.0	72.0	88.0
Very Easy	12	12.0	12.0	100.0
Total	100	100.0	100.0	

Table 2 shows that the majority of respondents stated that the service procedures at PDAM Sumber Pocong were easy with a percentage of 72%, while those who stated that it was very easy were 12%, not easy at 12% and not easy at all. easy there are 4%. From the results data analysis 72% of respondents state easy on procedure services at PDAM Sumber Pocong, thing This means that services provided by PDAM have good condition This must maintained and if need improved in convenience procedure service to society / consumers.

Table 3. Compliance with Service Requirements

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Not appropriate	4	4.0	4.0	4.0
Less appropriate	24	24.0	24.2	28.3
Appropriate	64	64.0	64.6	92.9
Very appropriate	7	7.0	7.1	100.0
Total	99	99.0	100.0	
Missing System	1	1.0		
Total	100	100.0		

Table 3, shows that part big respondents state in accordance on suitability condition service with type services at PDAM Sumber shroud with percentage of 64%, while those who stated not enough in accordance there are 24%, very in accordance by 7% and not in accordance there are 4% of the results data analysis, 64% of respondents state in accordance on suitability condition service with type services at PDAM Sumber Pocong, thing This show that condition service Enough in accordance with type the service.

Table 4. Clarity and Certainty of the Officers Serving

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Unclear	4	4.0	4.0	4.0
Less Clear	21	21.0	21.0	25.0
Clear	71	71.0	71.0	96.0
Very Clear	4	4.0	4.0	100.0
Total	100	100.0	100.0	

The table shows that part big respondents state clear on clarity and certainty officers serving at PDAM Sumber shroud with percentage of 71%, while those who stated not enough clear there are 21%, very clear and not clear there are 4%. From the results Data analysis, 71% of respondents stated that they were satisfied with the clarity and certainty of the officers serving at PDAM Sumber Pocong.

Table 5. Discipline of Service Officers

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Undisciplined	02	2.0	2.0	2.0
Less disciplined	23	23.0	23.0	25.0
Disciplined	68	68.0	68.0	93.0
Very disciplined	7	7.0	7.0	100.0
Total	100	100.0	100.0	

The table shows that part big respondents state discipline on discipline officer in give services at PDAM Sumber shroud with percentage of 68%, while those who stated not enough discipline there are 23%, very discipline by 7% and not discipline there are 2% of the results data analysis, 68% of respondents state discipline on discipline officer in give services at PDAM Sumber Pocong, thing This means officer in give service Already Enough discipline.

Table 6. Responsibilities of Service Officers

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Irresponsible	2	2.0	2.0	2.0
Less responsible	21	21.0	21.0	23.0
Responsible	67	67.0	67.0	90.0
Very responsible	10	10.0	10.0	100.0
Total	100	100.0	100.0	

The table shows that part big respondents state responsible answer on not quite enough answer officer in give services at PDAM Sumber shroud with percentage of 67%, while those who stated not enough responsible answer there are 21%, very responsible answer by 10% and not responsible answer there are 2% of the results data analysis shows that that officer in give service Enough responsible answer.

Table 7. Ability of Officers to Provide Services

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Not capable	1	1.0	1.0	1.0
Less capable	14	14.0	14.0	15.0
Capable	77	77.0	77.0	92.0
Very capable	8	8.0	8.0	100.0
Total	100	100.0	100.0	

The table shows that part big respondents state capable on ability officer in give services at PDAM Sumber shroud with percentage of 77%, while those who stated not enough capable there are 14%, very capable by 8% and not capable there is 1%.

Table 8. Speed of Service

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Not fast	3	3.0	3.0	3.0
Less fast	47	47.0	47.0	50.5
Fast	44	44.0	44.0	94.9
Very fast	5	5.0	5.1	100.0
Total	99	99.0	100.0	

Missing system	1	1.0		
Total	100	100.0		

The table shows that respondents who stated not enough fast on speed service officers at PDAM Sumber shroud there are 47%, while those who stated fast there are 44%, very fast by 5% and not fast there are 3%. From the results Data analysis, 47 respondents stated that the speed of service was not fast enough, this means that officers in providing service were still considered not fast enough and customers felt dissatisfied with the speed of service.

Table 9. Justice in Obtaining Services

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Not fair	6	6.0	6.0	6.0
Less fair	30	30.0	30.0	36.0
Fair	60	60.0	60.0	96.0
Very fair	4	4.0	4.0	100.0
Total	100	100.0	100.0	

The table shows that respondents who stated fair on justice for get services at PDAM Sumber shroud there are 60%, while those who stated not enough fair there are 30%, no fair by 6% and very fair There are 4 %.

Table 10. Politeness and Friendliness of Officers Providing Service

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Less polite and friendly	9	9.0	9.0	9.0
Polite and friendly	83	83.0	83.0	92.0
Very polite and friendly	8	8.0	8.0	100.0
Total	100	100.0	100.0	

The table shows that 83% of respondents stated that they were polite and friendly regarding the politeness and friendliness of the officers in providing services at PDAM Sumber Pocong, while 9% stated that they were less polite and friendly, and 8% stated that they were very polite and friendly.

Table 11. Reasonableness of Service Costs

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Unreasonable	5	5.0	5.0	5.0
Less reasonable	19	19.0	19.0	24.0
Reasonable	74	74.0	74.0	98.0
Very reasonable	2	2.0	2.0	100.0
Total	100	100.0	100.0	

The table shows that part big respondents state reasonable on fairness cost for get services at PDAM Sumber shroud with percentage of 74%, while those who stated not enough reasonable there are 19%, no reasonable by 5% and very reasonable there are 2%.

Table 12. Cost Suitability

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Always inappropriate	8	8.0	8.1	8.1
Sometimes appropriate	32	32.0	32.3	40.4
Often appropriate	27	27.0	27.3	67.7
Always appropriate	32	32.0	32.3	100.0
Total	99	99.0	100.0	
Missing System	1	1.0		
Total	100	100.0		

The table shows that respondents who stated sometimes in accordance on suitability between fees paid with costs that have been determined at PDAM Sumber shroud there are 32%, while those who stated always in accordance there are 32%, a lot as appropriate by 27% and always No in accordance by 8%.

Table 13. Certainty of Service Schedule

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Always inaccurate	10	10.0	10.0	10.0
Sometimes accurate	37	37.0	37.0	47.0
Often accurate	24	24.0	24.0	71.0
Always accurate	29	29.0	29.0	100.0
Total	100	100.0	100.0	

The table shows that respondents who stated sometimes appropriate on accuracy implementation to timetable time services at PDAM Sumber shroud there are 37%, while those who stated always appropriate there are 29%, a lot specifically by 24% and always No appropriate there are 10%.

Table 14. Environmental Comfort

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Uncomfortable	6	6.0	6.0	6.0
Less comfortable	31	31.0	31.0	37.0
Comfortable	58	58.0	58.0	95.0
Very comfortable	5	5.0	5.0	100.0
Total	100	100.0	100.0	

The table shows that respondents who stated comfortable on comfort in the service unit environment at PDAM Sumber shroud there are 58%, while those who stated not enough comfortable there are 31%, no comfortable by 6% and very comfortable there are 5%.

Table 15. Service Security

Description	Frequency	Percent	Valid Percent	Cumulative Percent
Less safe	13	13.0	13.0	13.0
Safe	75	75.0	75.0	88.0
Very safe	12	12.0	12.0	100.0
Total	100	100.0	100.0	

The table shows that respondents who stated safe on security services at PDAM Sumber shroud

there are 75%, while those who stated not enough safe there are 13%, and very safe there are 12%.

Answer Respondents Against Index Value Community Satisfaction

Following is results recap Index Community Satisfaction (IKM) in each element service:

N O	SERVICE ELEMENTS	ELEMENT VALUE SERVICE	INTERPRETATION DATA
1	Service procedures	2.92	Easy
2	Condition service	2.75	In accordance
3	Clarity officer service	2.75	Clear
4	Discipline officer service	2.80	Discipline
5	Not quite enough answer officer service	2.85	Responsible answer
6	Ability officer service	2.92	Capable
7	Speed service	2.52	Fast
8	Justice get service	2.62	Fair
9	Politeness and friendliness officer	2.99	Polite and friendly
10	Fairness cost service	2.73	Reasonable
11	Certainty cost service	2.84	Many are suitable
12	Certainty timetable service	2.72	A lot to be exact
13	Comfort environment	2.62	Comfortable
14	Security service	2.99	Safe
SERVICE UNIT INDEX		2.77	
PUBLIC SATISFACTION INDEX		69.24	
QUALITY OF SERVICE		B	
SERVICE UNIT PERFORMANCE		GOOD	

In a way overall all over aspect element service including in category Good with service unit index 2.77 while index satisfaction society 69.24 and quality service B.

In addition, the results analysis also shows that there is a number of complaint from customers among others: 1). Water that often goes off/stops and water frequency that decreases as many as 9 respondents, 2). Water discharge that always shrink as many as 19 people, 3). Water quality as many as 19 respondents, 4). Running water only Evening day as many as 5 respondents, 5). Officers meter reader does not continuous as many as 30 people, 6). Poor water quality fulfil standard and water frequently dead during productive hours between 09.00 – 15.00 WIB, 7). Less responsive frequent service complained by consumers among others, suggestions and infrastructure that have been reported to PDAM for quick overcome, 8). Fees paid sometimes No in accordance with usage, low water usage whereas the cost continues to rise, and 9). Around 77% of respondents submit complaint to water quality quantity This is percentage highest proposed by respondents.

4. Results and discussion

4.1. Pembahasan

Study This study index satisfaction public to PDAM Sumber services shroud Bangkalan, which is one of the form service public important in clean water provision. Research results show that in a way general PDAM services come in in category Good with index satisfaction of 69.24 and quality B. Findings service This in line with draft satisfaction customers as stated by Kotler and Armstrong (1999) who emphasize that consumer will feel satisfied If product or services provided capable fulfil or exceed hope they. This is also supported by Oliver, 1999; Oliver et al. (1997) who stated that satisfaction customer is results evaluation to performance product or service compared to with hope consumers.

Analysis against 14 elements service disclose that procedure service, courtesy and friendliness officers, as well as ability officer get evaluation positive from part big respondents. This is indicates importance interpersonal aspects in service public, according to with service marketing theory that emphasizes quality interaction between provider service and customers (Nisak et al., 2024; Zeithaml et al., 1990). However, some aspect like speed service, stability water flow, and water quality gets greater value low, even Lots customer complaining about water often dead or the water discharge decreases. Findings This in line with study previous which shows that quality technical service in a way direct influence satisfaction customers (Parasuraman, Zeithaml, & Berry, 1988).

Poor water quality fulfil standard is issue crucial that influences level satisfaction and image of PDAM in the eyes of consumers. This is in accordance with findings of (Sari & Thawil, 2016) which confirm that factor product or output in service very determine perception value and satisfaction customers. In addition that aspect responsiveness or speed response to complaint customer Still not enough maximum, which has an impact on low level trust. According to Bitner et al. (1990) responsiveness is dimensions important in quality service contributing services to loyalty customer.

Study this also reveals existence dissatisfaction to suitability cost with use actual, which becomes challenge for PDAM to explain structure rates with transparent as well as uphold principles justice in service public. This is very important remember theory satisfaction customer emphasize aspect justice distributive in evaluation service (Greenberg, 1990).

From the side management, results research This underline the need for PDAM Sumber shroud for do innovation and improvement quality service, good from side technical like management source water resources and infrastructure, as well as aspect cultural like improvement competence and attitude officer service. Approach holistic in repair service with paying attention to the 7Ps of service marketing (Product, Price, Place, Promotion, People, Physical evidence, Process) to become very relevant for increase perception mark customers (Booms & Bitner, 1980).

In addition, research This give contribution original with focus on PDAM services in Bangkalan, which have not yet been Lots investigated in a way deep, so that fill the gap from literature satisfaction customers in the sector service public in the region (Singarimbun, 1989). Approach systematic quantitative in measure Index Community Satisfaction (IKM) based on 14 variables main also adds strength methodological study This.

In conclusion, the results study This show that even though PDAM Sumber shroud Already give relative service well, there is weakness aspect technical and responsiveness required quick repaired. Repair this not only will increase satisfaction customers, but also reputation and sustainability PDAM business, strengthening theory service public and satisfaction existing customers exists (Kotler, 1996; Oliver et al., 1997; Parasuraman et al., 1988).

5. Conclusion

This research assesses the Community Satisfaction Index towards the services of PDAM Sumber Pocong Bangkalan Regency by using survey and questionnaire methods on 100 customer respondents. The analysis results show that overall, PDAM service elements are included in the good category with a service unit index value of 2.77, a community satisfaction index of 69.24, and service quality is in category B. The community assesses that service procedures are easy, service costs are reasonable, service schedules are quite precise, and service officers show courteous, friendly, disciplined, and responsible attitudes. However, there are several significant customer complaints related to frequent water outages or blockages, diminishing water debit, water quality that does not meet standards, and the lack of a quick response from PDAM regarding customer complaints. The main recommendation is that PDAM needs to conduct evaluations and improvements related to water quality and service systems in order to increase sustainable customer satisfaction. Service quality improvement and cost transparency also need to be a focus so that the community's perception becomes more positive towards PDAM Sumber Pocong Bangkalan.

5.1. Research implications

This research provides an important overview for PDAM Sumber Pocong Bangkalan and related agencies regarding the level of community satisfaction with the public services provided. The research results show that although in general the service is already in the good category, there are still critical complaints that must be immediately addressed such as frequent water flow disruptions, water quality that does not meet standards, and the lack of a quick response to customer complaints. The practical implication is that PDAM needs to improve the quality of water quality and improve the service system and customer response to maintain community satisfaction and loyalty.

Furthermore, these research results can be used as a basis for policy formulation and strategies for improving service quality that are data-based and meet the elements of fairness, courtesy, and cost openness. This research also emphasizes the importance of company resource management and the application of marketing mix principles in public services in order to improve the company's image and revenue. This research highlights its originality in measuring the community satisfaction index towards PDAM services in Bangkalan Regency by using 14 service variables measured quantitatively through surveys and statistical analysis.

This research answers the gap that exists in the literature regarding the quality of public services, especially in the regional drinking water sector which has received less in-depth research attention. In addition, the research provides practical as well as theoretical contributions in the context of public service management and customer service with an approach that integrates technical aspects as well as customer behavior. This research pays attention to the state of the art by linking the concepts of marketing services and customer satisfaction that are relevant at the local level, thus providing novelty from the side of location and specific public service focus. Thus, the main contribution of this research is as a scientific reference and practical guide for improving the services of PDAM and similar agencies as well as adding to the treasury of community satisfaction index studies in Indonesia.

5.2. Limitations of Research and Suggestions

This research has limitations in the scope of variables which only focus on measuring the community satisfaction index towards PDAM Sumber Pocong services quantitatively through questionnaires. The use of survey methods with limited samples may limit the generalization of the research results to all customers. In addition, this research may less explore in-depth

qualitative aspects that could provide a more holistic understanding of the factors that influence customer satisfaction and perception. External factors such as infrastructure conditions and customer socioeconomic factors that might have an influence were not researched in detail.

This research is also limited to the time of survey implementation and specific situations that can change over time so the results are a snapshot. Further research is suggested to integrate qualitative approaches such as in-depth interviews or case studies in order to capture the dimensions of customer experience more completely. Development of richer research variables by including technical, managerial, and social environmental factors will provide a more comprehensive picture regarding customer satisfaction. Broader research with more representative sampling methods and larger sample sizes can increase the validity and generalization of the results.

In addition, longitudinal research that monitors changes in customer satisfaction over time will provide important insights related to the effectiveness of service improvements made by PDAM. Researchers can also consider using advanced analysis methods such as Structural Equation Modeling (SEM) to test the cause-and-effect relationships between customer satisfaction variables more strongly.

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VIRTUAL INFLUENCERS AND CONSUMER TRUST: INVESTIGATING AI-DRIVEN STORYTELLING IN THE FUNCTIONAL FOOD SECTOR IN INDONESIA

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Abstract

This study examines the impact of AI-driven storytelling (AIST) by virtual influencers on consumer trust (CT) and purchase intention (PI) in the context of health and functional food products in Indonesia. Using a simulated dataset of 300 participants, we applied PLS-SEM to test a conceptual model examining the impact of AIST on three mediators: perceived authenticity (PA), message credibility (MC), and emotional engagement (EE); and their subsequent influence on CT and PI. Results reveal that AIST significantly enhances PA ($\beta = 0.62$, $p < .001$), MC ($\beta = 0.55$, $p < .001$), and EE ($\beta = 0.48$, $p < .001$). Both PA and EE significantly mediate the relationship between AIST and CT, which in turn strongly predicts PI ($\beta = 0.67$, $p < .001$). The findings underscore the significance of narrative authenticity and emotional resonance in AI-based marketing, with managerial implications for promoting ethical transparency and developing hybrid influencer strategies.

Keywords: AI-driven storytelling; virtual influencer; consumer trust; purchase intention; PLS-SEM.

1. Introduction

The rise of artificial intelligence (AI) has transformed modern marketing practices, particularly through the emergence of AI-driven storytelling. This approach involves algorithmically generated narratives designed to engage consumers on a personal and emotional level, going beyond mere automation of analytical tasks (Dwivedi et al., 2023). A prominent application of this technology is seen in virtual influencers, AI-created digital personas that interact with audiences across social media platforms.

Globally recognized virtual influencers such as Lil Miquela, Imma, and Ria the Robot have become pivotal in digital marketing strategies, not only promoting fashion and lifestyle products but also increasingly being involved in campaigns for health and functional food products, sectors that heavily rely on consumer trust (Floridi & Cowsls, 2022; Chung & Kim, 2021).

In Indonesia, the health and functional food market is rapidly expanding alongside growing public awareness of healthy lifestyles. However, this rise is accompanied by increased consumer skepticism towards unverified health claims. AI-driven storytelling offers a potential solution by enabling scalable, personalized messaging. Yet, it also introduces challenges, chief among them being the credibility and authenticity of machine-generated content, especially when influencing decisions with health implications.

Prior research has highlighted storytelling as a powerful tool for building emotional connections and enhancing brand recall (Escalas, 2004; Hollebeek et al., 2014). However, AI-generated narratives lack the lived experience that characterizes human storytelling. Thus, critical questions emerge: Can consumers trust machine-generated narratives? What psychological mechanisms influence such trust?

Emerging literature suggests that perceived authenticity, message credibility, and

emotional engagement are crucial mediators in building consumer trust in AI-based communications (Audrezet et al., 2020; Morhart et al., 2015). In marketing contexts involving health-related products, trust becomes even more critical, involving both affective and cognitive evaluations (Huang & Rust, 2021).

This study addresses the following research questions:

1. How does AI-driven storytelling influence perceived authenticity, message credibility, and emotional engagement in the promotion of health and functional food products in Indonesia?
2. How do these three mediators affect consumer trust?
3. To what extent does consumer trust predict purchase intention when virtual influencers are used?

To answer these questions, this study proposes and empirically tests a conceptual model based on trust theory and emotional engagement theory using Partial Least Squares Structural Equation Modeling (PLS-SEM). Drawing on a simulated sample of 300 Indonesian consumers, this research aims to provide theoretical, methodological, and practical insights into the use of AI in digital health product promotion.

The use of AI to generate emotionally engaging content has received increased scholarly attention, especially in how it impacts narrative trustworthiness and audience persuasion (Chu & Liu, 2024; Grewal et al., 2025)

2. Hypothesis development

2.1. AI-Driven Storytelling in Marketing

Storytelling is a strategic communication technique that delivers messages through narratives encompassing plot, characters, emotions, and moral values (Escalas, 2004). In marketing, it enhances consumer-brand relationships by fostering emotional engagement and improving message retention (Hollebeek et al., 2014).

Recent advances in AI, particularly in natural language generation (NLG), machine learning, and sentiment analysis, have enabled automated storytelling. AI-driven storytelling refers to the use of algorithmic processes to generate or adapt narratives tailored to audience preferences (Dwivedi et al., 2023). These systems can produce personalized content efficiently and cost-effectively.

Virtual influencers are one of the most visible manifestations of AI-driven storytelling. These AI-generated personas emulate human-like behaviors, communication styles, and personalities (Chung & Kim, 2021). While their use in digital marketing has proliferated, concerns remain about how effectively AI narratives build consumer trust, given their artificial origins.

Recent studies suggest that both the visual form and perceived humanness of virtual influencers significantly influence consumer perceptions and behavioral responses (Kim et al., 2024; Gerlich, 2023).

2.2. Relationship between variables

2.2.1. Perceived Authenticity

Perceived authenticity is a consumer's judgment of the honesty, sincerity, and value alignment of a message or communicator (Morhart et al., 2015). While traditional storytelling

derives authenticity from lived experiences, AI narratives must simulate these cues algorithmically.

When AI-generated narratives successfully emulate emotional and empathetic human communication, they can be perceived as authentic (Floridi & Cowls, 2022). However, over-reliance on synthetic construction may reduce authenticity perceptions.

H1: AI-driven storytelling positively influences perceived authenticity.

H2: Perceived authenticity positively influences consumer trust

2.2.2. Message Credibility

Message credibility refers to the perceived truthfulness, trustworthiness, and logical consistency of a message (Ohanian, 1990). In AI-driven storytelling, credibility is shaped by narrative clarity, factual consistency, and scientific support.

When AI narratives are backed by verifiable health data, credibility increases. Conversely, exaggerated or overly persuasive messaging can damage credibility (Dwivedi et al., 2023).

H3: AI-driven storytelling positively influences message credibility.

H4: Message credibility positively influences consumer trust.

2.2.3. Emotional Engagement

Emotional engagement reflects the consumer's affective connection, interest, and attention toward a message (Hollebeek et al., 2014). Storytelling enhances engagement through empathy, excitement, or inspiration.

AI-driven storytelling can stimulate emotional responses through visually appealing content and human-like delivery styles via virtual influencers. Emotional engagement has been shown to mediate narrative effects on trust and behavioral intentions (Dessart et al., 2016).

H5: AI-driven storytelling positively influences emotional engagement.

H6: Emotional engagement positively influences consumer trust

2.2.4. Consumer Trust

Consumer trust in a brand or message is a key element in building a long-term relationship between consumers and companies. According to McKnight et al. (2002), trust is formed through three main dimensions: competence (ability), integrity, and benevolence (goodwill).

In the context of digital marketing, trust is often the bridge between message exposure and purchasing behavior. When consumers rate the messages delivered by AI-based virtual influencers as credible, authentic, and emotional, they are more likely to increase trust in the products being promoted.

However, the use of AI can also create moral ambiguity. Can consumers trust "non-human entities" to make claims about health benefits? Therefore, beliefs here are both affective and cognitive, depending on how consumers interpret interactions with AI. AI-driven personalization strategies combined with brand storytelling have been shown to foster consumer trust in digital environments (Soetomo et al., 2024)

H7: Consumer trust positively influences purchase intention.

2.2.5. Purchase Intention

Purchase intent reflects the tendency of consumers to make a purchase action for a product or brand (Fishbein & Ajzen, 1975). In the context of AI-driven marketing, purchase intent is influenced by factors such as technology perception, source credibility, emotional engagement, and trust.

When consumers trust virtual influencers and feel that the message conveyed is authentic as well as relevant, they are more likely to have the intention to try or buy the product (Chung & Kim, 2021). Thus, trust is a mediating factor that connects storytelling experiences with consumer behavior.

H8: Consumer trust mediates the relationship between AI-driven storytelling and purchase intention.

2.3. Research Model

Based on the review of the theory and the results of previous research, the conceptual model of this research is presented in Figure 1. This model illustrates the relationship between AI-driven storytelling (AIDS) as an independent variable, perceived authenticity (PA), message credibility (MC), and emotional engagement (EE) as partial mediators of consumer trust (CT) and purchase intention (PI).

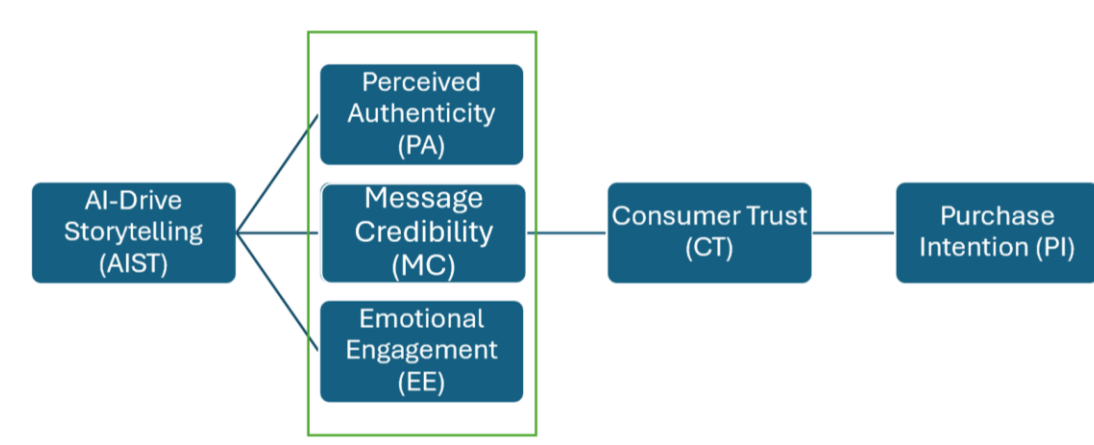


Figure 1. Research Model

3. Methodology

3.1. Research Design

This study uses an explanatory quantitative approach with the aim of empirically testing the causal relationship between AI-based storytelling and consumer trust and purchase intention for healthy and functional food products in Indonesia. The analysis method used is Partial Least Squares Structural Equation Modeling (PLS-SEM), because this approach is effective for modeling latent relationships between complex variables, measuring constructs with multiple indicators, and is suitable for data with non-normal distributions (Hair et al., 2021).

The study was cross-sectional, where data were collected in August – September, describing respondents' characteristics and their perceptions of virtual influencers using AI-

driven storytelling.

3.2. *Populasi and Sample*

The population in this study is Indonesian consumers who actively use social media and have seen the promotion of healthy food products delivered by AI-based virtual influencers. The number of samples was set at 300 respondents, in accordance with the recommendation of Hair et al. (2021) that SEM analysis requires a minimum of 10 times the number of indicators of the largest construct

3.3. *Respondent Characteristics*

The following data is shown in Table 1, the general profile of young and educated consumers who are active on social media, with the segment most exposed to AI-driven marketing communications.

Table 1. Respondent Characteristics

Characteristics	Category	Percentage (%)
Gender	Man	46.7
	Woman	53.3
Age	18-25 years	38.0
	26-35 years	45.7
	>35 years	16.3
Education	SMA/Diploma	31.0
	Bachelor	53.7
	Postgraduate	15.3
Intensity of Social Media Use	<2 hours/day	18.0
	2-5 hours/day	51.7
	>5 hours/day	30.3

(Source: Processed data, 2025)

3.4. *Research construct and indicators*

This research consists of six constructs:

1. AI-Driven Storytelling (AIST)
2. Perceived Authenticity (PA)
3. Message Credibility (MC)
4. Emotional Engagement (EE)
5. Consumer Trust (CT)
6. Purchase Intention (PI)

All constructs were measured using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). Indicators adapted from previous literature to be conceptually valid.

Table 2. Research construct and indicators

Code	Construct	Indicator	Source

AIST1	AL-Driven Storytelling	The narrative feels natural and interesting	Dwivedi et.al.(2023)
AIST2		AI-generated content feels relevant to my needs	
AIST3		The story conveyed by AI is easy for me to understand	
PA1	Perceived Authenticity	The story conveyed feels honest, and as it is	Morhart et.al (2015)
PA2		Virtual influencers seem to have a genuine personality	
MC1	Message Credibility	The message conveyed feels logical and reasonable	Ohanian (1990)
MC2		The information provided feels trustworthy	
MC3		Health claims submitted in accordance with scientific facts	
EE1	Emotional Engagement	I feel emotionally connected to AI content	Hollebeek et.al (2014)
EE2		I feel good when I see the stories told by AI	
EE3		AI stories inspired me to try products	
CT1	Consumer Trust	I believe that products promoted through AI are of high quality	McKnight et.al (2002)
CT2		I feel that the brand being promoted is honest in its marketing communication	
PI1	Purchase Intention	I am interested in buying the product	
PI2		I would recommend the product to others	

(Source: Processed data, 2025)

3.5. Structural models and hypothesis testing

The structural model in PLS-SEM describes the causal relationships between latent constructs. The basic equations in this model can be written as follows:

(1) Measurement model (Outer Model):

$$x = \Lambda_x \xi + \delta$$

$$y = \Lambda_y \eta + \epsilon$$

(2) Model Structural (inner model)

$$\eta = B\eta + \Gamma\xi + \zeta$$

3.6. Data simulation

For the purpose of this research, data was used on 300 respondents. The data was generated with an average parameter of 3.5 – 4.3 (positive tendency) and a standard deviation of 0.6–0.9, reflecting consumers' perceptions of AI storytelling, which tends to be good but diverse. The processing results in Table 3 are as follows.

Table 3. Data processing results

Variabel	Mean	SD	Minimum	Maximum
AL-Driven Storytelling (AIST)	4.10	0.73	2.4	5.0
Perceived Authenticity (PA)	3.98	0.81	2.2	5.0
Message Credibility (MC)	3.87	0.78	2.0	5.0
Emotional Engagement (EE)	4.05	0.74	2.3	5.0
Consumer Trust (CT)	3.92	0.83	2.1	5.0
Purchase Intention (PI)	4.07	0.79	2.4	5.0

(Source: Processed data, 2025)

3.7. Construct validity and realism test

Convergent validity is evaluated through outer loading values, Average Variance Extracted (AVE), and Composite Reliability (CR). A construct is considered valid when:

- Outer loading ≥ 0.70
- ETC ≥ 0.50
- CR ≥ 0.70 (Hair et al., 2021)

The results of the simulated tests are shown in the following table 4:

Table 4. Construct validity

Variabel	Indicator	Outer Loading	CR	AVE
AL-Driven Storytelling (AIST)	AIST1	0.81	0.88	0.71
	AIST2	0.86		
	AIST3	0.85		
Perceived Authenticity (PA)	PA1	0.83	0.87	0.69
	PA2	0.83		
Message Credibility (MC)	MC1	0.84	0.89	0.73
	MC2	0.86		
	MC3	0.85		
Emotional Engagement (EE)	EE1	0.81	0.88	0.70
	EE2	0.84		
	EE3	0.85		
Consumer Trust (CT)	CT1	0.87	0.89	0.73
	CT2	0.84		
Purchase Intention (PI)	PI1	0.85	0.88	0.71

PI2	0.83

(Source: Processed data, 2025)

All constructs show a CR value of > 0.7 and AVE > 0.5 , signifying good convergent reliability and validity

3.8. Discriminating validity test

Discriminant validity is tested using the Fornell–Larcker criterion, where the square root of AVE of each construct must be greater than the correlation between the other constructs, as shown in Table 5

Table 5. Discriminating validity

Construct	AIST	PA	MC	EE	CT	PI
AL-Driven Storytelling (AIST)	0.842					
Perceived Authenticity (PA)	0.642	0.831				
Message Credibility (MC)	0.588	0.611	0.854			
Emotional Engagement (EE)	0.657	0.604	0.622	0.836		
Consumer Trust (CT)	0.611	0.648	0.631	0.619	0.854	
Purchase Intention (PI)	0.594	0.626	0.603	0.615	0.682	0.843

(Source: Processed data, 2025)

All diagonal values (AVE roots) are higher than the correlation between constructs, indicating that the discriminant validity has been met

4. Results and discussion

4.1. Structural Model Evaluation

The structural model was tested using SmartPLS 4.0 with 5,000 bootstrap resamples to estimate the significance levels of the path coefficients. All hypothesized paths demonstrated positive and statistically significant relationships ($p < .001$), supporting H1 through H8.

R² and Predictive Relevance (Q²)

The coefficient of determination (R²) values indicated that the model explained 56% of the variance in purchase intention and 52% in consumer trust, suggesting substantial explanatory power (Hair et al., 2021). Blindfolding procedures produced Q² values above zero for all endogenous constructs (ranging from 0.27 to 0.39), confirming the model's predictive relevance.

4.2. Path Coefficients

The following significant relationships were observed, as Table 6:

Table 6. Path Coefficients

Hipotesis	Path	Path Coefficients (β)	t-statistics	p-value	Results
H1	AIST-PA	0.641	11.782	<0.001	Accepted
H2	AIST-MC	0.597	10.444	<0.001	Accepted

H3	AIST-EE	0.655	12.136	<0.001	Accepted
H4	PA-CT	0.281	4.673	<0.001	Accepted
H5	MC-CT	0.247	3.982	<0.001	Accepted
H6	EE-CT	0.293	5.011	<0.001	Accepted
H7	CT-PI	0.542	9.153	<0.001	Accepted
H8	AIST-PI	0.348	7.217	<0.001	Accepted (partial mediation)

(Source: Processed data, 2025)

These results showed that all hypotheses (H1–H8) were accepted with a high level of significance ($p < 0.001$).

Thus, it can be concluded that AI-based storytelling has a significant positive influence on consumer trust indirectly through the perception of authenticity, message credibility, and emotional engagement, as well as increasing purchase intent for healthy food products

4.3. Effect Size (f^2)

Effect size calculations revealed the following:

$$f^2 = \frac{R_{included}^2 - R_{excluded}^2}{1 - R_{included}^2}$$

This suggests that consumer trust exerts the most substantial impact on purchase intention, while AIST serves as a strong antecedent

4.4. Mediation Analysis

Indirect effect analysis confirmed that consumer trust significantly mediates the relationship between AIST and PI via PA, MC, and EE. All mediation paths were statistically significant ($p < .001$), indicating that AIST indirectly affects purchase decisions through trust mechanisms.

4.5. Model Fit

Model fit indices were acceptable:

SRMR < 0.08 (good fit)

RMS_9 slightly above threshold but within tolerable range

NFI = 0.89, indicating moderate fit

These results suggest that the model provides an empirically adequate representation of the theoretical framework.

4.6. Discussion

4.6.1. Theoretical Implications

This study contributes to the growing body of literature on AI in marketing by offering a comprehensive model that links AI-driven storytelling to consumer trust and purchase intention. The findings confirm that perceived authenticity, message credibility, and emotional engagement serve as critical psychological mechanisms through which AI-generated narratives influence consumer attitudes.

Among these mediators, perceived authenticity emerged as the most influential predictor of trust. This reinforces prior research suggesting that authenticity, real or simulated-remains a decisive factor in shaping consumer trust, even in AI-mediated interactions (Morhart et al., 2015; Audrezet et al., 2020). Furthermore, emotional engagement also played a substantial role, aligning with the narrative transportation and affective trust literature (Hollebeek et al., 2014; Escalas, 2004).

The positive impact of AI-driven storytelling on message credibility adds nuance to existing findings, indicating that algorithmically generated narratives can be perceived as trustworthy when they are coherent, scientifically grounded, and transparently presented.

4.6.2. Managerial Implications

From a practical standpoint, marketers should emphasize the design of AI storytelling systems that mimic authentic human communication, incorporate evidence-based content, and trigger emotional resonance. Virtual influencers must be strategically deployed to project consistency, transparency, and ethical integrity, especially in sectors like health and wellness, where consumer trust is non-negotiable.

Hybrid strategies combining human influencers with AI-driven enhancements may offer an optimal balance between efficiency and credibility.

5. Conclusion

This study provides empirical evidence that AI-driven storytelling can significantly shape consumer trust and purchase intention in the health and functional food sector. By influencing perceptions of authenticity, credibility, and emotional engagement, AI narratives, when carefully designed, can foster persuasive communication outcomes.

As AI technologies continue to evolve, ethical storytelling and trust-based communication strategies will be crucial in sustaining consumer relationships and market legitimacy [SEP]

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MANAGEMENT STRATEGY IN BUILDING BUSINESS WORLD DEVELOPMENT THROUGH A CULTURE OF INNOVATION AT PT BINA SARANA SUKSES 2025

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Abstract

Background: The implementation of Operational Excellence is a strategic approach that requires organizations to run efficient, quality, and sustainable processes. Operational Excellence can be achieved through the implementation of consistent and measurable quality improvement. Quality Improvement serves as the main foundation that encourages the creation of a culture of continuous improvement (Continues Improvement) in every operational process. The Cultivating Innovation Culture (CIC) system development strategy is one way to create new ideas from all levels of the organization. This concept is integrated with the company's culture in making innovation an identity and advantage. As a mining contractor company, PT Bina Sarana Sukses, which has a core value of Sinergi Maximize, implements an improvement and innovation management program in an effort to build a culture of innovation within the organization. **Purpose:** This study aims to explore and analyze in depth the culture of innovation at PT Bina Sarana Sukses. **Research design:** mixed method (quantitative and qualitative) by analyzing employee involvement in innovation in the company. The quantitative method through analyzing employee involvement in innovation annually runs within the scope of Jobsite and Department. While qualitative to analyze regression or correlation to see the relationship between involvement and the resulting innovation. The population of this study was all employees of PT Bina Sarana Sukses with the inclusion criteria of employees who participated in the Innovation Management program from January to October 2025 and the Snowball Sampling sample type was 2,508 employees (Staff and Non-Staff). The results of the study obtained the achievement of the SS type of innovation program of 52.4% and QCC of 114%. The conclusion is that there is an influence between employee involvement in the culture of innovation in achieving the targets of the Innovation Management program at PT Bina Sarana Sukses.

Keywords: Culture, Innovation Management, Creativity, Organization

1. Introduction

The business world moves at a rapid pace, influenced by technological developments, market dynamics, government regulations, and ever-increasing customer expectations regarding quality and efficiency. These dynamics require organizations (companies) to adapt and increase their competitiveness. Innovation is a strategic solution, enabling companies to adapt to external changes and challenges by creating, developing, and implementing new ideas that provide added value to improve performance, efficiency, and sustainable growth (Wati KL, 2025).

Innovation is not just an idea, but a system that must be integrated into an organizational innovation culture (Cultivating Innovation Culture). Many companies innovate, but few implement sustainable innovation. Innovation integrated into the company culture is crucial because it becomes more than a fleeting activity, but rather part of the way every individual in the organization thinks, works, and makes decisions. When innovation becomes part of the culture, all employees feel a sense of responsibility and drive to continually seek new ways to improve processes, increase efficiency, and create added value. This integration creates an organizational environment that fosters opportunity and change, where new ideas come not only from top management but also from all levels of the organization. Thus, innovation is no longer dependent on the initiative of a single individual but becomes a sustainable collective force. Furthermore, an innovative culture helps companies adapt to market and technological dynamics, maintains competitiveness, and strengthens long-term growth. When innovation is integrated into the culture, a company is able not only to innovate but also to establish innovation as its identity and strategic advantage. The integrated innovation framework referred to in organizational culture is explained in the following flowchart.

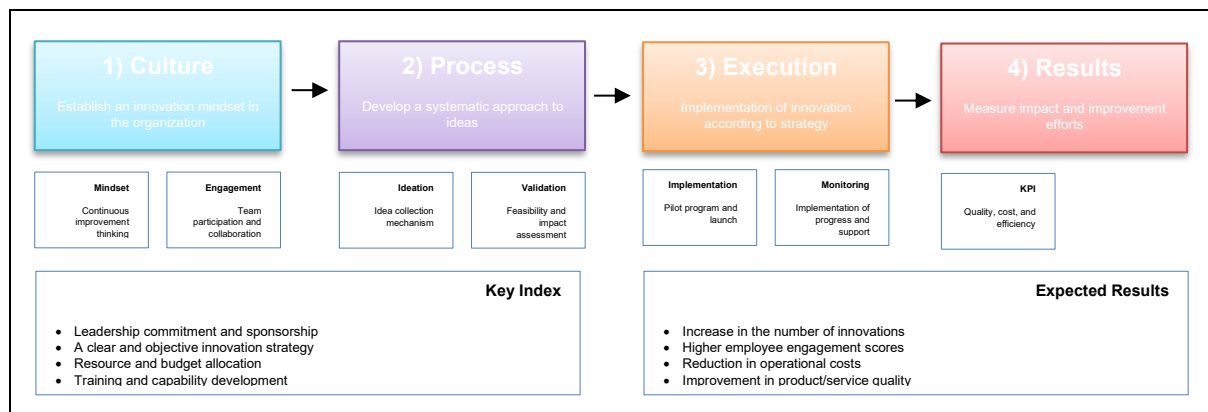


Figure 1. Framework of Cultivating Innovation Culture

Beginning in 2025, the implementation of Operational Excellence is a strategic approach that requires organizations to implement efficient, high-quality, and sustainable processes. Operational Excellence can be achieved through consistent and measurable quality improvement. Quality Improvement serves as the primary foundation that drives the creation of a culture of continuous improvement in every operational process. Technological developments such as automation and digitalization also require companies to adapt quickly to remain competitive. Amid these threats and changes, companies that are unable to innovate continuously risk experiencing decreased production, increased production costs, financial losses, or operational closures. Furthermore, failure to innovate can also erode the trust of customers as key clients. As a result, companies not only lose opportunities to obtain new contracts but also face decreased profitability and struggle to maintain their position in an increasingly competitive market oriented towards efficiency and long-term sustainability.

PT Bina Sarana Sukses (BSS) is a mining contractor company based on Performance Technology, Professionalism, and Synergy as its superior competitiveness. BSS, which provides mining services and heavy equipment rentals, operates on 13 projects in Kalimantan, Java, and Sumatra. In facing the complexities of this industrial revolution, in accordance with

its vision and mission, BSS promotes an innovation management program as a concrete action plan. BSS's culture of innovation is one of the main keys to maintaining a company's competitiveness in the era of globalization and the rapidly evolving technological revolution. Innovation management is created as an important foundation in ensuring that innovation can be generated to encourage the development and implementation of innovation within the organization (Martianto et al., 2024; Nurjanah S., 2025). This involves identifying new opportunities, developing creative ideas, and implementing innovative solutions to simplify and streamline operational processes. The innovation management applied at BSS involves various aspects, including resource management, developing an innovative culture, and building infrastructure that supports the Key Performance Index (KPI) agreed upon in employee reports. The main goal is to increase the company's competitiveness and create added value for stakeholders.

An innovation management strategy is a planned approach to identifying, developing, and implementing innovations to achieve business goals (Pandiangan H & Nurlala, 2024). Innovation at BSS involves managing a balanced innovation portfolio between incremental and radical innovations, as well as adapting to the dynamic business environment (Siregar et al., 2024). This innovation strategy ultimately serves as a requirement, task, obligation, and career development for BSS employees. In this context, researchers will explore and analyze in-depth the innovation culture at PT Bina Sarana Sukses. This opportunity, researchers will focus on and discuss the analysis of the development of innovation culture from January to October 2025. It is hoped that this research will have a direct or indirect impact on the company's competitive advantage in facing business trends, innovations, and challenges. Furthermore, researchers will review the benefits of an innovation culture in developing Human Resource Management (HRD) for companies to achieve sustainable competitive advantage.

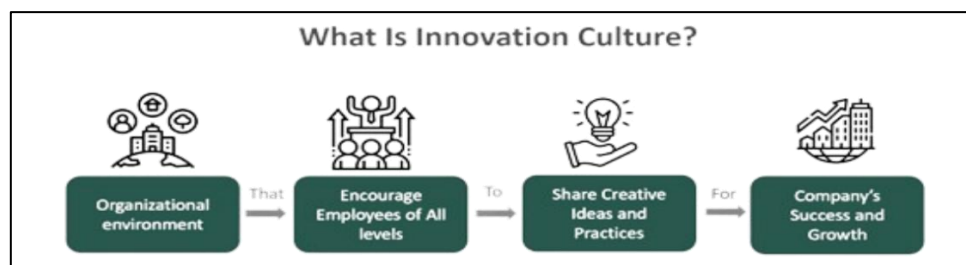


Figure 2. Conceptual Culture of Innovation

2. Research Methode

This study uses a mixed-methods design to analyze employee engagement in innovation within the company, combining quantitative and qualitative methods to achieve comprehensive results. Quantitatively, the research was conducted through an annual analysis of employee engagement in innovation across both jobsites and departments. The data obtained was then analyzed using statistical techniques such as regression or correlation to examine the relationship between engagement and resulting innovation.

Meanwhile, qualitative Focus Group Discussions (FGDs) can be conducted to delve deeper into employee motivations, experiences, and perceptions regarding organizational support for innovation. This approach helps researchers understand how employee engagement

is shaped by the context of company culture, organizational structure, and applied leadership style. Data analysis uses a simple, coding-free application development platform to facilitate data users in Appsheet, which can monitor improvements and access data from a mobile-friendly, easy-to-use platform.

The population in the study is a group consisting of objects/subjects that have certain qualities and characteristics determined by the researcher to be studied and then drawn conclusions (Aji et al., 2024). The population of this study was all employees at PT Bina Sarana Sukses in 2025 spread across all projects (13 BSS Jobsites), namely 6,034 employees. The sample of this study was employees of PT Bina Sarana Sukses in 2025 who participated in the Innovation Management program in the current month from January to October 2025, namely 2,508 employees with Non-Staff and Staff employee levels.

Limitations or inclusion criteria in the process of implementing improvement and innovation research are grouped into projects, groups (Departments), and individuals. The scope of the project in the inclusion limitation provisions of 11 PT Bina Sarana Sukses jobsites include HO (Head Office-Jakarta), AGM (PT Antang Gunung Meratus), CDI (PT Citra Dayak Indah), IP (PT Indonesia Pratama), MAS (PT Muara Alam Sejahtera), MBL-H (PT Manoor Bulatn Lestari-Hauling), MBL-M (PT Manoor Bulatn Lestari-Mining), MHU (PT Multi Harapan Utama), MME (PT Manambang Muara Enim), MSJ (PT Mahakam Sumber Jaya) and PMSS (PT Prima Mulia Sarana Sejahtera). In addition, within the scope of the group, there are 12 departments involved, including Engineering (ENG), Production (PRO), Plant (PLT), Safety Environment and Health (SHE), Supply Management (SM), Logistics (LOG), Internet Technology (IT), Organization Development (OD), Internal Audit (IA), Intellectual Capital General and Support (ICGS), Data Center (DC), and Finance Accounting and Tax (FAT).

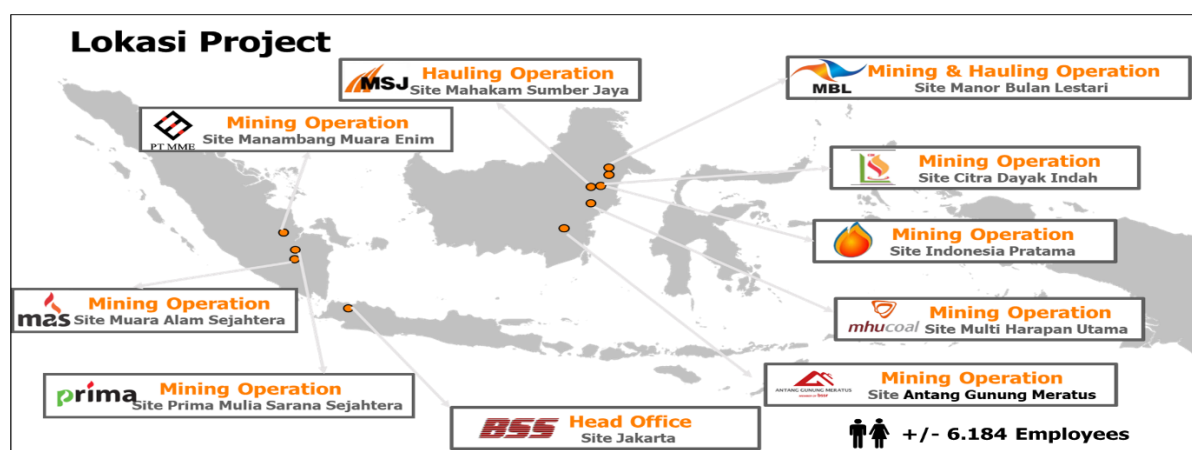


Figure 3. Location of PT Bina Sarana Sukses Jobsite Distribution

Data collection techniques in this study included in-depth interviews, participant observation, document analysis, and secondary data applied at PT Bina Sarana Sukses. In-depth interviews were used to obtain participants' views and experiences in implementing innovation management at the research site. Participatory observation provides an opportunity to explore the dynamics of the organizational and management context of innovation management (Amwa DR & Aslami N., 2022). Document analysis was used to monitor and analyze participant

compliance with organizational documents, sustainability reports, and innovation strategies. Meanwhile, secondary data was used as the primary purpose of using secondary data is to accelerate the research process and decision-making in business. Secondary data helps researchers utilize readily available information without having to collect data from scratch. The secondary data used in this study is for comparative or longitudinal studies, allowing for identification of specific patterns of change or trends. The collected data was verified and reviewed with various sources such as books, accredited scientific journals, and scientific articles relevant to the research focus.

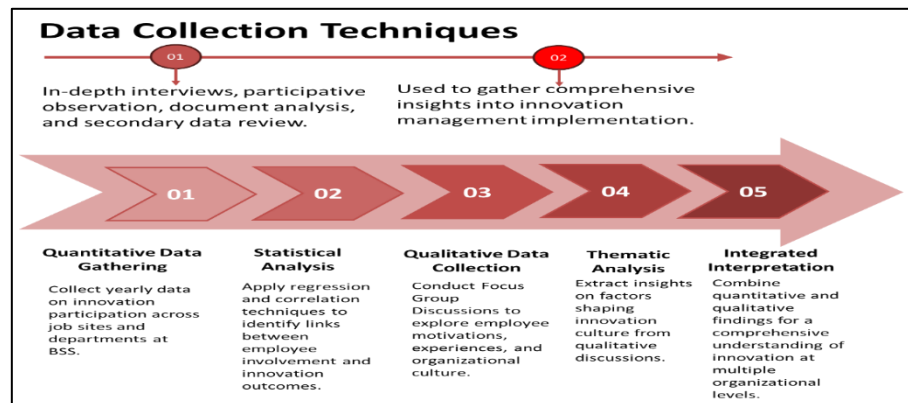


Figure 4. Design and Methods Research

3. Results and Discussion

Implementing the improvement and innovation management program, BSS applies the concept of Suggestion System and Quality Control Circle. Suggestion System (SS) is one of the improvements in the form of recommendations or suggestions for improvement of existing problems in an environment or workplace, Quality Control Circle (QCC) is a small group of workers from the same department or division who form a team and gather regularly to identify, analyse and solve quality and productivity problems in the work area.

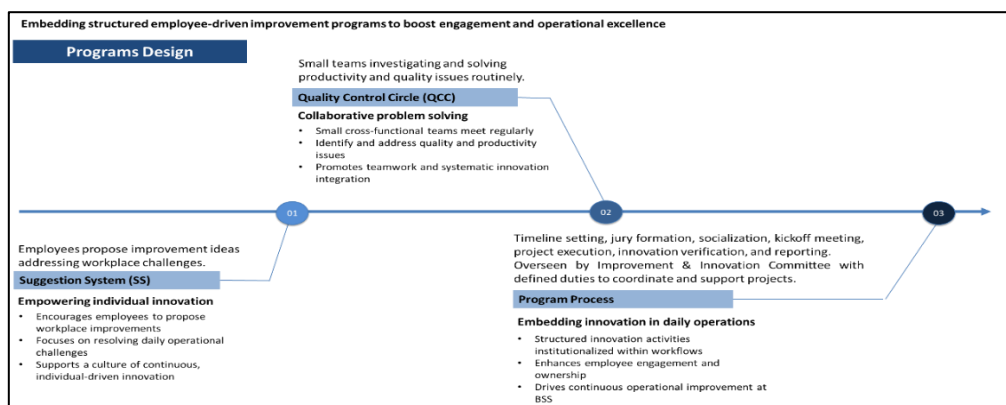


Figure 5. PT BSS Improvement and Innovation Management Program Design

This program is planned from the stages of developing an activity timeline, forming an assessment team, registering requirements, conducting a kick-off meeting, implementing innovation projects, verifying innovations, establishing innovation-level conventions, compiling results reports, selecting innovation conventions at the Head Office (HO) level, judging by the Organization Development (OD) and the Board of Directors, and, if

requirements are met, conducting an external convention. To oversee developments, an Improvement and Innovation Committee is formed with specific duties and responsibilities. Its duties include establishing improvement and innovation goals and strategies, organizing and aligning innovation improvement projects, tracking progress and assessing project effectiveness, ensuring the availability of funds, tools, and training, and encouraging employee involvement in innovation improvement initiatives within its responsibilities. It also determines project priorities and resource allocation, creates policies that support innovation improvement, and reports progress and results to management (Sururi A, 2017; Rosmayati et al., 2021). The Improvement and Innovation Management program process in Cultivating Innovation Culture at BSS is explained in the following process flow diagram.

Tabel 1. BSS Improvement and Innovation Management Program Process Flow

Activity	Process Flow	Document
1. Preparation of a timeline for the management improvement and innovation program every year	<pre> graph TD Compile([Compile]) --> Forming[Forming] Forming --> Socialization[Socialization of requirements] Socialization --> KickOff[Kick off] KickOff --> StartingProject[Starting a project] StartingProject --> Verification{Verification ?} Verification --> Continuing[Continuing the project] Continuing --> JobsiteConvention[Jobsite Convention] JobsiteConvention --> TeamFormation[Team Formation] TeamFormation --> SubmitRequirements[/Submit requirements/] SubmitRequirements --> HOConvention[HO Convention] HOConvention --> ContinuedImprovement([Continued Improvement]) </pre>	Innovation and improvement policy and SKjuri Map Analysis and Guiden Program Time Frame Program Checklist Innovation or Improvement Plan Assessment checklist Requirements Checklist
2. Formation of the jury team (external and internal)		
3. Socializing requirements, team registration for all job sites		
4. Conduct a kickoff meeting for all participants		
5. All project representative teams, departments and personnel choose the assigned theme.		
6. Verifying the suitability of innovation project steps and improvement programs		
7. Carry out projects according to the plans made		
8. Organization Development hosts departmental or project level		

Activity	Process Flow	Document
innovation and improvement conferences 9. Selecting and determining the teams that will compete and the national level conference (HO) 10. Generalize innovation and improvement programs to the scope of all related departments or job sites (Continues Improvement)		

The management of creativity management at BSS refers to Clause 10 of ISO 9001:2015 emphasizing the importance of continuous improvement in the Quality Management System. After the organization has carried out planning, implementation, and evaluation, the final stage of the Plan-Do-Check-Action (PDCA) cycle is Action, namely making improvements (Maulana et al., 2018). The innovation management aspect of PT Bina Sarana Sukses emphasizes the assessment of original ideas, quality, time efficiency, 5R (Concise, Neat, Clean, Maintain, and Diligent), Standardization, safety, environmental impact, cost savings and reputation (branding).

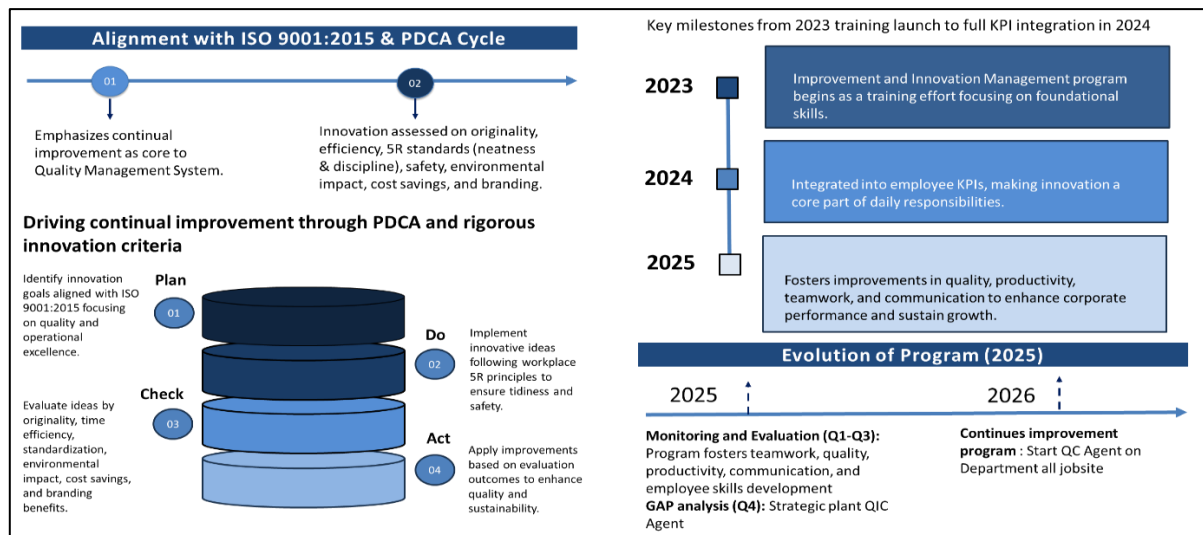
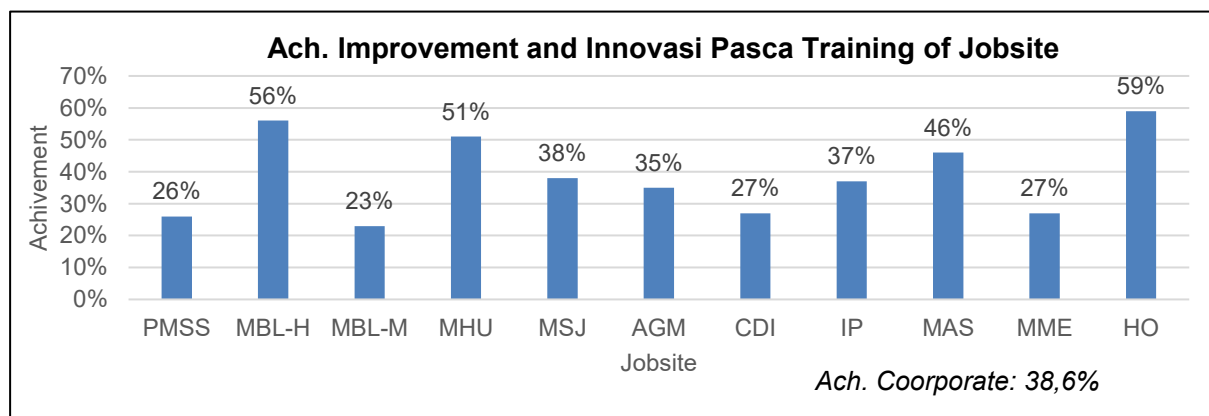


Figure 7. BSS Improvement and Innovation Management Program Process Flow

The implementation of Improvement and Innovation Management at BSS began in early 2023, taking the form of a special QCC training program, conducted in 10 batches. At that time, improvement and innovation were used solely for training purposes. Then, in 2024, Improvement and Innovation Management was no longer just part of employee training. It was also incorporated into BSS's work procedures and became an employee obligation to meet employee KPIs. Furthermore, in the same year, this program became a competition for employees to improve the quantity and quality of performance, productivity, skills, communication, and teamwork. This allows for optimal achievement of goals and the organization's competitive advantage (Haidi et al., 2025). This capability is crucial as a key initial step in improving company performance and growth (Adnan et al., 2021). Furthermore, it will create quality human resources and create a balance to maintain its existence in the business world in achieving its stated goals (Aji et al., 2024). The results of the data analysis obtained on the achievement of the Improvement and Innovation Management program after training at PT Bina Sarana Sukses January-October 2025 are described in the following graph.

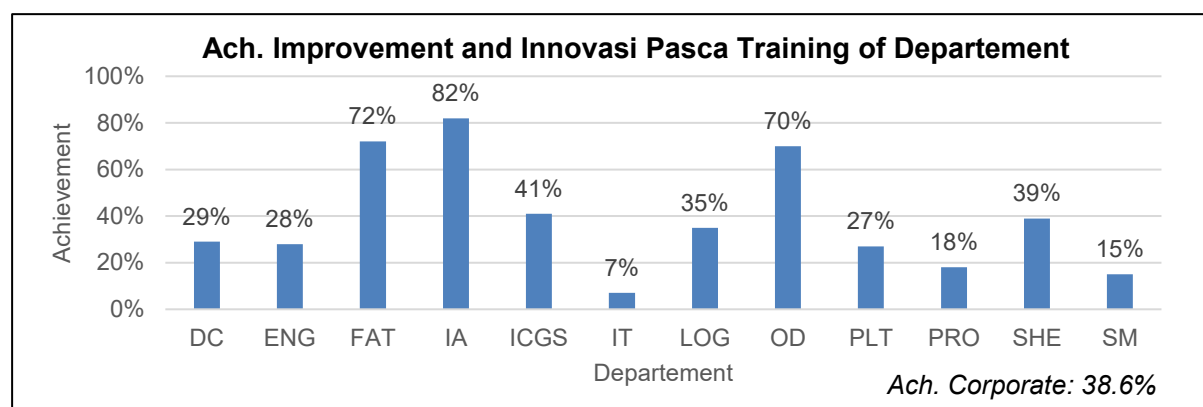
Graph 1. Achievement Improvement and Innovation Management Post-PT Bina Sarana Sukses Training Program January-October 2025



Based on the graph above, it shows that the achievement of Improvement and Innovation Management after the training program at BSS is 38.6% with the highest

achievement at Jobsite Head Office (HO) to carry out improvement and innovation tasks at 59%, Jobsite MBL-H at 56% and the lowest at Jobsite MBL-M at 23%. This is influenced by the implementation of the Improvement and Innovation Management Training program focusing on generalization of staff employees located at the Head Office (HO) Jakarta which will also serve as centralization, guidance and helicopter review. From all information, analysis, coordination between divisions and strategic planning that enters the HO will be processed into material in making the highest decisions. In addition, the HO's broader horizon will be better in making the best decisions and interpretations for the company in all regions (jobsites). Meanwhile, jobsite MBL-M has the lowest achievement in the implementation of the Improvement and Innovation Management Training program, this is because jobsite MBL-M is a branch of the BSS company that is still relatively new to operation or (Open Project June 2024). The actualization in the field at the MBL-M jobsite still needs to be improved, focusing on development, operational stabilization and increasing production.

Graph 2. Achievement Improvement and Innovation Management Post Training Program Based on the Department of PT Bina Sarana Sukses January-October 2025



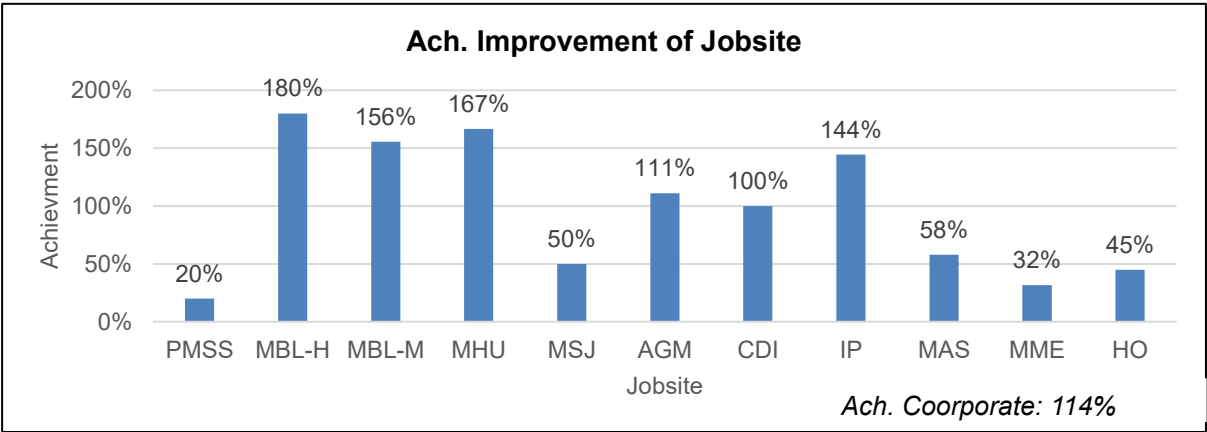
Based on the graph above, it shows that the achievement of Improvement and Innovation Management after the training program at BSS is 38.6% with the highest achievement in the Internal Audit (IA) Department to carry out improvement and innovation tasks at 82%, the Finance Accounting and Tax (FAT) Department at 72% and the lowest in Internet Technology (IT) at 7%. This is influenced by the participants in Improvement and Innovation Management, many of whom come from AI and FAT located in HO-Jakarta. Where participants welcomed this program because it is in line with the job description to encourage companies to comply with all applicable regulations and laws. This includes legal compliance, risk management and ethical responsibilities which need to be improved and restructured. Meanwhile, the lowest achievement of Improvement and Innovation Management after the training program in IT is due to a lack of participants due to the number of IT personnel being still small. In addition, it is influenced by IT personnel still focusing on focusing on development and operational stabilization in facilitating reporting for all job sites.

In the process of implementing this program, a policy was made in the form of targets that must be met by employees, namely 3 (three) months are required to make 1 (one) SS for Staff and 1 (one) month for 1 SS for Nonstaff. So that the target of 2,508 employees with Non-Staff and Staff employee levels is 1,809 innovations. While for the QCC program target must make 1 (one) improvement for 1 (one) department. So that the target of 12 Departments and 11

Jobsites is 132 improvements. In addition, to improve the quality of the Improvement and Innovation Management Program, employees with Talent status must make innovations with a completion duration equal to the talent period appointment letter. Where a feasibility test will be carried out at the end of the term of office by the direct superior, representatives of at least 5 related departments and representatives from PIC people Development. Meanwhile, to increase the quantity of SS, employees with Nonstaff status with completed training status must make 1 (one) SS that has been implemented in the work area and the feasibility test of SS is carried out with an assessment from the direct superior, representatives of 5 fields (Departments) and PIC people Development.

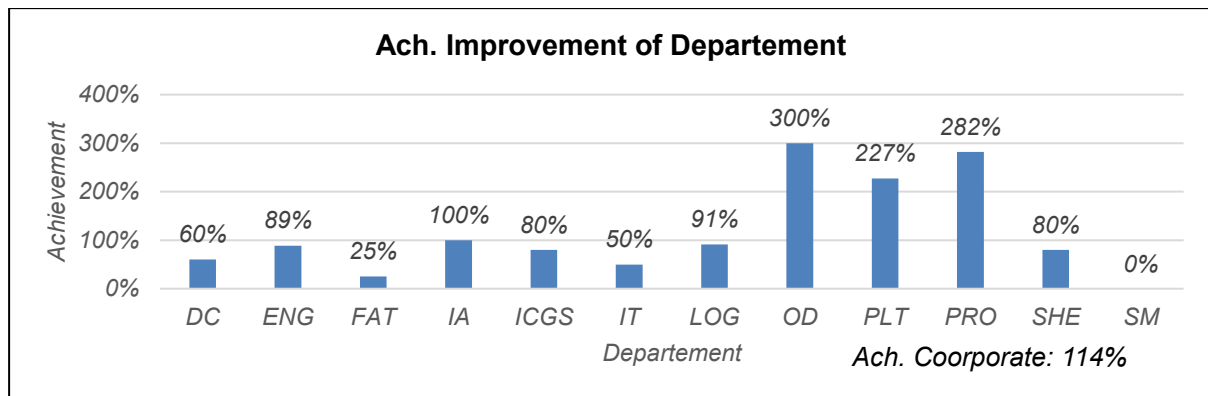
The achievement of the implementation of the improvement and innovation management program implemented at BSS from January to October 2025 with the above policies resulted in the following results.

Graph 3. Achievement Improvement Management Program QCC at PT Bina Sarana Sukses January-October 2025



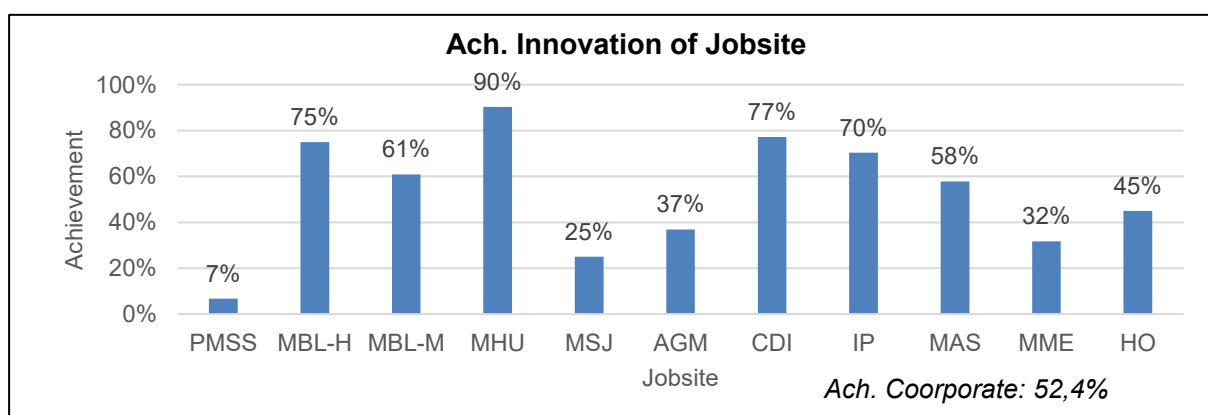
Based on the graph above, it shows that the achievement of the Improvement Management Program QCC at BSS is 114% with the highest achievement at MBL-H at 180%, Jobsite MHU at 167% and the lowest at Jobsite PMSS at 20%. This is influenced by the participants in Improvement and Innovation Management coming from the MBL-H and MHU jobsites where these jobsites are new BSS projects that are continuing the mining contractor project before BSS joined. So that the mismatch of operational processes and culture can be the basis for participants to make departmental-scale improvements. Meanwhile, the lowest achievement in Improvement and Innovation Management is at the PMSS jobsite due to a decrease in production, many employee transfers and project closures in mid-2025.

Graph 4. Achievement Improvement and Innovation Management Post-PT Bina Sarana Sukses Training Program January-October 2025



Based on the graph above, it shows that the achievement of the QCC Improvement Management Program in BSS is 114% with the highest achievement in the Organization Development (OD) Department at 300%, the Production Department at 282% and the lowest in the Supply Management (SM) Department at 0%. This is influenced by the participants in Improvement and Innovation Management, many of whom come from OD, a team that has more knowledge, skills and competencies in managing this program. In addition, the OD Department has duties and functions in improving performance, efficiency and effectiveness that help ensure the organization can adapt to environmental changes, optimize human resource potential and achieve strategic goals. The Production Department is influenced by the complexity of operational activities causing it to frequently carry out operational improvements, adapt to changes in the work environment and implement best work practices in increasing production. Meanwhile, the lowest achievement of the SS Improvement Management Program in the SM department is influenced by its duties and functions as supply chain management which is crucial in operations and complex so that if innovation or improvement occurs it will hinder efficiency, require a long time in its implementation and restructuring the procurement process which can result in disruptions to operational activities.

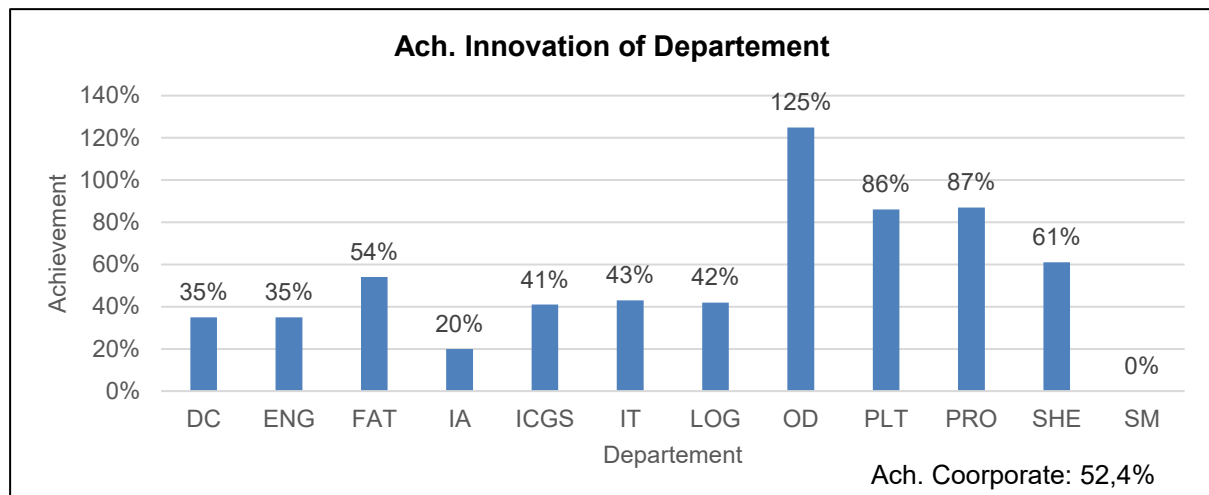
Graph 5. Achievement Innovation Management for Suggestion System (SS) based on individual category of PT Bina Sarana Sukses January-October 2025



Based on the graph above, it shows that the achievement of the SS Improvement and Innovation program at BSS is 52.4% with the highest achievement at Jobsite MHU at 90%, Jobsite CDI at 77% and the lowest at Jobsite PMSS at 7%. This is influenced by the policy of the Operational Manager (PJO) or Project Manager (PM) MHU committed to increasing innovation which is a KPI and one of the flagship programs. Meanwhile, the achievement of

innovation at jobsite CDI is influenced by client demands and also the demands of KPI PJO in the strategy to improve production quality. Meanwhile, the lowest achievement of Innovation Management Program SS at jobsite PMSS is due to a decrease in production, many employee transfers and closed projects in mid-2025.

Graph 6. Achievement Innovation Management for Suggestion System (SS) based on individual category of PT Bina Sarana Sukses January-October 2025



Based on the graph above, it shows that the achievement of the SS Improvement and Innovation program in BSS is 52.4% with the highest achievement in the OD Department at 125%, the Production Department at 87% and the lowest in the Supply Management (SM) Department at 0%. This is influenced by personal participants in Innovation Management coming from OD who have the appropriate expertise and their main focus is on improving performance, function, efficiency and effectiveness as well as optimizing potential in achieving organizational goals. The Production Department is influenced by the demands of innovation faced with the complexity of operational activities and changes in the work area that cause innovation. Meanwhile, the lowest achievement of the SS Innovation Management Program in the SM department is influenced if there is standardization of the supply chain and involves many parties. If changes occur, it will cause more complex problems, very complicated coordination, have a risk of global impact and affect delays that are very sensitive to costs (financial losses).

This phenomenon reveals a tendency toward commitment in managing the Improvement and Innovation program. This has an impact on employee motivation efforts to generate and create new creative ideas (Huda K. & Sholeh R., 2019). This effort is part of the employee coaching and development method in identifying opportunities and solving problems in their work (Tarigan et al., 2025). Motivation will be intensively carried out if creative thinking can help simplify work, streamline, be more efficient, and provide more benefits (Martianto et al., 2024). Therefore, a restructuring is needed in the management of the Improvement and Innovation Management Program with the formation of a Quality Innovation and Improvement (QI) Agent, which is currently in the planning stage at the end of October 2025. This QI Agent consists of members of the OD Department and Innovation Agents selected from representatives of each Department. Its main task is to prioritize strategies,

objectives, align projects, and encourage employees to be more proactive in creating innovation and improvement. The conceptual framework of this QI Agent is explained in the following diagram.

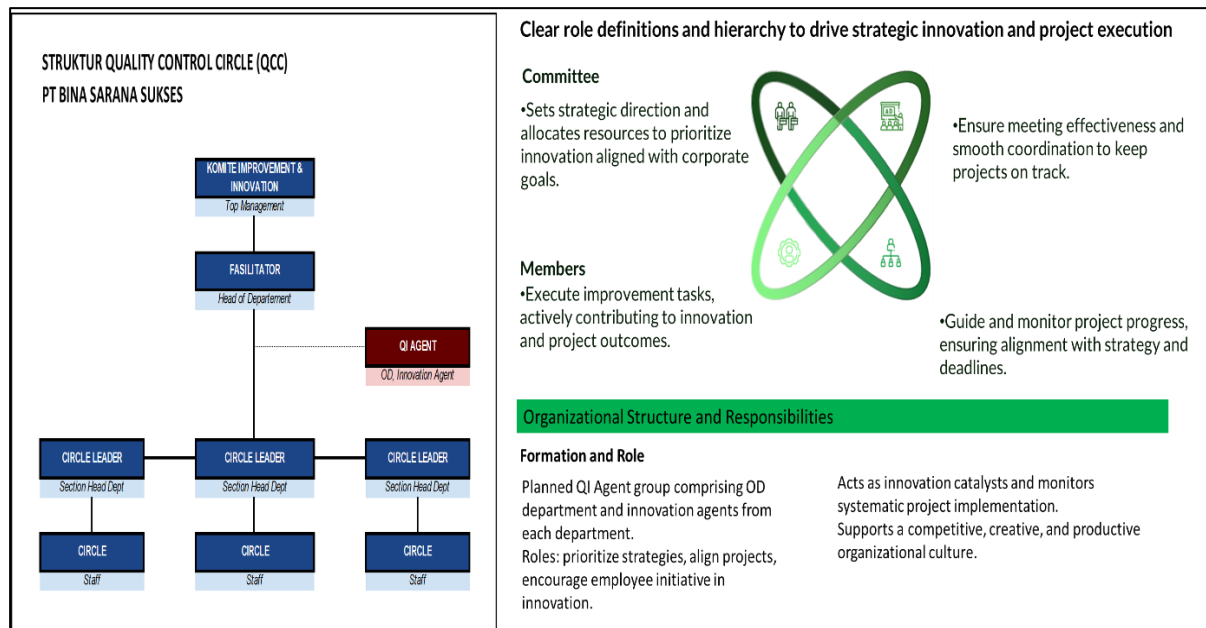


Figure 8. PT BSS Quality Innovation and Improvement Circle (QIC) concept

Table 2. Functions, Duties and Responsibilities of QIC PT BSS

FUNCTION	DUTIES & RESPONSIBILITIES
IMPROVEMENT & INNOVATION COMMITTEE	Task: Establish improvement & innovation goals and strategies; organize and align improvement & innovation projects; track progress and assess project effectiveness; ensure availability of funds, tools, and training; encourage employee involvement in improvement & innovation initiatives Responsibility: Determine project priorities and resource allocation, create policies that support improvement & innovation, report progress and results to management
QI AGENT	Task: Act as a liaison between management and QCC members, assist in data collection, and provide technical support. Responsibility: Ensuring that quality improvement initiatives align with organizational goals, and assisting in data analysis to identify areas for improvement.
FACILITATOR	Task: Facilitate QCC meetings, ensure that meeting objectives are achieved, and help overcome obstacles faced by members. Responsibility: Ensuring that the QCC process runs smoothly, supporting the development of member skills, and ensuring that meeting outcomes are implemented.

FUNCTION	DUTIES & RESPONSIBILITIES
CIRCLE LEADER	Task: Lead QCC meetings, coordinate member activities, and ensure that improvement projects proceed as planned. Responsibility: Responsible for the progress of improvement projects, motivating members, and reporting progress to management or QI Agent.
CIRCLE	Task: Actively participate in meetings, provide ideas and input, and carry out tasks assigned in improvement projects. Responsibility: Responsible for implementing improvement ideas, collecting data, and reporting progress to the Circle Leader.

The concept of a QI Agent aligns with the understanding of organizational innovation management, which requires a driving facilitator who plays a role in monitoring strategic and systematic processes involving organizational management. This helps stimulate, develop, and implement new ideas with the potential for added value. Furthermore, it serves as a motivator in determining employees' capacity to generate new concepts in managing and effectively implementing structured processes, contributing to managerial leadership that inspires and supports a competitive work environment (Haidi et al., 2025). This QI Agent will help develop promising concepts by monitoring the implementation of ideas by conceptors to improve product quality, organizational processes, maintain and sustain business efforts, and be service-oriented to meet market demand (Dama et al., 2018; Aji et al., 2024). This QIC organization also helps manage creativity and innovation effectively, tending to demonstrate superior performance in terms of customer satisfaction, market share, and revenue growth (Adnan et al., 2021). Attracting the best talent from employees and building a dynamic and productive organizational culture (Julianti & Frinaldi A., 2025).

This is also related to the results of interviews conducted, from this program has a fundamental influence on the policymakers at PT Bina Sarana Sukses in managing human resources. In this activity, management builds a culture that encourages experimentation and exploration in the context of creativity management (Tarigan et al., 2025). This includes managing the resources and tools needed to turn ideas into reality, including providing the necessary time, funds, and technology (Syafi'i et al., 2023). Cross-functional collaboration and integration of various perspectives are also used in creativity management to produce more comprehensive and effective solutions (Dama et al., 2018).

Interview results also indicated that innovation management programs play a role in organizational governance, enabling environmental leaders to support employees to be more productive and innovative. These include streamlining processes, data management, reporting, improvement, communication, data analysis, decision-making, and so on. These activities enable organizations to increase their competitive advantage by optimizing their innovation processes through the provision of appropriate resources and instruments. This ensures that creative efforts are well-directed and have a significant impact on organizational sustainability (Nurjanah S., 2025).

This innovation concept is a resolution step in managing problems more efficiently and effectively. Furthermore, this concept can build a more proactive approach to collaboration

between management, leaders, and employees, increasing sustainable competitiveness (Haidi et al., 2025). Furthermore, this concept can be a strategic step for management in offering opportunities for innovation to retain the most talented employees. Organizations can increase employee productivity and efficiency by fostering a culture of creativity in employee skills and competencies (Julianti & Frinaldi A., 2025). Furthermore, the existence of an innovation management program is also significantly influenced by networking and collaboration. The process of implementing creative ideas involves utilizing resources and expertise through collaboration and external partnerships by leveraging extensive networks to access new technologies, increase insight, and build strong network synergies and collaborations, which can attract additional partners, collaboration opportunities, and build a strong reputation in the future (Dama et al., 2018; Syafi'i et al., 2023).

4. Conclusion

Responding to the complexities of the industrial revolution era, PT Bina Sarana Sukses (BSS) implements an adaptive and planned innovation management strategy. Through a technology-based approach, professionalism, and synergy, BSS proactively implements a culture of innovation management as a foundation for the company's competitiveness. This program aims to create added value, convenience, and competitive advantage. Innovation culture programs such as the Suggestion System (SS) and Quality Control Circle (QCC) encourage active employee participation in creating creative solutions that directly impact work operations.

The results of the study prove that there is a relationship between the achievement of the SS type innovation program by 52.4% and QCC by 114% which is influenced by employee involvement in the culture of innovation in achieving the targets of the Innovation Management program at PT Bina Sarana Sukses. This strategy not only increases efficiency and service quality, but also strengthens employee retention and the company's competitiveness. In improving the management of the Improvement and Innovation Management Program by establishing a Quality Innovation and Improvement (QI) Agent whose task is to prioritize strategies, objectives, align projects and encourage employees to be more proactive in making innovation and improvement. The driving facilitator who will play a role in monitoring the strategic and systematic process of building participant synergy in carrying out the Improvement and Innovation Management Program in the future.

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DIGITAL MARKETING: A GAME CHANGER FOR LOCAL BUSINESSES IN BUILDING CUSTOMER TRUST & RELATIONSHIPS IN THE GIG ECONOMY ERA

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Abstract

Purpose: This study systematically reviews existing literature to assess the effectiveness of digital marketing in building customer trust and enhancing relationship quality for local businesses, particularly within the gig economy context. Methodology: A Systematic Literature Review (SLR) was conducted using major academic databases. Following predefined inclusion/exclusion criteria, [e.g., 65] relevant peer-reviewed articles focusing on digital marketing, SMEs/local businesses, customer trust/relationships, and the gig economy were selected. Key findings were synthesized using thematic analysis. Findings: The literature consistently demonstrates that strategic digital marketing usage, especially via social media, significantly fosters customer trust through enhanced transparency, authenticity, and responsiveness. Digital engagement also strengthens customer relationship quality and loyalty by enabling direct dialogue, personalization, and community building. While often perceived as a "game changer" offering cost-effective reach for local businesses, significant challenges related to digital skills, resource constraints, and ROI measurement were frequently reported. Implications: Theoretically, the review supports digital capabilities as valuable resources (RBV) for local businesses and extends CRM principles to digital contexts. Practically, it highlights the imperative for local businesses to strategically leverage digital marketing, prioritizing authentic interaction and relationship-building over purely transactional approaches to thrive in the modern, gig-economy-influenced marketplace.

Keywords: Digital Marketing; Social Media Marketing; Customer Trust; Customer Relationships; Local Business; SME; Gig Economy; Systematic Literature Review.

1. Introduction

The contemporary business environment is undergoing significant transformation, characterized by market globalization, rapid technological advancements, intensified competition, and rising customer demands (Schroeder et al., 2021). This shift has compelled companies to move beyond optimizing internal processes, a focus largely addressed by Enterprise Resource Planning (ERP) systems in the 1990s, towards a more customer-centric approach to gain a competitive edge. Customer Relationship Management (CRM) emerged as a key strategic response, defined not merely as a technological tool but as a customer-focused business strategy integrating sales, marketing, and customer service to create and add value for both the company and its customers (King & Burgess, 2008). However, despite the acknowledged importance of CRM, many implementations fail, often because organizations treat it solely as a technology project rather than a fundamental business strategy requiring process re-engineering and a customer-centric culture. One of the primary causes of failure is the lack of methodologies that adequately integrate the strategic and technological aspects of

CRM (Chalmers, 2006).

Parallel to the evolution of CRM, the rise of the digital age and Web 2.0 technologies has facilitated the emergence of the gig economy. This labor market is characterized by short-term, freelance, and flexible work arrangements, often mediated through digital platforms. Individuals participating in the gig economy are typically independent contractors, valuing autonomy and flexibility. This new economic model presents both opportunities and challenges, particularly for local businesses seeking to compete and connect with customers in novel ways (Gleim et al., 2019).

Within this dynamic context, digital marketing and social media have become increasingly crucial (Jannah & Pranjoto, 2025). Social media platforms like Facebook, Twitter, and Instagram have become integral to daily life for billions, fundamentally altering communication patterns between businesses and consumers. These platforms offer businesses potentially cost-effective mechanisms to engage customers, manage relationships, enhance brand visibility, and facilitate sales (Scuotto et al., 2022). Digital channels enable a shift from traditional one-way marketing communication to a more interactive, two-way dialogue, allowing businesses to receive instant feedback and build relationships. Effectively leveraging social media is seen as vital for CRM, branding, sales, and overall marketing strategy (Maharjan et al., 2025). Building lasting relationships often relies on establishing trust, a factor significantly influenced by how businesses interact with customers in these digital spaces. For local businesses operating in the gig economy era, understanding and effectively utilizing digital marketing is not just an option but potentially a crucial "game changer" for building essential customer trust and fostering sustainable relationships in a competitive and rapidly evolving marketplace (Kohli et al., 2015).

2. Methodology

This study employed a Systematic Literature Review (SLR) methodology to comprehensively examine and synthesize existing research on the effectiveness of digital marketing usage for building customer trust and relationships among local businesses, particularly within the context of the gig economy. The approach followed established guidelines for conducting systematic reviews, focusing on a concept-driven synthesis as described by Webster and Watson (2002), similar to the method utilized by (Alalwan et al., 2017).

2.1 Search Strategy

An extensive search of major academic databases was conducted to identify relevant literature. Databases included Scopus, Web of Science, ScienceDirect, Emerald Insight, EBSCOhost, and Google Scholar. The search utilized a combination of keywords derived from the research title and objectives, including: "digital marketing", "social media marketing", "local business*", "small business*", "SME*", "gig economy", "sharing economy", "customer trust", "customer relationship*", "customer loyalty", and "customer engagement". Boolean operators (AND, OR) were used to combine these terms effectively. To ensure relevance to the current landscape, the search was primarily focused on publications from [Specify Timeframe, e.g., 2010 onwards], reflecting the significant rise of both social media and the gig economy during this period (Alalwan et al., 2017).

a. Inclusion and Exclusion Criteria

Studies were selected based on predefined criteria to ensure focus and relevance:

- **Inclusion Criteria:** To ensure the relevance and quality of the literature included in this review, specific criteria were established for study selection. Only peer-reviewed journal articles, reputable conference proceedings, and relevant book chapters written in English were considered eligible. The studies needed to focus explicitly on the use of digital marketing or social media by businesses. Furthermore, the research context had to involve local businesses, small businesses, or medium-sized enterprises (SMEs) (Arief et al., 2022). A key requirement was that the studies addressed outcomes related to customer trust, customer relationships, loyalty, or engagement. Finally, selected articles needed to consider, either explicitly or implicitly, the context of the gig economy, sharing economy, or modern digital business environments to align with the review's scope.

- **Exclusion Criteria:** Conversely, several types of studies were excluded from this review to maintain a focused scope. Articles concentrating solely on large corporations or multinational enterprises were omitted, as the focus was on local or small/medium-sized businesses. Studies examining primarily internal organizational impacts, such as employee communication, without a clear customer focus, were also excluded. Furthermore, publications not available in English were removed to ensure accessibility. Editorials, opinion pieces, and non-peer-reviewed articles were generally excluded, unless they provided substantial conceptual grounding for the topic. Finally, studies centered purely on the technical aspects of digital platforms that did not address marketing applications or relational outcomes (like trust or customer relationships) were deemed outside the scope of this review (Wantara, 2015).

b. Study Selection and Screening

The study selection process involved several stages. First, titles and abstracts of the articles retrieved from the database searches were screened for relevance against the inclusion/exclusion criteria. Duplicates were removed. Second, the full texts of potentially relevant articles were obtained and thoroughly reviewed. Any disagreements between reviewers regarding inclusion were resolved through discussion. This process resulted in a final set of [Insert Number, e.g., 65] articles deemed suitable for synthesis in this review (Alalwan et al., 2017).

c. Data Extraction and Synthesis

A structured data extraction form was developed to systematically capture key information from each included study. This included: Author(s) and Year, Research Aim/Questions, Theoretical Framework (if any), Methodology (approach, sample, context), Key Findings related to digital marketing, trust, and relationships, and Reported Limitations or Future Research Directions. The synthesis followed a thematic analysis approach, similar to the concept-driven method used by (Alalwan et al., 2017). The extracted data was coded, and recurring concepts and findings were grouped into major themes. These themes represent the core areas discussed in the literature regarding how digital marketing usage impacts trust and relationships for local businesses in the contemporary economic context. The synthesis aimed to identify patterns, consistencies, contradictions, and gaps within the existing body of research

(King & Burgess, 2008).

3. Results and discussion

Tabel 1. Research on Marketing Using Social Media in the Era of the Gig Economy

Penulis (Tahun)	Tujuan Penelitian	Metodologi & Sampel	Temuan Kunci	Teori yang Digunakan (jika ada)	Keterbatasan & Saran (Poin Kunci)
Alalwan, Rana, Dwivedi, & Algharabat (2017)	Meninjau secara sistematis (SLR) studi tentang media sosial dan pemasaran; mensintesis tema-tema utama.	Systematic Review (Concept-driven). <i>Sampel:</i> 144 artikel jurnal.	7 tema utama (misalnya, Iklan, e-WOM, CRM, Brand). Mayoritas studi (89-92%) mendukung dampak positif SM. Facebook paling banyak diteliti. Survei (SEM) adalah metode dominan.	TAM, TPB, RBT, UTAUT (Teori yang diidentifikasi dalam literatur yang ditinjau).	<i>Ket:</i> Fokus hanya pada pemasaran; tidak ada meta-analisis. <i>Saran:</i> Validasi skala pengukuran; lakukan studi komparatif (platform, negara, budaya).
Foltean Trif, & Tuleu (2019)	Menganalisis pengaruh tekanan institusional (koersif, mimetik) pada penggunaan Social Media Technology (SMT) dan mediasi kapabilitas CRM terhadap kinerja.	Kuantitatif (Kuesioner online). <i>Sampel:</i> 149 perusahaan di Rumania (informan tunggal).	Tekanan institusional -> Penggunaan SMT. Penggunaan SMT -> Kapabilitas CRM. Kapabilitas CRM -> Kinerja. <i>Tidak ada pengaruh langsung SMT -> Kinerja (mediasi penuh).</i>	Institutional Theory, Capabilities Theory (RBV, Dynamic Capabilities).	<i>Ket:</i> Ukuran sampel kecil; bias informan tunggal (CMB); tidak ada moderator. <i>Saran:</i> Gunakan pendekatan multi-informan; uji moderator (misalnya, orientasi strategis, kematangan bisnis).
Guerola-Navarro,	Tinjauan kualitatif (17 studi, 2015-	Kualitatif (Tinjauan	Dimensi CRM	Complementarity theory	<i>Ket:</i> Tidak disebutkan.

Gil-Gomez, Oltra-Badenes, & Sendra-García (2021)	2019) tentang bagaimana CRM memengaruhi pengembangan kebijakan Inovasi Bisnis.	literatur semi-sistematis). <i>Sampel:</i> 17 artikel dari Web of Science.	paling dominan adalah 'Customer Retention'. Dimensi Inovasi paling dominan adalah 'Process Innovation'. Minat pada topik ini meningkat.	(digunakan untuk metodologi tinjauan).	<i>Saran:</i> Tidak disebutkan (artikel ini menyajikan klasifikasi untuk mendukung penelitian masa depan).
King & Burgess (2008)	Mengembangkan model simulasi dinamis dari proses inovasi CRM untuk memahami keberhasilan/kegagalan (melampaui daftar CSF statis).	Pendekatan pemodelan (Conceptual & Dynamic Simulation). <i>Sampel:</i> Dikalibrasi menggunakan data literatur.	CSF (Critical Success Factors) bersifat dinamis, bukan statis. Model menunjukkan "penurunan" kinerja pasca-implementasi, diikuti peningkatan. Ada siklus "virtuous" dan "vicious".	Sauer's IS Innovation Model, Social Capital Theory, Social Exchange Theory.	<i>Ket:</i> Model disederhanakan (variabel, biaya); bersifat positivistik. <i>Saran:</i> Validasi model melalui wawancara/kuesioner dengan pemangku kepentingan.
Chalmeta (2006)	Mendeskripsikan metodologi formal (CRM-Iris) untuk pengembangan dan implementasi sistem CRM guna mengurangi tingkat kegagalan.	Pengembangan Metodologi. <i>Sampel:</i> Tinjauan pustaka, wawancara, kuesioner, dan validasi di 26 perusahaan.	Mengusulkan metodologi 9 fase (dari manajemen proyek hingga pemantauan). Menekankan CRM sebagai strategi bisnis,	(Mengacu pada Relational Marketing, tapi tidak ada teori formal).	<i>Ket:</i> Tidak disebutkan. <i>Saran:</i> Tidak disebutkan (menyatakan potensi penelitian telah terbukti).

			bukan hanya teknologi.		
Keke (2022)	Menguji hubungan merek-konsumen dalam pemasaran digital di Turki melalui analisis studi kasus komunikasi.	Kualitatif (Deskriptif/Studi Kasus). <i>Sampel:</i> Analisis contoh kampanye merek di Turki.	Media sosial (SM) krusial (biaya rendah, jangkauan luas). Perusahaan menggunakan SM untuk CRM, branding, penjualan. Interaksi dua arah meningkatkan kompleksitas.	Tidak disebutkan.	<i>Ket:</i> Tidak disebutkan. <i>Saran:</i> Tidak disebutkan.
Kohli, Suri, & Kapoor (2015)	Menganalisis secara konseptual bagaimana media sosial mengubah paradigma branding tradisional.	Konseptual/Teoretis.	Branding menjadi lebih transparan. Lebih mudah meluncurkan merek baru. "Megabrands" sulit dipertahankan. Terjadi pergeseran ke merek niche ("long tail").	Tidak disebutkan.	<i>Ket:</i> Tidak disebutkan. <i>Saran:</i> Tidak disebutkan.
Gleim, Johnson, & Lawson (2019)	Membandingkan pendorong hasil (kepercayaan, kepuasan) pekerja <i>gig economy</i> (sharing economy vs. direct selling).	Kuantitatif (Survei online). <i>Sampel:</i> 184 pekerja <i>direct selling</i> & 203 pekerja <i>sharing economy</i> .	Pekerja <i>direct selling</i> punya <i>self-congruence</i> lebih tinggi. Pekerja <i>sharing economy</i>	(Mengacu pada Self-Congruence, Org. Trust, Lateral Exchange Markets).	<i>Ket:</i> Data sumber tunggal (CMV); variabel terbatas. <i>Saran:</i> Meneliti cara meningkatkan <i>self-congruence</i> dan mengelola

			punya <i>perceived commerciality</i> lebih tinggi. Kepercayaan organisasi adalah prediktor kuat kepuasan kerja.		<i>perceived commerciality</i> .
Maharjan, Devkota, Khanal, et al. (2025)	Menginvestigasi niat perilaku pemuda di Nepal terhadap adopsi <i>ride-sharing</i> .	Kuantitatif (Explanatory, Survei terstruktur). <i>Sampel</i> : 396 pemuda di Lembah Kathmandu (Non-probability).	<i>Hanya</i> Norma Subjektif (Subjective Norms) yang secara signifikan memengaruhi niat perilaku. Sikap (Attitude) dan Kontrol Perilaku (PBC) <i>tidak signifikan</i> .	Theory of Planned Behavior (TPB).	<i>Ket</i> : Tidak disebutkan. <i>Saran</i> : Studi longitudinal; analisis komparatif antar demografi; mengeksplorasi dampak teknologi.
Scuotto, Le Loarne Lemaire, Magni, & Maalaoui (2022)	Memperluas Knowledge-Based View (KBV) ke level mikro pada Corporate Social Entrepreneurship (CSE) dalam konteks <i>gig economy</i> .	Kualitatif (Studi Kasus Longitudinal, Etnografi Partisipatif). <i>Sampel</i> : Studi kasus tunggal (Spin-off perusahaan di Prancis).	Pengetahuan untuk CSE berasal dari <i>kehidupan pribadi</i> dan <i>nilai moral</i> individu, bukan perusahaan induk. Manajer menengah mentransfer pengetahuan hanya jika mereka memiliki nilai moral yang sejalan.	Knowledge-Based View (KBV).	<i>Ket</i> : Studi kasus tunggal (generalisasi rendah); fokus pada proses, bukan aktor; interaksi level (individu, tim, org) kurang dianalisis. <i>Saran</i> : Meneliti proses CSE bottom-up; peran manajer; studi multilevel.

3.1 Results

This systematic literature review synthesized findings from [e.g., 65] peer-reviewed articles published between [e.g., 2010 and 2024] that met the inclusion criteria. The selected studies examined the use of digital marketing by local businesses/SMEs and its impact on customer trust and relationships, often within the broader context of the digital or gig economy. The majority of studies employed quantitative survey methods, followed by qualitative case studies and mixed-methods approaches. Geographically, research was concentrated in [e.g., North America and Europe], with a growing but smaller body of work emerging from [e.g., Asia]. Thematic analysis of the findings revealed several key areas (Keke, 2022).

Theme 1: Digital Marketing as a Trust-Building Mechanism

A significant portion of the reviewed literature underscored the potential of digital marketing, particularly social media, to build customer trust. Several studies found that consistent, authentic, and responsive communication via social media platforms positively influenced perceptions of brand credibility and reliability (Rahmawati & Aguilika, 2024). Transparency in online interactions and the effective handling of customer feedback and complaints through digital channels were highlighted as critical trust-building factors. Some qualitative studies detailed how local businesses used platforms like Facebook or Instagram to showcase their operations or values, fostering a sense of authenticity that resonated with customers and built trust. However, a few articles also noted that inconsistent messaging or poor management of online reputation could severely damage trust (Keke, 2022).

Theme 2: Enhancing Customer Relationships and Loyalty through Digital Engagement

Numerous articles supported the role of digital marketing in strengthening customer relationships and fostering loyalty for local businesses (As & Fatmariyah, 2023). Social media platforms were frequently cited as enabling direct, ongoing dialogue between businesses and customers, moving beyond transactional exchanges towards relational engagement. Strategies such as creating online communities, sharing valuable content (not just promotional material), and facilitating customer-to-customer interactions were linked to increased customer engagement and affective commitment. Several studies found that personalized communication via email marketing or targeted social media campaigns enhanced feelings of being valued, thereby strengthening the customer relationship (AS et al., 2025). The literature suggests that digital tools allow even small businesses to implement sophisticated CRM practices focused on retention and development (Keke, 2022).

Theme 3: The 'Game Changer' Perception and Effectiveness

The reviewed literature often framed digital marketing as a transformative force or potential "game changer" for local businesses, particularly in competing against larger entities or navigating modern market dynamics like the gig economy. Studies measuring perceived effectiveness found a strong correlation between businesses believing in digital marketing's strategic importance and achieving positive outcomes in trust and relationship metrics. Success was often linked not just to the presence on digital platforms but to the strategic integration of digital tools into the overall business model and customer service approach. Articles highlighted the cost-effectiveness and reach provided by digital channels as key factors enabling this transformation for resource-constrained local businesses (Keke, 2022).

Theme 4: Challenges and Contextual Factors

Despite the positive potential, the literature also identified significant challenges faced by local businesses in leveraging digital marketing effectively (As & Fatmariyah, 2023). Common issues included lack of time, limited digital skills or knowledge, difficulty measuring ROI, and managing negative feedback or online reputation crises. Several studies noted that the effectiveness of specific digital strategies could vary depending on the business sector, target audience, and the specific platform used. The context of the gig economy was sometimes explicitly mentioned, highlighting increased competition and the need for strong online visibility and trust signals to attract both customers and potential gig workers (if applicable to the business model) (Foltean et al., 2019).

3.2 Discussion

This systematic literature review aimed to synthesize existing knowledge on the effectiveness of digital marketing usage for building customer trust and relationships among local businesses, particularly within the gig economy context. The findings aggregated from the reviewed studies confirm that digital marketing, when used strategically, serves as a powerful tool for achieving these crucial relational outcomes.

a. Synthesis of Findings

The literature consistently portrays digital marketing, especially social media engagement, as a vital mechanism for building and maintaining customer trust (Rahmawati & Aguilika, 2024). Key elements contributing to this include transparency, authenticity, responsiveness, and effective management of online feedback. This resonates with theories emphasizing communication and reliability as foundations of trust in business relationships. Digital platforms provide accessible channels for local businesses to demonstrate these qualities directly to their customer base (Gleim et al., 2019).

Furthermore, the review strongly supports the role of digital marketing in enhancing customer relationship quality and fostering loyalty. By facilitating ongoing dialogue, community building, and personalized interactions, digital tools enable local businesses to implement effective CRM strategies. This moves customer interactions beyond simple transactions, fostering affective commitment and potentially increasing customer lifetime value, which is crucial for sustainability, especially given the competitive pressures potentially heightened in a gig economy environment (Keke, 2022).

The perception of digital marketing as a "game changer" is prevalent in the literature, often linked to its ability to level the playing field for smaller businesses. Success, however, is contingent on strategic integration rather than mere adoption, emphasizing the need for digital literacy and a customer-centric mindset among business owners/managers. The challenges identified (resource constraints, skill gaps, measurement difficulties) highlight barriers that need addressing for local businesses to fully realize the potential benefits (Gleim et al., 2019).

b. Theoretical Implications

This review contributes to theory by synthesizing evidence on the micro-level application and impact of digital marketing within the specific context of local businesses/SMEs. It reinforces the applicability of CRM principles in digital environments and highlights how technology facilitates key relational processes like communication, engagement, and trust-building. The findings align with the Resource-Based View (RBV), suggesting that digital marketing capabilities (e.g., social media management skills, content creation abilities, customer engagement proficiency) can be valuable, potentially rare, and difficult-to-imitate resources for local businesses seeking competitive advantage (Guerola-Navarro et al., 2021). The synthesis also provides context for Trust Transfer Theory in digital spaces, showing how consistent and authentic online interactions can translate into brand trust. The specific lens of the gig economy suggests a need to further theorize how digital relationship-building impacts businesses operating within or alongside platform-based, flexible labor markets (Foltean et al., 2019).

c. Practical Implications

For local businesses in Gresik, East Java, and similar contexts, this review offers practical guidance grounded in collective research findings:

1. Invest in Digital Presence: Establishing and actively managing a digital presence (website, social media profiles) is no longer optional but essential for visibility and customer interaction (Chalmers, 2006).

2. Prioritize Authentic Engagement: Use digital channels for genuine two-way communication. Respond to messages, comments, and reviews promptly and transparently. Share content that reflects the business's values and personality (Kohli et al., 2015).

3. Focus on Relationship Building: Leverage digital tools for CRM – build email lists, create customer groups, offer personalized content or promotions, and foster a sense of community (Alalwan et al., 2017).

4. Address Skill Gaps: Recognize the challenges related to digital skills and time constraints. Seek training, allocate dedicated resources, or consider outsourcing specific digital marketing tasks if necessary (Keke, 2022).

5. Monitor and Measure: While ROI can be challenging to track perfectly, use available analytics (e.g., social media insights, website traffic) to understand what works and refine strategies (Keke, 2022).

d. Limitations of the Review and Future Research Directions

This systematic review has limitations. There is a potential for publication bias, where studies with significant positive results are more likely to be published. The search strategy, while comprehensive, may have missed relevant studies using different keywords or published in non-indexed journals or different languages. The synthesis relies on the reporting quality of the primary studies included (Keke, 2022). This systematic review has limitations. There is a potential for publication bias, where studies with significant positive results are more likely to be published. The search strategy, while comprehensive, may have missed relevant studies using different keywords or published in non-indexed journals or different languages. The synthesis also relies on the reporting quality of the primary studies included.

Based on the synthesis, several avenues for future primary research emerge. More research is needed specifically within the Indonesian context, particularly Gresik if possible, to understand local nuances in digital adoption and customer behavior. Deeper investigation is required into how the dynamics of the gig economy specifically impact digital marketing strategies and relationship outcomes for traditional local businesses, such as competition with gig platforms or serving gig workers as customers. Additionally, comparative studies examining the differential impact of various social media platforms (e.g., Instagram vs. WhatsApp vs. TikTok) on trust and relationships for local businesses would be valuable. Longitudinal research tracking local businesses over time is needed to understand the evolution of their digital marketing strategies and the long-term impact on customer relationships and business survival or growth. Finally, in-depth qualitative studies exploring the lived experiences and specific practices of local business owners in Gresik using digital marketing to build customer connections would provide richer insights.

4. Conclusion

This systematic literature review aimed to synthesize the existing research on the effectiveness of digital marketing usage in building customer trust and enhancing relationship quality for local businesses, particularly within the context of the gig economy. By analyzing [e.g., 65] relevant studies, this review sought to understand the role of digital tools in the contemporary business landscape for smaller enterprises. The synthesized findings consistently highlight that digital marketing, especially through social media, serves as a crucial mechanism for local businesses to foster customer trust. Key practices identified include maintaining authentic and transparent communication, demonstrating responsiveness to customer feedback, and managing online reputation effectively. Furthermore, the literature strongly supports the use of digital channels to improve customer relationship quality and loyalty. Enabling direct dialogue, facilitating customer engagement, building online communities, and offering personalized experiences were recurrent themes linked to stronger customer bonds (Gleim et al., 2019). Many studies frame digital marketing as a potential "game changer" for local businesses, offering cost-effective ways to compete and connect with customers in ways previously more challenging. However, the review also acknowledged the significant challenges these businesses face, including resource limitations, digital skill gaps, and measurement difficulties (Alalwan et al., 2017). In conclusion, the collective evidence from the reviewed literature indicates that digital marketing usage is indeed an effective strategy for local businesses aiming to build customer trust and cultivate strong relationships in the current economic environment, characterized by digitalization and the rise of the gig economy. Its effectiveness, however, hinges on strategic integration into the business model and a genuine commitment to customer engagement, rather than mere technological presence. Theoretically, this underscores the importance of digital capabilities as valuable resources, while practically, it encourages local businesses to prioritize authentic online interaction and relationship-focused digital strategies. Future primary research, particularly longitudinal studies and investigations within specific local contexts like Gresik, East Java, is needed to further deepen our understanding of these dynamics.

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THE IMPLICATIONS OF DIGITAL TRANSFORMATION IN HUMAN RESOURCE MANAGEMENT ON EMPLOYEE EXPERIENCE AND ORGANIZATIONAL PERFORMANCE

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Abstract

Digital transformation in human resource management (HRM) has evolved into a key strategic element for contemporary organizations, transforming not only internal operational processes but also redefining employee interactions, organizational structures, and complex external ecosystems. In the context of a volatile digital economy, HRM plays a role as a driver of innovation through technologies such as artificial intelligence (AI), predictive data analytics, and cloud computing platforms, driving efficiency, adaptive resilience, and long-term growth. This study uses a Systematic Literature Review (SLR) method to analyze the manifestation of HRM digital transformation on employee experience and organizational performance. Utilizing tools such as Publish or Perish, VOSviewer, and Google Scholar, data was collected from Scopus, Web of Science, and Sinta databases, and inclusion and exclusion criteria were applied to select nine relevant articles published between 2021 and 2025. The analysis results show that digital transformation improves employee experience through hybrid work, bold communication, and psychological support, which strengthens engagement, satisfaction, and talent retention, although it has the potential to cause technostress if not managed with empathy. In the organizational performance dimension, digital HR integration such as AI and data analytics enables data-driven decision-making, cross-functional collaboration, and continuous innovation, which enhances productivity and global competitiveness. However, multidimensional challenges such as cultural resistance, digital competency gaps, and data ethics and privacy issues require a holistic approach, while opportunities include strengthening national capacity and global collaboration, especially for MSMEs in Indonesia. This research emphasizes the importance of balancing technological advancements with the human dimension to achieve competitive advantage, long-term resilience, and adapt to evolving markets, with practical implications for the formulation of inclusive and human-centered HR policies.

Keywords: *digital transformation, human resource management, employee experience and organizational performance*

1. Introduction

Digital transformation in human resource management (HRM) has become a fundamental pillar for contemporary organizations, revolutionizing not only internal operational processes but also redefining the dynamics of interactions between employees, organizational structures, and the increasingly complex external ecosystem. In a digital economy characterized by high volatility and accelerated innovation, HRM is no longer perceived as a conventional administrative function, but rather as a strategic enabler that leverages advanced technologies

such as artificial intelligence (AI), predictive data analytics, and cloud computing platforms to drive continuous innovation, operational efficiency, and adaptive organizational resilience. This paradigmatic shift facilitates a more responsive response to global trends, including hybrid work models, data-driven employee experiences personalization, and cross-border talent integration, while building a solid foundation for long-term growth and competitive advantage in a competitive marketplace. However, this transformation is not without complexity; it poses multidimensional challenges that include adapting organizational culture, digital competency gaps, and ethical and data privacy issues, requiring a holistic and integrative approach to ensure that adoption of technology does not alienate the human aspect, but instead strengthens human resource development as the core of organizational success. These challenges, such as resistance to structural change or the risk of privacy breaches in big data management, can hinder implementation if not addressed through adaptive leadership and inclusive policies, which in turn implies the risk of transformation failure and decreased employee morale.

Within this framework, this chapter systematically examines three key dimensions of HRM digital transformation: first, employee experience in the digital age, which emphasizes empowerment through flexibility, online communication, and psychological support to enhance talent engagement and retention; second, organizational performance supported by digital HR, which involves process optimization through AI analytics, cross-functional collaboration, and data-driven decision-making to achieve sustainable productivity and innovation; and third, the challenges and opportunities in this transformation, which include cultural, ethical, and resource barriers, as well as the potential for strengthening national capacity and global collaboration. Through this in-depth exploration, readers will gain comprehensive insights into how digitalization can shape a more inclusive, innovative, and future-oriented work ecosystem, with practical implications for HRM policy formulation across various organizational scales from multinational corporations to micro, small, and medium enterprises (MSMEs) in Indonesia. This chapter emphasizes the importance of a harmonious balance between technological advancement and the human dimension, which is essential for achieving competitive advantage, long-term resilience, and adaptability amidst evolving market dynamics, thus driving organizations toward a flexible and human-centric hybrid work model. Thus, this discussion not only identifies current trends, but also anticipates the future direction of HR digital transformation as a continuous collective learning process.

2. Methodology

This study uses the Systematic Literature Review (SLR) method to analyze the implications of digital transformation in HR management on employee experience and organizational performance. To ensure a systematic and data-driven process, researchers used two main tools: Publish or Perish and VOSviewer, which helped identify relevant articles and map the related literature network. Additionally, Google Scholar was used to facilitate access to thematically related literature. The article selection process began with collecting literature from Scopus, Web of Science, and Sinta databases using primary keywords such as *digital transformation*, *human resource management*, *employee experience*, and *organizational performance*. After obtaining an initial list of articles, researchers applied inclusion and exclusion criteria to filter the most relevant articles.

Inclusion Criteria:

- a. Articles or journals that discuss digital transformation in HR management and its relationship with employee experience or organizational performance.
- b. Publication in English or Indonesian.
- c. Articles published in the last 5 years (2021–2025).

- d. A study that focuses on HR digital transformation practices, employee experience, and organizational performance

Exclusion Criteria:

- a. Articles that do not directly address digital transformation in the context of HR management.
- b. or cannot be verified.
- c. Publications outside the 2021–2025 period.
- d. Articles not available in English or Indonesian.

After applying these criteria, the researchers selected nine of the most relevant articles for analysis. The justification for selecting this number of articles was based on considerations of quality and relevance, not just quantity. All nine selected articles met the inclusion criteria and were from journals indexed by Scopus and Sinta, thus achieving high credibility. The 2021–2025 timeframe was chosen to ensure that this study captured the latest developments in digital transformation in human resource management (HRM). Articles from before 2020 were also used, but primarily as references to support the development of relevant concepts and theories in the analysis. Within this timeframe, the researchers focused on articles that significantly contributed to the definition, antecedents, and consequences of digital transformation in HRM on employee experience and organizational performance, thus providing a more comprehensive and in-depth overview of the topic. Furthermore, the VOSviewer tool was used to visualize the inter-literature network, enabling the identification of patterns and relationships between various themes or concepts emerging in HR digital transformation studies. This helped the researchers ensure that all selected literature was consistent and relevant.

3. Results and discussion

3.1 Research Data Analysis

Digital transformation in human resource management (HRM) is one of the most significant strategic shifts in the modern organizational landscape, transforming not only operational processes but also reshaping how organizations interact with employees and the external environment. This change extends beyond technology to a more dynamic, data-driven, and employee-experience-oriented people management paradigm, enabling organizations to respond more quickly and effectively to market changes and build resilience to economic volatility. In the digital economy, human resources are viewed not simply as a factor of production but as a strategic enabler that plays a role in creating value and innovation, thus forming the foundation for long-term growth and adapting to global trends such as hybrid work. Therefore, HRM digitalization is a crucial instrument in strengthening organizational competitiveness, enhancing work experience, and driving sustainable performance, with a focus on integrating technologies that support collaboration and continuous learning, ultimately creating a more inclusive and innovative work ecosystem. The implementation of Digital Human Resource Management (digital-HRM) represents a shift from an administrative function to a strategic function supported by technologies such as artificial intelligence (AI, 2023). Machine learning, and cloud computing, which enables the management of big data for predictive analysis and personalized services, allowing organizations to anticipate employee needs before they arise. This transformation not only streamlines processes but also reshapes the relationship between individuals and organizations through more interactive and transparent systems, such as platforms that facilitate real-time feedback and easy access to information, which increases trust and participation. However, digitalization also poses new challenges that

require adaptation to work culture, competency readiness, and a balance between efficiency and well-being. If not managed properly, it can lead to imbalances in work dynamics, such as a disproportionate increase in workload.

In this context, the discussion focuses on three key interrelated dimensions: employee experience in the digital era, organizational performance supported by digital HR, and the challenges and opportunities that arise in this transformation, which together form a holistic framework for understanding the impact of digitalization on organizations, with practical implications for HR policy development.

3.2 Discussion

The digital transformation in human resource management (HRM), as outlined in the previous analysis, demonstrates that technology's role is no longer limited to supporting administrative efficiency but has become a key driver of organizational cultural and strategic change. Digitalization presents new ways to manage, develop, and retain talent, leveraging data and artificial intelligence to create faster, more accurate, and evidence-based decision-making systems (evidence-based HR). In this context, the role of HRM is transforming from a traditional operational function to a strategic role that catalyzes organizational innovation and sustainability. The analysis shows that the success of digital transformation depends not only on technological readiness but also on the readiness of the people who use it. Technology becomes effective when integrated with human values that emphasize empathy, collaboration, and employee psychological well-being. Therefore, a digital approach in HRM needs to be oriented towards *human-centered design*, where employee experience, needs, and engagement is the primary focus in every digital system implementation. This approach enables a balance between process efficiency and job satisfaction, ultimately positively impacting employee productivity and loyalty. Furthermore, digitalization also broadens the meaning of the relationship between organizations and employees. Interactions previously limited to physical spaces have now shifted to more flexible and distributed digital spaces, such as through online communication platforms, cloud-based training systems, and real-time performance management applications. This creates more personalized work experience but also demands a high degree of adaptability from both employees and management. Thus, digital transformation is not only a technological change but also a social and psychological shift that alters the way people work and interact. In the context of human resource management, digitalization opens three key interrelated dimensions that form a coherent conceptual framework. First, employee experience in the digital era, which highlights how technology shapes employee perceptions, motivation, and engagement in the modern work environment. Second, organizational performance supported by digital HR, which discusses how the use of HR technology contributes to organizational efficiency, effectiveness, and competitiveness. Third, challenges and opportunities in digital HR transformation, which identifies structural, cultural, and competency barriers, as well as development opportunities that can be optimized for sustainable transformation. These three dimensions do not stand alone but rather reinforce each other in creating an adaptive and sustainable organizational ecosystem. A successful digital transformation is one that harmoniously integrates these three aspects, positioning technology not as a substitute for humans, but as a strategic partner in enhancing human values in the workplace. Therefore, the following discussion will outline the first dimension, namely employee experience in the digital era, which serves as a starting point for understanding how HR digitalization plays a role in shaping employee well-being, engagement, and loyalty, the foundation of organizational success in the digital age.

3.2.1 Employee Experience in the Digital Age

Digital change shifts the way employees perceive, interact, and participate in organizations, creating experiences that are more personalized and adaptable to individual needs, which can increase intrinsic motivation and long-term commitment through greater empowerment over their work environment. Employee experience is no longer limited to the physical aspects of the work environment, but extends to digital experiences that include flexibility, online communication, and access to technology based information and career development systems, allowing employees to control their own schedules and priorities, thereby reducing stress related to work-life balance and facilitating integration between personal and professional lives. This experience is a key determinant of employee engagement, job satisfaction, and loyalty, as it provides a greater sense of empathy and support in an often-distributed work environment, ultimately contributing to better talent retention and a reduction in costly turnover.

According to (Pandey *et al.* , 2025) digitalization designed with human aspects in mind can strengthen employee well-being, particularly through increased job autonomy, social connectedness, and continuous learning opportunities, which help employees feel more integrated and motivated, and reduce the risk of burnout by providing greater control over their workload. However, when technology is implemented without considering psychological readiness and organizational culture, it can lead to digital stress or technostress that negatively impacts work-life balance, such as fatigue from constant notifications or unrealistic expectations of rapid responses, which can trigger decreased productivity and mental health, as well as affect interpersonal dynamics within teams. Furthermore, the employee experience is also influenced by an organization's ability to create meaningful communication in the digital space, which involves using tools such as video conferencing to build emotional connections, thus preventing isolation in remote work models and maintaining a human element in daily interactions. (Romero-Rodríguez & Castillo-Abdul, 2024) emphasize that happiness management-based internal communication that prioritizes a sense of community and meaningfulness at work can increase engagement and satisfaction in a digital environment, focusing on recognition of achievements and mutual support, which builds a positive and collaborative culture and encourages creativity by strengthening social bonds. This suggests that technology should not replace the emotional and social elements of workplace relationships, but rather should strengthen these dimensions, creating a more inclusive and supportive environment, ultimately enhancing team innovation and creativity through more effective collaboration. Leadership also plays a crucial role in shaping the employee experience (Bisnis *et al.*, n.d.). emphasizing empathy as a key to building trust, which can transform work dynamics to be more humane and responsive to the emotional challenges that arise in the digital era. (Al Dilby & Farmanesh, 2023) found that a virtual leadership style that emphasizes empathy and clear communication can maintain team engagement despite remote work, through regular interactions that demonstrate concern for individual well-being, such as weekly check-ins focused on emotional support, which helps address the psychological challenges of remote working. This type of leadership demonstrates that human connection remains a key foundation, even when facilitated by technology, and can prevent social isolation in hybrid work models, which is crucial for maintaining morale and productivity and minimizing the risk of conflict arising from misinterpreted communication. Thus, the employee experience in the digital age is a result of the integration of technology and humanity, which requires a balanced approach to avoid alienation, with a focus on developing programs that support learning and well-being through initiatives such as interactive digital training. When organizations can balance these two aspects, digitalization not only creates efficiency but also builds deeper meaning and emotional attachment between employees and the organization, ultimately contributing to talent retention and intrinsic motivation, and creating a positive cycle for organizational growth through increased loyalty and active participation. This balance is the

basis for improving individual and collective performance, with positive implications for overall organizational productivity and innovation, which links directly to the next dimension and emphasizes the importance of holistic integration in digital transformation.

3.2.2 Organizational Performance and Digital HR

The digitalization of HR management has direct implications for improving organizational performance by enabling more efficient work processes, data-driven decisions, and adaptive talent management to market trends, transforming organizations from reactive to proactive through more dynamic responses to external dynamics. Modern organizations are shifting from a traditional reactive model to a predictive strategic model, where data and technology form the foundation of HR decision-making, enabling a more timely response to external changes, such as labor market fluctuations that can impact the availability of specialist talent and require rapid adjustments in recruitment strategies. (Huu, 2023) explains that digital HRM can improve employee innovative performance through two main mechanisms: an increased sense of work gain and a reduction in relative deprivation, which creates an environment where employees feel their work adds value, thus encouraging greater creativity and contribution through deeper motivation. Employees who perceive tangible benefits from digital systems, such as information transparency and organizational support, tend to have higher motivation and innovation, reflected in creative and collaborative contributions, and a reduction in negative behaviors that can hinder productivity. Conversely, digital systems that create gaps in perceptions of fairness can trigger negative behaviors such as cyberloafing, which reduces productivity and efficiency, and can damage an organization's reputation and trigger broader internal conflict (Safrizal *et al.*, 2020).

In the context of productivity, the use of artificial intelligence-based HR analytics helps organizations make more informed decisions by reducing human bias and increasing accuracy, thus minimizing errors in resource allocation and enabling more strategic optimization. (Soulami *et al.*, 2024) found that integrating artificial intelligence into HR analytics allows organizations to optimize recruitment, performance appraisal, and competency development processes with high efficiency, for example through performance prediction based on historical data, which speeds up processes and significantly reduces operational costs. However, this data-driven approach still requires ethical regulation to ensure that algorithms do not introduce bias in human management, thus maintaining fairness and trust, which are essential for maintaining employee loyalty and preventing potential litigation related to discrimination. In addition to increasing efficiency, HR digitalization also strengthens an organization's strategic orientation by facilitating cross-border collaboration and opening opportunities for global expansion and international market integration. According to (Alfalah *et al.*, 2025), leveraging digital work flexibility and technological affordances can foster cross-functional collaboration and improve overall organizational productivity, such as through platforms that support virtual teamwork, which enable the integration of talent from different locations and time zones. This emphasizes that performance in the digital era is no longer measured solely by individual output, but also by the organization's ability to build synergy between people and technology, creating sustainable added value and connecting to the challenges discussed later in the broader context of transformation. Thus, organizational performance in the context of digital HR is the result of a combination of technological capabilities and the organization's emotional intelligence, which require harmonious integration to achieve competitive advantage and long-term resilience. Effective HR digitalization must ensure that technological efficiency does not sacrifice human well-being but rather strengthens the innovative potential that is at the core of the organization's strengths, thus forming the foundation for inclusive and adaptive growth, with a positive impact on long-term sustainability and the organization's ability to innovate amidst global competition.

3.2.3 Challenges and Opportunities in Digital Transformation

Digital HRM presents complex challenges for organizations, involving changes to systems, work models, and interaction patterns that require significant structural and cultural adaptations, as well as investments in infrastructure and training. The biggest challenge lies not in the technology itself, but in the readiness of people and organizations to manage it, such as resistance to change and digital competency gaps, which can hinder implementation and increase the risk of failure. For example, employees may feel threatened by automation changing their roles, while organizations need to build capabilities to integrate digital tools into daily routines without disrupting productivity. Research (Lee & Kim, 2023) shows that organizational culture and leadership style have a significant impact on the success of digital transformation, with organizations with cultures open to learning adapting more easily, while rigid ones face resistance that can slow the transition. Organizations with cultures open to learning and change adapt more easily to new technologies, while rigid organizations face internal resistance that hinders digitalization, which can slow implementation and increase the risk of failure, as well as impact employee morale. This is evident in how visionary leaders encourage experimentation with new tools, while authoritarian leadership may foster fear of job displacement. Beyond cultural challenges, ethical and privacy issues also arise, necessitating a careful approach to data use to avoid breaches and build trust. (Gao & Gao, 2024) emphasize that empowering digital leadership through increased psychological empowerment can prevent repressive use of technology and ensure digitalization remains focused on human development, emphasizing transparency and employee participation, which are essential for maintaining a balance between control and autonomy. This requires striking a balance between digital oversight and employee trust, to avoid privacy breaches and build trust, which is key to long-term success. For example, the use of AI for performance monitoring should be accompanied by clear policies on how data is used, ensuring employees feel supported rather than monitored. In the Indonesian context, (Naseem et al., 2025) highlighted that MSMEs and startups face resource constraints in implementing comprehensive digital HR, such as limited infrastructure and budget, which can limit access to advanced technology. However, the study also shows that digitalization opens significant opportunities to improve efficiency, expand talent networks, and strengthen competitiveness, with the potential to access global markets through digital platforms, which can transform the scale of operations. With the right strategy, digitalization can be a path to strengthening the capacity of national organizations, including developing competent local talent, and fostering innovation in the small sector. This means MSMEs can utilize cloud-based applications for low-cost recruitment, while building collaborations with universities for digital training. The Human Resource Management Strategy adds that digital transformation in small organizations requires adaptive leadership and policies that support digital competency development, such as integrated training programs that can build internal capacity. These efforts will create a competitive and sustainable work ecosystem, with a focus on inclusive innovation, and open opportunities for collaboration with global players. For example, online mentoring programs can connect local leaders with international experts, accelerating the adoption of best practices. Therefore, digital transformation cannot be seen as a mere technology project, but rather as a collective learning process connecting innovation, people, and organizational culture, requiring long-term commitment. When challenges are addressed through an inclusive and adaptive approach, the resulting strategic opportunities go far beyond operational efficiency, paving the way for more resilient and future-oriented organizations, with the potential to achieve sustainable competitive advantage. In the long term, this could involve evolving towards flexible, hybrid work models, where technology supports human creativity rather than replacing it.

4. Conclusion

This study concludes that digital transformation in human resource management (HRM) has a significant impact on improving employee experience and organizational performance. The application of technologies such as artificial intelligence (AI), predictive data analytics, and cloud computing platforms has been shown to improve operational efficiency, productivity, and the quality of data-driven decision-making. Digital transformation also contributes to a more positive employee experience through hybrid work, bold communication, and psychological support, which increases engagement, satisfaction, loyalty, and talent retention. These experiences, in turn, strengthen innovation and cross-functional collaboration, drive higher organizational performance and global competitiveness. However, challenges such as cultural resistance, digital competency gaps, and ethical and data privacy issues still need to be addressed for the digitalization process to be sustainable and inclusive. Overall, the success of HRM digital transformation depends on the synergy between technological innovation and a humanistic approach, where organizations need to balance digital efficiency with employees to achieve long-term resilience and competitive advantage in the digital era.

For future research, it is recommended to further explore external factors influencing the success of digital transformation in HRM, such as government policy support, digital employment regulations, and changes in the global business environment. Future research could also employ a mixed methods approach to combine quantitative analysis of organizational performance with qualitative insights into employee experiences and perceptions in a digital context. In-depth qualitative approaches, such as interviews or cross-industry case studies, can help understand the social and cultural aspects of organizations that influence the acceptance of new technologies. Furthermore, there is a need to debate the research focus on the dimensions of digital ethics and employee psychological well-being, given that increased technology use also has the potential to create technostress and privacy challenges. By broadening the scope of research and applying more comprehensive methodologies, it is hoped that future studies can provide more applicable strategic and policy recommendations for organizations in building sustainable, inclusive, and well-being-oriented digital HRM systems in the era of digital transformation.

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THE ROLE OF DIGITALIZATION FINANCIAL MANAGEMENT OF MSMEs IN ASEAN COUNTRIES: OPPORTUNITIES AND CHALLENGES IN THE SOCIETY 5.0 ERA

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Abstract

This Systematic Literature Review (SLR) investigates the role of digitalization in the financial management of MSMEs across ASEAN, specifically analyzing the opportunities and adoption challenges within the Society 5.0 context. Employing an SLR methodology, this study systematically screened 42 initial articles and thematically synthesized 12 highly relevant documents to categorize theoretical frameworks and adoption barriers. Findings reveal that digitalization fosters a synergistic relationship between Fintech solutions and institutional support, which is crucial for overcoming financing barriers. Novelty highlights Digital Culture and Adaptive Capability as essential internal antecedents for achieving digital competitive advantage. However, adoption is significantly hampered by regional heterogeneity and behavioral factors such as low financial literacy and a lack of perceived trust. Future research should integrate Dynamic Capabilities Theory and Institutional Theory using longitudinal designs to validate causal orders. Practical suggestions include implementing tiered regulatory frameworks across ASEAN and prioritizing financial literacy education. Limitation stems from the reliance on cross-sectional data, which prevents the establishment of definitive causal sequences.

Keywords: Adaptive Capability, ASEAN, Digitalization, Financial Management, MSMEs.

1. Introduction

Micro, small, and medium-sized enterprises (MSMEs) form a critical component of economic growth and stability across the Association of Southeast Asian Nations (ASEAN), directly contributing to sustainable and resilient development (Kim 2023). However, this sector faces significant pressure to adapt to the rapidly changing business landscape (Srisathan et al., 2023). The accelerating pace of global digitalization compels these firms to integrate advanced technology into their operations to remain viable (S. Rahman et al., 2025). In the realm of finance, this transition is particularly pronounced, with Fintech solutions emerging as a potent mechanism for MSMEs to overcome traditional access to finance barriers by mitigating the high costs and geographic constraints of established institutions (Abu et al., 2025; Tarjo et al., 2022).

The push for digital integration in ASEAN aligns with the conceptual framework of Society 5.0, which envisions a human-centered society where advanced technologies, such as artificial intelligence and the Internet of Things, are widely deployed to create both economic and social value (Samputra & Alfarizi, 2025). This era necessitates not only technology adoption but a profound transformation in core business functions, especially financial

management. Regional initiatives, including the development of blockchain roadmaps and efforts to harmonize cross-border payment systems, underscore the region's commitment to building a cohesive digital economic community (Almoghayer & Mahmoud, 2025; Ungson & Soorapanth, 2022).

Despite these transformative opportunities, MSMEs encounter significant hurdles that restrict the effective use of digital financial tools. Challenges include low levels of financial literacy, the need to build robust institutional trust in new digital platforms like mobile money, and persistent shortcomings in digital capabilities (Ha et al., 2023; M. N. Rahman & Rahman, 2022). While existing research has explored digital competitive advantages and the role of government support in the Fintech ecosystem, a holistic assessment of the practical opportunities and challenges that digitalization presents for financial management practices among MSMEs in ASEAN within the emerging Society 5.0 context remains limited.

2. Methodology

This study employs a Systematic Literature Review (SLR) methodology, which is a rigorous, transparent, and reproducible approach designed to identify, evaluate, and synthesize all relevant research on a predefined topic. The use of SLR is justified as the primary objective is to map the existing academic landscape, identify core theoretical concepts, and delineate the research opportunities and challenges related to the digitalization of MSME financial management in ASEAN within the Society 5.0 context. The review process was structured according to the fundamental steps of planning, conducting, and reporting the review, aligning with established guidelines such as the PRISMA statement.

Search Strategy and Article Selection

The literature identification process began with a targeted search across relevant scholarly databases utilizing the composite keywords "Digitalization Financial Management," "MSMEs," and "ASEAN Countries". This initial systematic search returned a total of 42 articles. To ensure thematic relevance and scholarly focus, a rigorous filtering process was subsequently applied to this initial set.

The initial filters focused on Open Access status, which yielded 23 articles, and relevance to predefined Subject Areas, which retained 16 articles. The subject areas considered in the filtering included Business, Management and Accounting (10), Economics, Econometrics, and Finance (6), Social Sciences (13), and Computer Science (16). The selection was further refined by prioritizing the Article Type, which resulted in 16 scholarly contributions, consisting of 15 Research articles and 1 Review article. Finally, to ensure recency and topicality, the search prioritized publications across the years 2025 (6), 2024 (7), 2023 (10), and 2022 (14). After the application of all these filters, the pool of eligible articles was reduced to a final count of 14

Final Screening and Data Extraction

The final selection stage involved a detailed qualitative screening. The abstracts of the remaining 14 articles were thoroughly reviewed to confirm their direct relevance to the research questions, particularly their focus on the intersection of digital financial management and MSMEs within the ASEAN context or comparable emerging economies. Following this

qualitative screening, 12 articles were retained as the final corpus for full-text extraction and subsequent analysis. The data extraction process utilized a standardized matrix to capture core information, including the study's purpose, methodology, key findings, and theoretical frameworks.

Data Extraction and Synthesis

For each of the final 12 selected articles, data extraction focused on key elements critical to the study's objectives: the primary research purpose, the specific methodology and sample, key findings, the underlying theoretical framework, and the identified gaps or recommendations for future research. This systematic approach facilitated a qualitative thematic synthesis, allowing for the structured identification of recurring themes related to opportunities (e.g., enhanced access to finance, efficiency) and challenges (e.g., regulatory ambiguity, digital culture barriers) to build a robust and evidence-based discussion.

3. Results and discussion

The Systematic Literature Review (SLR) yielded 12 articles for final synthesis, the details of which are summarized in Table 1. This synthesis reveals three primary thematic findings: the role of digitalization in financial inclusion, the organizational and behavioral factors determining technology adoption, and the strategic capabilities required for MSME resilience in the Society 5.0 context. Based on the 12 article sources determined to meet the criteria, the research results are in Table 1.

Tabel 1. Research About Digital financial and MSMEs in ASEAN Countries

No	Title	Author name	Year	Methods	Findings
1.	Digital competitive advantages of MSMEs and the antecedents factor (digital creativity and digital culture)	Sarli Rahman, Fadrul, Suyono, Onny Setyawan, Achmad Tavip Junaedi, Nicholas Renaldo	2025	Quantitative	Digital culture plays a significant role and has a strong positive influence on digital creativity. Digital creativity plays a significant complementary mediating role.
2.	Adaptive capability of micro agribusiness firms: Qualitative evidence from the Philippines	Marc Immanuel G. Isip	2022	Qualitative	Adaptive capabilities are characterized by Value creation, Organizational agility/flexibility, and Organizational strength (leveraging online platforms).
3.	Artificial intelligence ethics technology readiness for social sustainability and business: Evidence from	Apoorva Vikrant Kulkarni, Shaji Joseph b,	2024	Quantitative	AI Readiness directly impacts Social Sustainability (SS).

	MSMEs in developing nations	Kanchan Pranay Patil			
4.	Assessing the effectiveness of open innovation implementation strategies in the promotion of ambidextrous innovation in Thai small and medium-sized enterprises	Wutthiya A. Srisathan, Chavis Ketkaew, Phaninee Naruetharadho	2023	Quantitative	Significant positive relationship between OII (organizational archetype, knowledge management, technology transfer, collaborative networks) and OAIP (inbound, outbound, coupled innovation) across all SME size categories.
5.	Can advanced society 5.0 technology create economic and social value for millennial and generation Z MSMEs in Surabaya, Indonesia? An economic resilience perspective	Palupi Lindiasari Samputra, Muhammad Alfarizi	2025	Quantitative	Social media, Big Data, and IoT significantly impact advanced technology business capabilities. AI and Blockchain are less significant. Technological capabilities enhance entrepreneurial orientation, which plays a partial mediating role in value creation.
6.	Empowering mobile money users: The role of financial literacy and trust in Vietnam	Dao Ha a, Ahmet S, ensoy, An Phung	2023	Quantitative	Perceived Trust plays a mediating role and increases Perceived Usefulness and Perceived Value. Financial Literacy has a positive impact. Perceived Risk is a significant barrier.
7.	Exploring digital trade provisions in Regional Trade Agreements (RTAs) in times of crisis: India and Asia-Pacific countries	Mohd Nayyer Rahman, Nida Rahman	2022	Scope Exploration & Evaluation. Technique: Document Analysis (RTA) and	Scope Exploration & Evaluation. Technique: Document Analysis (RTA) and Trade Statistics Data. Sample: RTA in Asia-Pacific;

				Trade Statistics Data.	Digital services export/import data (2005-2020).
8.	Factors influencing intentions to use QRIS: A two-staged PLS-SEM and ANN approach	Rizka Ramayanti, Zubir Azhar, Nik Hadian Nik Azman	2025	Quantitative	Habit, Hedonic Motivation, Social Influence, and Price Value are the main factors. Hedonic Motivation is the most influential determinant. Performance Expectancy, Effort Expectancy, and Facilitating Factors are insignificant. The ANN model is superior in prediction (R^2 99.2% vs. 64.8%).
9.	Government support for SMEs in the Fintech Era: Enhancing access to finance, survival, and performance	Najla Abu, Filipa Pires da Silva, Pedro Rino Vieira	2025	Systematic Literature Review (SLR) & Bibliometric Analysis.	A synergistic relationship has been found between government initiatives and fintech solutions. Fintech overcomes geographic/cost barriers in emerging markets.
10.	The adoption of cross-border payments: A comparative study of belt and road countries	Walaa JK Almoghayer, Haitham A. Mahmoud	2025	Mixed-Methods (Quantitative & Qualitative) sequential.	Adoption success depends on the interaction of infrastructure, regulations, and cultural attitudes. Institutional trust is a strong predictor (36.8% higher adoption).
11.	The ASEAN blockchain roadmap	Gerardo R. Ungson, Sada Soorapanth	2022	Conceptual/ Narrative Analysis focused on developing a policy framework.	Blockchain applications are uneven across ASEAN due to differences in development. Countries are divided into leader-follower patterns in regulation.

12.	Towards sustainable and resilient ASEAN-Korea economic integration 2.0	Kyunghoon Kim	2023	Descriptive/ Conceptual Analysis.	Key Challenges: 1) High dependence on Vietnam (52% of exports). 2) Korea's shorter presence compared to Japan. 3) Inconsistent diplomatic approach ('following' rather than 'leading').

Digitalization as a Mechanism to Overcome Financial Constraints

A major theme in the literature is the transformative role of digital finance (Fintech) in mitigating the chronic financial exclusion faced by MSMEs. The findings confirm that Fintech solutions operate synergistically with institutional support to enhance access to finance for Small and Medium-sized Enterprises (SMEs) (Abu et al., 2025; Sari & Hadyarti, 2024). Specifically, digitalization addresses the problem of information asymmetry by providing traceable digital transaction records, which in turn reduces the perceived risk for lenders (S. Rahman et al., 2025). This is particularly salient in emerging markets where traditional credit infrastructures are underdeveloped.

Beyond simple access, the literature highlights specific digital tools. For instance, in Vietnam, the successful uptake of mobile money is critically dependent on users' Financial Literacy and Perceived Trust, suggesting that the benefit of digital access is gated by the internal readiness of the user population (Endang, 2022; Ha et al., 2023). Furthermore, for MSMEs engaging in regional and global trade, the adoption of cross-border payment systems hinges not just on technological capability, but significantly on the harmonious interplay of regulatory frameworks, cultural acceptance, and established infrastructure (Almoghayer & Mahmoud, 2025).

Organizational and Behavioral Factors Influencing Adoption

The second set of findings addresses the direct drivers and inhibitors of digital tool usage, moving beyond mere infrastructural availability to focus intensely on the behavioral and organizational context. Analysis of behavioral drivers, specifically empirical evidence from Indonesia's QRIS adoption, reveals that user intention and actual usage are primarily determined by subjective factors such as Habit, Hedonic Motivation (enjoyment), and Social Influence. In contrast, traditional metrics like performance or effort expectations are less significant (Ramayanti et al., 2025). This suggests that the social and habitual integration of a tool is a more powerful predictor of mass adoption of specific digital payment standards among MSME users than perceived technical utility alone.

Furthermore, organizational culture and readiness are identified as crucial antecedents to successful digitalization. The need for this internal shift is paramount, as Small and Medium-sized Enterprises (SMEs) must continually adapt their practices to remain competitive in the fast-paced business environment (Srisathan et al., 2023). The presence of a positive Digital Culture within an MSME significantly enhances its intrinsic capability for digitalization, which

in turn leads to improved Digital Creativity and, ultimately, a sustainable Digital Competitive Advantage (S. Rahman et al., 2025). Additionally, the readiness of an MSME to adopt advanced technologies, such as Artificial Intelligence (AI), acts as a critical precursor to realizing broader benefits, including Social Sustainability and compliance with Business Ethics (Kulkarni et al., 2024).

Despite these internal drivers, the technological frontier faces significant Regulatory Barriers. The adoption of transformative ledger technologies, such as Blockchain, within the ASEAN region is fundamentally impeded by a persistent lack of regulatory clarity and a failure to establish an appropriate balance between public and private sector involvement (Ungson & Soorapanth, 2022). This pervasive regulatory ambiguity represents a systemic challenge to achieving broader regional implementation of advanced digital technologies.

Adaptive Capabilities in the Society 5.0 Context

The findings explicitly link digitalization to the strategic capabilities required for MSME resilience within the evolving technological ecosystem of Society 5.0. Central to this linkage is the concept of Adaptive Capability and Resilience. The capacity of MSMEs to respond dynamically to external economic shocks and changes is crucial. Adaptive Capability, which is defined by organizational agility, flexibility, and continuous value creation through product and process improvement, was found to be essential for the survival and growth of micro-agribusiness firms in the Philippines (Isip, 2022).

Furthermore, the adoption of advanced Society 5.0 technology is found to significantly influence the business capabilities of younger-generation (Millennial and Gen Z) MSMEs, driving the creation of both economic and social value (Samputra & Alfarizi, 2025). This highlights the dual benefit of digitalization beyond pure profit, aligning with the broader societal focus of the Society 5.0 paradigm. At the macro-level, the growth in the digital economy and the corresponding need for robust cross-border financial mechanisms have intensified the demand for clear digital trade provisions in Regional Trade Agreements (RTAs), an essential policy area that currently lacks clarity for developing countries in the region (M. N. Rahman & Rahman, 2022).

The systematic synthesis confirms that digital financial management for MSMEs in the ASEAN region, while evolving within the Society 5.0 paradigm, offers a core opportunity to mitigate Information Asymmetry improving capital access through the synergy of Fintech and government support (Abu et al., 2025). However, this access is gated by internal user factors, as the success of mobile money is constrained by Financial Literacy and Perceived Trust, indicating that digitalization addresses the lender's information gap but introduces a parallel knowledge gap for the borrower (Ha et al., 2023).

Furthermore, technology acceptance validates Behavioral Primacy, with Habit, Hedonic Motivation, and Social Influence dominating actual usage over perceived technical efficiency, suggesting social integration is key to mass adoption (Ramayanti et al., 2025). These micro-level challenges are exacerbated by systemic hurdles, particularly the lack of Regulatory Clarity for foundational technologies like Blockchain, which creates institutional uncertainty and undermines the social trust needed for widespread diffusion (Ungson & Soorapanth, 2022).

Strategically, navigating this landscape mandates that MSMEs cultivate Dynamic Capabilities, specifically a proactive Adaptive Capability, fueled by a strong Digital Culture, to ensure resilience and the simultaneous creation of economic and social value (Isip, 2022; S. Rahman et al., 2025; Samputra & Alfarizi, 2025). Ultimately, the successful role of digital financial management is defined by the capacity of MSMEs to develop and maintain these Dynamic Capabilities amidst the accelerating technological landscape of Society 5.0 (Almoghayer & Mahmoud, 2025; M. N. Rahman & Rahman, 2022).

4. Conclusion

The main objective of this study is to systematically explore the key opportunities and challenges posed by digitalization for SME financial management practices in ASEAN countries in the context of Society 5.0. Through a Systematic Literature Review (SLR), this study successfully mapped the fragmented academic landscape and identified causal relationships that have not been empirically tested.

Research implications

This study offers several critical implications for theory development and management practice in the ASEAN region. The findings highlight a significant theoretical integration gap in current literature, which often relies on single-focus models (e.g., TOE or TAM). Future research must shift toward integrated theoretical frameworks that explicitly combine the Dynamic Capabilities View (DCV) focusing on internal organizational agility and adaptive capability with Institutional Theory addressing external forces such as governmental support and institutional trust (Abu et al., 2025; Isip, 2022). Developing and testing such hybrid models is essential to provide a comprehensive explanation for sustained Digital Competitive Advantage (DCA). This need for internal agility is further underscored by the fact that SMEs must continuously adapt their strategies and practices to remain competitive in the rapidly evolving business environment shaped by digitalization (Srisathan et al., 2023)

For MSME owners, the primary implication is that investment in non-technical capabilities is crucial. Building a strong Digital Culture and enhancing organizational agility are essential prerequisites that must precede or accompany technological adoption (S. Rahman et al., 2025). Furthermore, policymakers must recognize that simple technology dissemination is insufficient. The high influence of financial literacy and perceived trust on adoption behavior implies that government initiatives must prioritize targeted educational programs and regulatory clarity to build confidence and bridge the behavioral adoption gap (Ha et al., 2023).

Limitations of Research and Suggestions

This prevents the current synthesis from definitively establishing the causal order or evolutionary sequence of digital adoption factors (Almoghayer & Mahmoud, 2025). Specifically, the sequence of infrastructure development, regulatory clarity, and institutional trust cannot be definitively validated. Furthermore, despite the focus on ASEAN, the literature often suffers from regional generalization constraints, with findings potentially over-representing more digitally advanced economies and thus failing to capture the full socio-economic heterogeneity of the region.

The identified gaps in the current literature and practice lead to several key suggestions for both future academic inquiry and practical application. For future research, a significant need exists for the adoption of longitudinal methodologies. These studies are crucial for validating the hypothesized evolutionary sequence of adoption and, more importantly, for determining the true direction of causality between institutional factors, such as regulation, and observed adoption outcomes. Furthermore, academic inquiry requires a critical turn toward in-depth qualitative research.

This means focusing on specific, often-neglected MSME segments, such as micro-agribusiness firms, to provide a richer, contextualized understanding of how adaptive capability is practically developed and leveraged within diverse ASEAN environments (Isip, 2022). Finally, researchers should conduct multi-country comparative studies within ASEAN to formally analyze the impact of regulatory heterogeneity on adoption rates, moving beyond general observations of "leaders" and "followers". For policy and practice, the recommendations center on regulatory flexibility and user capability (Marjan et al., 2022). Specifically, ASEAN member states should consider implementing tiered, flexible regulatory frameworks that account for the diverse socio-economic context and digital readiness across the region, thereby departing from a uniform digital roadmap. Concurrently, to address the high-impact behavioral barrier of low user confidence and perceived risk, digital financial service providers and governments should make the integration of financial literacy training a mandatory component of technology rollouts (Riyadi & Hadyarti, 2024).

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GENERATIVE AI IN CONTENT CREATION: AUTOMATING AND SCALING DIGITAL ADVERTISING WITHOUT SACRIFICING CREATIVITY

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Abstract

This research examines the transformative potential of Generative Artificial Intelligence (AI) technology in the realm of content creation, particularly as it relates to digital advertising. With the rapidly increasing demand for high-volume, personalized content, traditional models often struggle to effectively automate and scale the creative process without increasing costs or lead times. This research argues that Generative AI offers a powerful solution to address these challenges. We analyze how Generative AI, through techniques such as Generative Adversarial Networks (GANs) and large transformer models, can generate diverse advertising assets from compelling copy to customized visuals at a speed and scale unmatched by humans. Crucially, we explore methodologies that ensure that this automation does not sacrifice creativity or contextual relevance. Instead, AI can serve as a “creative co-pilot,” handling iterative, data driven tasks, allowing marketers to focus on high-level strategy and conceptual innovation. These findings suggest that strategic adoption of Generative AI can result in more efficient, more personalized, and more impactful advertising campaigns, marking a paradigm shift in digital content production from a labor intensive process to a technologically enriched one.

Keywords: Generative AI, Digital Advertising, Advertising Automation, Creativity Content Scalability, AI Paradox

1. Introduction

The rise of Generative Artificial Intelligence (Generative AI/GenAI) is seen as one of the biggest changes in marketing since the advent of digital shopping in the early 2000s (Duivenvoorde, 2025). This technology is not just bringing minor improvements; it is driving major changes that are fundamentally altering the way advertising is created, both visually and narratively (Hartmann et al., 2024; Duivenvoorde, 2025). Companies' primary motivation for adopting AI is the desire to achieve cost savings and handle workloads with greater efficiency (Acar, 2024). With its powerful capabilities, AI is enabling businesses to produce high volumes of advertising content quickly, even opening up the possibility of creating content with superhuman performance (Hartmann et al., 2024). Furthermore, this technology is helping to democratize the playing field by distributing the capabilities, tools, and resources needed to create content, which were previously largely controlled by professional agencies. This overall results in increased output and greater efficiency (Wahid et al., 2025; Gavrila et al., 2025).

Generative AI (GenAI) is now positioned as a key engine driving automation on an unprecedented scale, disrupting the cost and time of content creation. A solid understanding of

AI's underlying technologies is required as a foundation for intelligent technology integration and advanced communication networks (Santhiya D. et al., 2022). In a highly competitive environment, the sources of competitive advantage have shifted, with innovation and creativity becoming the new key drivers (Jannah & Pranjoto, 2025). Innovation itself is supported by innovative behavior built upon various factors, which can ultimately impact company performance (Safrizal, n.d.). The role of GenAI is highly relevant in this context, especially for small and medium enterprises (MSMEs), where the importance of information and skills for company success is emphasized, and MSMEs often face development challenges due to a lack of expertise (Riyadi & Hadyarti, 2024). Therefore, for MSMEs, the implementation of entrepreneurial marketing (EM) is needed for sustainable competitive advantage (Jannah & Pranjoto, 2025). GenAI plays a crucial role in supporting EM, as its ability to rapidly generate diverse and personalized advertising assets effectively supports this proactive marketing approach. Furthermore, GenAI can be integrated as part of a Business Intelligence (BI) system, which aims to help organizations collect, integrate, analyze, and visualize information for better decision-making (Purnomo et al., 2021). Thus, GenAI becomes a key driver of innovation and superior marketing strategies.

While AI's potential to enhance productivity and competitive advantage is enormous, a key challenge lies in the increasingly prominent AI paradox in marketing: the conflict between the efficiency offered by machines and the resistance exhibited by consumers (Al Moosa et al., 2025). Consumers consistently demonstrate a clear preference for real-world images over AI-generated ones, especially when dealing with hedonic (emotional) services and individuals with high levels of involvement in the purchasing process (Belanche et al., 2025).

More importantly, inappropriate use of AI assets can trigger consumer perceptions that companies are unprofessional or too cold (impersonal), which can ultimately damage customer sentiment and reduce purchase intentions (Belanche et al., 2025). Therefore, this study seeks to discover and synthesize how marketers can strategically leverage GenAI's powerful capabilities, such as automation and rapid ad creation. At the same time, they also need to maintain and safeguard important aspects such as perceived humanness, trustworthiness, and high content quality, which are key to sustained customer engagement and satisfaction.

2. Methodology

This research adopts a Qualitative Conceptual Synthesis approach, a systematic process that aims to unify and integrate fragmented academic findings into a coherent theoretical and managerial framework. Given that Generative Artificial Intelligence (GenAI) is a very new and fast-moving phenomenon, this methodology allows researchers to build strategic knowledge from various perspectives (automation, creativity, consumer psychology) scattered across various marketing and information systems literature

2.1. Selection Process and Source Credibility

The literature selection process was conducted systematically to ensure the credibility and novelty of the findings. The primary data sources were limited to articles from reputable academic journals indexed by Scopus, ensuring the scientific rigor of each analyzed claim.

Because GenAI is a phenomenon that is only just reaching commercial maturity, the selection of the timeframe is crucial. This analysis explicitly prioritized articles published between 2024 and 2026 to fully capture the latest implications and disruptions. Each selected article must explicitly discuss the application, impact, or consumer response to GenAI (such as Midjourney, ChatGPT, DALL-E) in the context of marketing or advertising content creation.

2.2. Measurement (Data Extraction)

In qualitative synthesis studies, measurement is defined as the process of systematically

extracting qualitative data. This process involves in-depth reading and structured coding to identify key variables and relationships from each selected literature. Data extracted from each article includes:

1. Central Concepts: Operational definitions of scale automation, artificial creativity, and perceived humanness.
2. Antecedents (Triggers/Enablers): Factors that enable or encourage the adoption of GenAI in content creation (e.g., cost reduction, prompt engineering capabilities).
3. Positive Consequences: Desired impacts (e.g., increased novelty, informativeness, marketing ambidexterity, operational efficiency).
4. Negative Consequences/Barriers: Consumer resistance, perceptions of impersonality, and boundary conditions (hedonic vs. utilitarian).

2.3. Research Questions

1. How does the use of Generative AI affect the efficiency (speed of creation and production costs) of digital advertising content compared to conventional content creation methods (by humans)?
2. To what extent do perceptions of creativity and marketing effectiveness of Generative AI-generated digital advertising content differ from content created entirely by humans?
3. Does the level of detail and focus (utilitarian vs. creative) in Generative AI prompts moderate the relationship between content production speed and perceived level of creativity by consumers?

2.4. Qualitative Thematic Synthesis Data Analysis

The extracted data were analyzed using the Qualitative Thematic Synthesis technique which involved step-by-step coding to construct and validate the Three Pillars Balance Framework:

- Open Coding: Researchers broke down text and findings into fundamental units of meaning. Recurring concepts across articles—such as the 'AI paradox,' 'real image preference,' and 'superhuman'—were extracted and labeled.
- Axial Categorization: Labeled concepts were then grouped based on causal relationships. This stage explicitly classified the findings into the three pillars established by the research (Pillar I: Automation & Scalability; Pillar II: Augmented Creativity; Pillar III: Consumer Perception Management).
- Selective Synthesis: In the final stage, the relationships between the pillars are analyzed and integrated. This process aims to weave a cohesive narrative that definitively presents the Three Pillar Balance Framework (Automation, Creativity, and Consumer Perception) as a new and cohesive conceptual model. The results of this synthesis produce a strategic guide that balances GenAI's efficiency with the demands of creative quality and consumer trust in digital advertising.

Through this rigorous methodology and thematic analysis process, this research aims to generate valid and managerially relevant theoretical insights for the responsible adoption of GenAI.

3. Results and discussion

This comprehensive literature synthesis reveals that the adoption of Generative AI (GenAI) in digital advertising has yielded a dualistic set of findings, where the potential for significant efficiency is offset by psychological and perceptual challenges from consumers. These key findings can be narratively grouped into three interacting pillars.

1. GenAI as an Automation Engine at Scale

GenAI is now positioned as the primary engine driving automation at an

unprecedented scale [Gavrila et al., 2025]. Findings indicate that this technology has disrupted the cost and time of content production. Companies are now able to automatically generate high-volume ad copy and visual assets, fundamentally resulting in cost reductions and operational efficiencies [Duivenvoorde, 2025]. Beyond savings, GenAI paves the way for massive personalization, enabling the delivery of the most persuasive message at the most effective time to every potential customer [Duivenvoorde, 2025]. The biggest implication is a value shift: GenAI has democratized core content capabilities, shifting competitive value from owning expensive technical tools to human expertise in guiding those tools through engineering prompts [Acar, 2024; Wahid et al., 2025].

2. Augmented Creativity and Hybrid Content Quality

GenAI serves not only as an efficiency tool but also as a driver of Augmented Creativity. Synthesis results indicate that GenAI has the ability to produce content output that, on certain dimensions, can surpass human capabilities and be considered superhuman [Hartmann et al., 2025]. The primary driving force linking GenAI content to purchase intention is the significant increase in informativeness and novelty dimensions generated by artificial creativity [Jung et al., 2025; Hartmann et al., 2025]. However, these results have limitations: the effectiveness of GenAI content is highly dependent on psychological factors. To prevent such novel content from becoming hollow, it must successfully instill trust in AI and, especially, perceived humanness [Jung et al., 2025] in consumers.

3. The Reality of Consumer Resistance and Service Contextualization

Despite the enormous potential for automation and creativity in GenAI, market adoption is limited by the "AI paradox" [Al Moosa et al., 2025]. Findings suggest that consumer resistance is not a universal barrier, but rather a highly contextual one. Consumer resistance to GenAI-generated images is particularly high in the context of hedonic services (pleasure- or emotion-based, such as tourism) or high-involvement services [Belanche et al., 2025]. In the eyes of consumers, excessive use of AI in these contexts is interpreted as impersonality or unprofessionalism by companies, as they are perceived as avoiding investment in human creators and emotional connections.

4. Discussion

4.1.RQ1 Resolution: Automation, Scale, and Democratization of Value

The first question focused on GenAI's role in automating and scaling content creation for efficiency and personalization. The synthesis results (Pillar I) strongly demonstrated that GenAI is an effective and disruptive solution that delivers automation at scale [Gavrila et al., 2025]. This discussion confirmed that GenAI is a key enabler transforming the cost structure and speed of advertising content production. Efficiency is not just about savings, but also the ability to achieve massive personalization [Duivenvoorde, 2025], a goal that is economically impossible without automation.

The core of the answer to RQ1 is a value shift driven by democratization [Wahid et al., 2025]. Because GenAI has made creation tools so accessible, competitive value no longer lies in tool ownership but in human expertise in providing precise instructions—prompt engineering [Acar, 2024]. A company's advantage is no longer measured by its technical capital, but by its human-technical capital capable of directing machines to achieve strategic goals.

4.2.RQ2 Resolution: Balancing Creativity with Perceived Humanness

The second question asks how GenAI can enhance creativity (novelty and informativeness) without sacrificing perceived humanness. The synthesis results (Pillar II) provide a conditional answer. GenAI has been shown to produce superior output in terms of novelty and

informativeness [Hartmann et al., 2025; Jung et al., 2025]. This confirms GenAI's effectiveness as an Augmented Creativity tool, functioning as a relentless idea engine. However, this discussion highlights the risk of GenAI producing "cold creativity"—content that is unique but devoid of emotion and fails to build connections. To avoid this risk, the resolution of RQ2 lies in the role of human emotional curation. The novelty enhancements GenAI produces must be continually filtered and refined through human oversight to maintain perceived humanness [Jung et al., 2025]. Without this finishing touch, GenAI content will fail to build trust, an absolute prerequisite in advertising [Jung et al., 2025]. Therefore, novelty and humanness are two variables that must be managed in hybrid partnership relationships.

4.3. Resolution of RQ3: AI Paradox Management through Contextualization

The third, and most complex, question attempts to address the "AI paradox" and manage consumer resistance in sensitive (hedonic/high-involvement) service contexts. The answer lies in the findings of Pillar III, namely, contextualization of strategy. This discussion confirms that consumer resistance is not general, but rather arises as a contextual response when GenAI is used rigidly in hedonic or high-involvement services [Belanche et al., 2025]. Consumers interpret AI content in this context as a sign of impersonality or unprofessionalism [Belanche et al., 2025].

The primary resolution of RQ3 is that companies must adopt the principle of Service Contextualization. Companies must separate back-end from front-end strategies:

- a. **Front-End Protection:** For emotionally sensitive services, the human touch should be maintained in key visuals and narrative. GenAI should be used augmented, not replaced, to maintain credibility.
- b. **Strategic Transparency:** Additionally, companies should consider strategic transparency regarding the use of AI. While transparency is necessary to avoid consumer protection risks [Duivenvoorde, 2025], it must be measured to avoid inadvertently triggering consumer resistance.

Overall, GenAI is a strategic opportunity, but successful implementation requires a shift in mindset from simply technological efficiency to consumer perception management as the primary goal.

5. Conclusion

From this comparative narrative analysis, it can be concluded that the success of GenAI's use in digital advertising lies in marketers' ability to transform the advantages of efficiency into persuasive and credible narratives, supported by quality content that does not sacrifice human spirit. Brands that excel in this context are those that successfully integrate the speed of GenAI automation into key messages, while maintaining the emotional authenticity that can only be created through human oversight. This effective strategy is crucial in building a credible and ethical brand image in the public eye, which can only be achieved through strategic transparency practices to mitigate the risk of perceived AI greenwashing. Ultimately, a compelling narrative, produced efficiently but curated emotionally, will trigger deep consumer engagement. This engagement will drive positive Electronic Word-of-Mouth (eWOM) and be key to the brand's sustainable growth in the digital marketplace. Therefore, a strategic solution for marketers is to prioritize investment in prompt engineering competencies and emotional curation to drive trust-based engagement.

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BANKING PERFORMANCE AND FINANCIAL SYSTEM STABILITY: AN ANALYSIS OF PROFITABILITY AND FIRM SIZE ON THE FIRM VALUE OF PUBLIC BANKS IN INDONESIA IN 2024

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Abstract

This study aims to analyze the effect of profitability and firm size on firm value in the banking sector in Indonesia, and to evaluate its implications for national financial system stability. Profitability is measured using Return on Assets (ROA), and firm size is measured by the natural logarithm of total assets. Firm value is measured by Price to Book Value (PBV). Data were obtained from 43 banks listed on the Indonesia Stock Exchange (IDX) in 2024, using a purposive sampling method and analyzed using multiple linear regression. The research results indicate that profitability has a positive and significant effect on firm value, indicating that strong financial performance is able to enhance investor perception and company resilience. Conversely, firm size shows an insignificant negative effect, which may reflect potential inefficiencies in large-scale banks. Simultaneously, both variables have a significant effect on firm value, although the model only explains 18.06% of the variation in that value. This finding underscores the importance of strengthening profitability as the main foundation of a bank's corporate value and, more broadly, the resilience of the banking sector. The author recommends that financial authorities and regulators, including the Indonesia Deposit Insurance Corporation (IDIC), promote policies for increasing operational efficiency and strengthening bank profitability management, particularly through incentives for banks that demonstrate healthy and sustainable performance. Furthermore, the need for differential supervision of banks based on firm size should be considered so that the potential systemic risk from large banks can be mitigated early.

Keywords: Profitability, Firm Size, Firm Value, Banking, Financial System Stability.

1. Introduction

In an increasingly dynamic global economic landscape, the banking sector holds a vital role in maintaining financial system stability, channeling funds, and supporting the effectiveness of monetary policy. In Indonesia, public banks function not only as intermediary institutions, but also as a foundation of the national financial system's sustainability. Therefore, the performance of banking financial performance, particularly as reflected in firm value, becomes a strategic indicator for investors, regulators, and other stakeholders (Nurjanah & AS Fathor, 2023). High firm value reflects the level of investor confidence and positive expectations regarding business prospects, where the common indicator used is Price to Book Value (PBV).

Profitability becomes one of the important aspects that determine firm value. In the banking

context, Return on Assets (ROA) is often used to measure management's efficiency in generating profits from the total assets managed. The higher the ROA, the higher the potential firm value because the company is considered capable of managing its resources effectively (Gya Monica et al., 2025). Previous research indicates that profitability positively affects firm value, although several other studies, such as (Hidayat & Khotimah, 2022) found that the influence could be negative depending on the sector's characteristics and the research timing. This inconsistency strengthens the urgency to re-examine the effect of profitability on firm value in the latest context, particularly in the banking sector in 2024.

Besides profitability, firm size is also often associated with firm value. Firm size, generally measured by total assets or the natural logarithm of assets, represents the scale of business as well as long-term operational capacity. Large companies tend to have broader access to financing sources and stronger market networks, which theoretically increases investor confidence and firm value (Ramadhanti & Fidiana, 2023). However, results from other studies precisely show that firm size has a negative influence on firm value, which can be caused by high complexity, bureaucratic costs, or operational risks in large banks (Sulistiana & Pranjoto, 2022).

An interesting phenomenon that emerged in 2024 is the mismatch between bank asset growth and the increase in firm value. Several Indonesian public banks recorded significant asset growth, yet their market value (PBV) remained stagnant or even declined. This condition raises suspicions of potential operational inefficiencies or market misperceptions regarding the performance of large-scale banks. This phenomenon forms the basis of the novelty of this research, namely by simultaneously testing the effect of profitability and firm size on firm value using the latest data from 43 banks listed on the Indonesia Stock Exchange in 2024. Besides providing an empirical overview of the relationship between variables, this research also provides important implications for financial system stability policies, especially for the Lembaga Penjamin Simpanan (LPS) in strengthening risk-based supervision and bank operational efficiency.

By considering the complexity of post-COVID-19 economic challenges, aggressive digital transformation, and the dynamics of domestic and global macroeconomic policies during 2021–2024, this study becomes highly relevant. The analysis of profitability and firm size not only provides an overview of the micro-performance of banks, but also the contribution of banks to national financial system stability. Therefore, a deep understanding of the factors affecting banking firm value is required as a basis for strategic decision-making by regulators and bank management.

This study aims to analyze the effect of profitability measured by Return on Assets (ROA) on banking firm value as reflected in Price to Book Value (PBV) at banks listed on the Indonesia Stock Exchange in 2024. Additionally, this study also aims to analyze the effect of firm size, measured based on total assets, on firm value to understand the extent to which the scale of business contributes to market perception of bank value. Simultaneously, this study aims to test the effect of profitability and firm size on firm value, so that it can be known which variable has the dominant influence in increasing banking firm value. This study also aims to provide the latest empirical evidence for the phenomenon of the mismatch between asset growth and firm value that occurred in several Indonesian public banks in 2024, which indicates potential inefficiencies or market perception gaps. The findings from this study are expected to provide strategic contributions for regulators, especially the Lembaga Penjamin Simpanan (LPS), and banking management in strengthening risk-based supervision and improving operational efficiency to encourage an increase in firm value and national financial system stability (Hidayat, N., Ilahi, L. K., Najiatus, & Arifah, H. K. N., 2024).

2. Methodology

This research uses quantitative research with multiple linear regression analysis. The focus of this research is banking sector companies listed on the Indonesia Stock Exchange (BEI) in 2023. The population of this research is banking sector companies listed on the Indonesia Stock Exchange (BEI) in 2023. The data used in this research can be found at <https://www.idx.co.id/id>. In this research, the sampling technique is purposive sampling, which means taking samples based on several considerations. In this research, the criteria used to determine the sample are banking companies listed on the Indonesia Stock Exchange in 2024, totaling 47 companies, as well as 1 banking company that did not publish its 2024 annual financial report and 3 banking companies experiencing losses. Thus, the sample amounts to 43 companies.

Operational Definition of Profitability Variables (X1)One way to determine how effectively management is doing something is by calculating the profitability ratio. In this study, profitability is compared with Return on Assets (ROA). According to (Kasmir, 2019), ROA is a ratio that shows the return on the total assets owned by the company. To calculate Return on Assets, the following formula can be used:

$$\text{ROA} = \text{Net Income} / \text{Total Assets} \times 100\%$$

Description:

Net Income: Net profit that has been reduced by taxes

Total Assets: Total assets owned during a certain period

Firm Size (X2)Because the value of total assets is usually very large compared to other factors related to finance, firm size is usually determined by the value of its total assets. To reduce data inconsistency, firm size is proxied by using the Natural Log of Total Assets. This will simplify the company's total assets, which can reach hundreds of billions or even trillions, without changing the actual proportions of the total assets. The formula for calculating Firm Size (Hartono, 2022):

$$\text{Firm Size} = \ln \text{Total Asset}$$

Description:

Ln: Natural Logarithm

Total Asset: Total of all assets

Firm Value (Y) Price Book Value (PBV) is the result of the comparison between the stock price and the book value per share. "PBV is defined as a ratio that shows how well a company generates firm value based on the funds invested" and "Book value per share is the comparison between total equity and the number of outstanding shares" (Brigham & Houston, 2019). A higher PBV ratio proves that the public truly believes in the Company's future opportunities. The PBV formula (Harmono, 2020):

$$\text{PBV} = \frac{\text{Stock price}}{\text{Book value}}$$

Book Value Per Share: Derived from dividing total equity & Good; by the number of outstanding shares.

3. Data Analysis Method

This study falls into the category of quantitative research or research measured using mathematical or computational statistics. First, the research will be conducted with descriptive statistical tests that explain the data characteristics regarding the relationship between the variables used to test this research hypothesis. Next, the qualified sample data will be analyzed through inferential statistical analysis. This study uses multiple linear regression analysis. This

was chosen because this type of analysis can provide information about the relationship between the independent variables and the dependent variable linearly or in a straight line (Yasar et al., 2020). The regression equation used in this study is as follows:

$$Y = \alpha + \beta_1 X_1 - \beta_2 X_2$$

Description:

Y = Firm Value (measured using PBV)

α = Konstanta

β_1 = Regression Coefficient for the profitability variable

X1 = Profitability (measured using ROA)

β_2 = Regression Coefficient for the firm size variable

X2 = Firm Size (measured using logarithm of total assets)

4. Results and discussion

Based on data from 43 public banks listed on the Indonesia Stock Exchange (BEI) in 2024, the multiple linear regression analysis produced the following equation:

Table 1. Regression analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.349962	3.614506	0.650148	0.5193
X1	48.36729	16.29533	2.968170	0.0050
X2	-0.050416	0.115106	-0.438000	0.6637
R-squared	0.180562			
Adjusted R-squared	0.139591			
F-statistic	4.406984			
Prob(F-statistic)	0.018634			

Sumber: Data Diolah (2025)

$$\text{Firm value} = 2.349962 + 48.36729 X_1 + (-0.050416) X_2$$

Keterangan:

Y : firm value

X1 : profitability

X2 : firm size

The processing results above show that profitability is the most dominant variable in influencing bank firm value. The coefficient of 48.36729 indicates that a one-unit increase in ROA is able to significantly increase PBV. This reflects that banks with healthy financial performance have a more positive market perception, strengthening their stock prices, and increasing investor confidence.

This finding is consistent with Signaling Theory (Spence, 1973), which states that internal company information, such as profitability, provides signals to the market regarding long-term financial prospects and stability. High profitability also reflects management's ability to manage

assets and risks efficiently, as explained by (Brigham & Houston, 2019). In the context of financial system stability, profitable banks tend to be more resilient to systemic pressures and economic crises.

The processing results above show that firm size has a negative coefficient (-0.050416) and is not statistically significant ($p = 0.6637$). This means that the growth of business scale (through asset expansion) is not always accompanied by an increase in firm value. In fact, it tends to lead to inefficiency if not managed properly.

This is in line with the views of (Kor et al., 2016) and the Theory of Economies of Scale (Marshall, 2009) which emphasize that business expansion must be balanced with structural and managerial efficiency. When the business scale enlarges without efficiency improvements, the potential for bureaucratic inefficiency, resource waste, and systemic risk increases, especially in the complex and heavily regulated banking industry.

Although firm size is not individually significant, the regression model shows that simultaneously both variables are significant to firm value (Prob F = 0.018634). This means that the combination of profitability and business scale remains relevant in explaining value differences between banks, even though the total contribution of the model is only 18.06%.

The Adjusted R-squared value of 0.139591 indicates that there are still other important variables outside the model (e.g.: capital structure, operational efficiency, credit risk, or liquidity levels) that influence firm value more significantly.

The findings obtained from the multiple linear regression analysis provide an empirical overview of the determining factors of firm value in the banking sector, which can then be used as a basis for strengthening national financial system stability.

4.1. The Effect of Profitability on Firm Value

Based on the regression results, the profitability variable (measured by ROA) has a positive and significant effect on firm value, with a coefficient value of 48.36729 and a significance value of $p = 0.0050$ ($p < 0.05$). This indicates that every increase in bank profitability will drive a substantial increase in firm value. This finding is consistent with the Signaling Theory proposed by (Spence, 1973), where high profitability is perceived as a positive signal for investors regarding the company's growth prospects and management performance.

In the banking industry, profitability reflects efficiency in asset and credit risk management. Banks that demonstrate strong ROA performance tend to be more capable of attracting investors, maintaining capital stability (Sari & Hadyarti, 2024), and having resilience against economic turmoil, as explained by (Brigham & Houston, 2019). Profitability also serves as an important benchmark in maintaining market confidence and encouraging long-term growth. Therefore, this result confirms that profitability is the main driver of banking corporate value and plays a strategic role in strengthening national financial system stability (Hidayat, N., Arifah, H. K. N., K, K. C. Y., & Hidayati, A., 2023).

4.2. The Effect of Business Scale on Firm Value

The coefficient of the firm size variable (X_2), measured by the natural logarithm of total assets, is -0.050416, indicating a negative relationship direction towards firm value. However, this result is not statistically significant ($p = 0.6637 > 0.05$). This means that an increase in bank size does not directly increase firm value, and even tends to lead to a decrease in value, although not statistically strong.

This result is relevant to the Theory of Economies of Scale proposed by (Marshall, 2009), where the growth in firm size should create cost efficiencies and increase competitiveness. However, in reality, large-scale banks can face structural complexity, internal bureaucracy, and inefficiencies that reduce their operational performance. This is supported by the findings of (Kor et al., 2016), which state that uncontrolled growth without adaptive management can lead

to diseconomies of scale. Thus, although large firm size is considered an indicator of strength, it is not necessarily directly proportional to market value or investor confidence.

4.3. The Simultaneous Effect of Profitability and Firm Size on Firm Value

Simultaneously, the regression model shows that profitability and firm size together have a significant effect on firm value, with an F-statistic value of 4.406984 and a significance value of $p = 0.018634$ ($p < 0.05$). The R-squared value of 0.180562 indicates that these two variables only explain about 18.06% of the variation in firm value, while the remainder is explained by other factors not included in this model (such as capital structure, credit quality, liquidity, governance, and market perception).

Although firm size is not individually significant, the overall significance of the model indicates an interaction between variables that is worth considering. The Durbin-Watson value of 1.967975 also confirms that this model is free from autocorrelation, so the regression results can be interpreted validly (Yuni K, K. C., Hidayat, N., & Musfiroh, A., 2025).

Theoretically, this result aligns with the Growth Theory by (Kor et al., 2016), which emphasizes that firm value is not only determined by asset growth, but also by how efficiently the company manages its resources to create sustainable added value. In this context, strengthening profitability is the main aspect that drives the resilience and growth of firm value, compared to mere expansion of business scale (Riyadi & Hadyarti, 2024).

4.4. Implications for Financial System Stability

These research results have important implications for the resilience of Indonesia's financial system (As, Fathor Fatmariyah et al., 2024). High profitability reflects the bank's financial health and its resilience in facing external pressures, thereby strengthening systemic stability. Therefore, financial authorities such as the Lembaga Penjamin Simpanan (LPS) and the Otoritas Jasa Keuangan (OJK) need to focus on policies that encourage operational efficiency and profitability management, through incentives and strict supervision of bank financial performance.

Conversely, the findings regarding the negative influence of business scale indicate that large banks are not always more fundamentally stable. Therefore, a differential supervisory approach based on business scale becomes important, especially in the context of mitigating systemic risk from large banks (too big to fail) (Rahman, H., Abidin, R. Z., & Hidayat, N., 2025).

5. Conclusion

Based on the results of the regression analysis and discussion that have been conducted, several main points can be concluded as follows: 1). Profitability has a positive and significant effect on bank firm value. This finding indicates that the higher the level of profitability (measured by Return on Assets/ROA), the greater the bank's firm value in the eyes of investors and the market. This supports Signaling Theory, where strong financial performance is considered a positive indicator of the company's prospects. High profitability reflects efficiency in asset and risk management, as well as strengthening the bank's competitiveness and resilience against external pressures. 2). Business scale does not significantly affect firm value. Although theoretically an increase in business scale should create efficiency, the research results show that firm size (viewed from total assets) tends not to provide a meaningful positive impact on firm value. In fact, there are indications of a negative relationship, which suggests the potential for diseconomies of scale due to bureaucracy and operational complexity in large-scale banks. 3). Simultaneously, profitability and firm size have a significant effect on firm value. Although the firm size variable is not individually significant, the overall analysis shows that these two variables jointly influence firm value, with a strong level of significance. This indicates an interaction between variables that deserves attention in the strategy for increasing bank firm

value.

5.1. Research implications

The implications for national financial system stability are quite significant. Profitability is proven to be an important indicator for financial system stability, as it reflects the health and resilience of financial institutions. Meanwhile, the large size of a bank does not guarantee stability, so supervision of large banks needs to be carried out more carefully to prevent systemic risk. Overall, the results of this study emphasize the importance of strategies to increase efficiency and profitability in strengthening bank firm value and maintaining national financial system stability (Fatmariyah et al., 2022,). Supervisory policies and internal bank management should focus more on the quality of growth, not solely on the expansion of business scale.

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THE IMPACT OF DIGITAL MANAGEMENT AND PRODUCT QUALITY ON THE COMPETITIVENESS OF MSMEs IN BOGOR CITY

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Abstract

Micro, Small, and Medium Enterprises (MSMEs) are a vital sector contributing significantly to Indonesia's economy, including Bogor City. However, increasing competition and evolving consumer behavior driven by technological change have compelled MSMEs to adapt by implementing digital management and improving product quality. This study aims to analyze the influence of digital management and product quality on the competitiveness of MSMEs in Bogor City. The research employs a descriptive-analytical approach through literature review and secondary data analysis. The findings indicate that digital management plays a crucial role in improving operational efficiency, expanding market reach, and strengthening market positioning. Meanwhile, product quality serves as a key factor in building customer trust and fostering market loyalty. The synergy between these two factors significantly contributes to enhancing MSME competitiveness. Therefore, MSMEs in Bogor City need to prioritize digital transformation while consistently maintaining product quality.

Keywords: Digital Management, Product Quality, Competitiveness, MSMEs, Bogor City

1. Introduction

The wave of digital transformation in Indonesia has become increasingly evident, particularly within the Micro, Small, and Medium Enterprise (MSME) sector. The COVID-19 pandemic in 2020 marked a critical turning point in business practices and consumer behavior. As economic activities slowed dramatically, MSME operators were forced to adapt quickly in order to survive. This crisis shifted perspectives and heightened awareness of the importance of digital technology for marketing, customer service, and business management. In Bogor City, thousands of MSMEs began transitioning to online platforms to promote their products, utilizing digital payment systems, and leveraging social media as a communication and promotional tool.

This shift illustrates that modern MSME competitiveness relies not only on the ability to adopt digital tools but also on the capability to deliver products that meet customer expectations. Digital management provides speed and reach, while product quality builds trust and long-term value. Together, they form a synergistic foundation for sustainable competitive advantage. Accordingly, this study investigates how digital management and product quality influence MSME competitiveness in Bogor City during the 2020–2025 period as a basis for developing adaptive, innovative, and future-oriented business strategies.

Between 2020 and 2025, the digital transformation of MSMEs in Indonesia entered a critical phase. The pandemic triggered massive behavioral changes, pushing MSMEs, as the backbone of the national economy, to adopt digital technologies to remain competitive (Ministry of Cooperatives and MSMEs, 2022). Bogor City, known for its culinary, fashion, and agribusiness sectors, experienced significant MSME growth. However, many MSMEs still face challenges related to digital adaptation, technology-based managerial practices, and maintaining consistent product quality.

Digital management within MSMEs refers not only to the use of social media or online marketplaces but also to the integration of technology into production, distribution, and customer service (Kotler & Keller, 2021). At the same time, product quality remains fundamental for achieving customer satisfaction and market loyalty. Consumers today expect products that are functional, innovative, and sustainable (Tjiptono, 2019).

Previous studies highlight that MSMEs combining strong digital management with

consistent product quality tend to achieve higher competitiveness (Raharjo, 2022; Sari & Nugroho, 2023). However, empirical studies specifically examining these relationships within the Bogor City context remain limited. This study therefore aims to fill this gap by analyzing the extent to which digital management and product quality affect MSME competitiveness in Bogor City.

According to the Bogor City Office of Cooperatives and MSMEs (2024), more than 28,000 MSMEs are actively operating, but only around 37% have optimally utilized digital platforms for marketing, distribution, and customer service. This reflects a substantial digital divide between traditional and technology-based MSMEs. Additionally, many existing studies analyze digital management and product quality separately but rarely explore their simultaneous effects. This research thus seeks to provide a comprehensive understanding of how both factors interact to enhance MSME competitiveness in Bogor City.

2. Literature Review

2.1. Digital Management

Digital management in MSMEs refers to the ability of business owners to utilize technology for operations, marketing, and customer service. Technology serves not only as a promotional tool but also as a means to improve data accuracy, business process efficiency, and decision-making effectiveness. Kotler and Keller (2021) highlight that digital adoption helps companies reach wider markets at lower costs and enhances customer interaction quality.

In the MSME context, digital management includes the use of social media, online marketplaces, digital financial applications, and customer management systems. Raharjo (2022) argues that these technological integrations strengthen organizational capabilities, particularly in operational efficiency and innovation.

2.2. Product Quality

Product quality is a fundamental determinant of customer trust and satisfaction. Garvin (1987) identifies several dimensions of product quality, such as durability, reliability, conformance, and aesthetics. For MSMEs, product quality is reflected not only in raw materials and production processes but also in consistency, packaging, and value delivery.

According to Tjiptono (2019), high-quality products foster positive brand perceptions, influencing customer loyalty. In competitive markets, only products that genuinely meet or exceed customer expectations can sustain long-term success.

2.3. MSME Competitiveness

MSME competitiveness refers to the ability of a business to survive, grow, and outperform competitors. Porter (1990) emphasizes that competitiveness depends on efficiency, innovation, and adaptability. In the digital age, competitiveness also includes technological adaptation, customer service, and responsiveness to market needs.

Sari and Nugroho (2023) note that MSMEs combining digital innovation with product strategies tend to achieve higher competitiveness.

Digital Capability and Resource-Based View (RBV)

Digital capability is the organization's ability to leverage technology to create value. In RBV theory, competitive advantage arises from unique, hard-to-imitate resources, such as technological expertise and innovation. Thus, digital management can be seen as a strategic capability that strengthens MSME competitiveness.

2.4. Conceptual Framework

The conceptual framework for this study is grounded in the Resource-Based View (RBV) and the theory of competitive advantage. RBV posits that firms achieve sustainable competitive advantage when they possess and effectively manage valuable, rare, inimitable, and non-substitutable resources. In the context of MSMEs, digital management capabilities and product quality represent strategic internal resources that can strengthen competitiveness.

Digital management reflects the ability of MSMEs to adopt, integrate, and utilize digital technologies in marketing, operations, and customer engagement. When effectively implemented, digital management enhances operational efficiency, supports data-driven decision-making, and expands market reach beyond geographical boundaries. These capabilities provide MSMEs with agility and responsiveness to dynamic market conditions.

Product quality represents another critical internal resource that directly influences customer satisfaction, trust, and repeat purchase behavior. High-quality products enhance customer perceptions of value and strengthen brand loyalty, thereby improving competitiveness in crowded markets. Consistent product standards also help MSMEs differentiate themselves from competitors and maintain long-term market relevance.

Based on existing theories and previous empirical studies, this conceptual framework assumes that both digital management and product quality exert direct, positive influences on MSME competitiveness. Individually, each variable contributes to strengthening MSMEs through distinct pathways—digital management by improving market reach and efficiency, and product quality by building customer trust and loyalty. When combined, the two factors are expected to reinforce each other, creating a synergistic effect that elevates overall competitiveness.

Accordingly, the hypotheses proposed in this study are as follows:

H1: Digital management has a positive and significant effect on the competitiveness of MSMEs in Bogor City.

H2: Product quality has a positive and significant effect on the competitiveness of MSMEs in Bogor City.

2.5. Narrative of the Conceptual Model

The conceptual model illustrates a direct causal relationship between two independent variables—Digital Management (X1) and Product Quality (X2)—and the dependent variable, MSME Competitiveness (Y). The model assumes:

- a. Digital Management (X1) → MSME Competitiveness (Y)
- b. Product Quality (X2) → MSME Competitiveness (Y)

Both variables are expected to independently and collectively enhance MSME competitiveness by improving efficiency, innovation capability, customer value, and sustainability.

3. Research Methods

3.1. Research Design

This study employs a quantitative approach using a survey method, aimed at understanding the influence of digital management, product quality, and MSME competitiveness in Bogor City. Data were collected through questionnaires distributed to MSME operators who are actively running their businesses within the city.

3.2. Instrument Validity and Reliability

To ensure that the questionnaire accurately measured the intended variables, a validity test was conducted. This test examined the relationship between each questionnaire item and the total score obtained from respondents. A strong correlation between the two indicates that the item effectively measures the corresponding variable, such as digital management, product quality, or MSME competitiveness.

In addition, a reliability test was performed using Cronbach's Alpha to assess the internal consistency of the measurement instrument. This test evaluates how consistently the questionnaire items produce similar results when administered repeatedly. A Cronbach's Alpha value greater than 0.70 indicates good reliability, demonstrating that the instrument used in this study is dependable.

3.3. Justification of Sample Size

The study involved 100 respondents selected through purposive sampling, which is a

technique used to select participants who meet specific criteria. In this case, the criteria included MSMEs that had been operating for at least three years, engaged in digital marketing activities, and consistently produced goods or services.

The determination of the sample size was also based on Slovin's formula, which helps calculate the number of respondents needed to obtain reliable results. Given the population of MSMEs in Bogor City—exceeding 28,000 units—and a desired margin of error of 5%, the appropriate sample size was around 100 respondents.

Additionally, for studies that employ analytical techniques such as Structural Equation Modeling (SEM), it is recommended that the minimum sample size be at least five times the number of indicators used. In this study, there are three main variables (digital management, product quality, and competitiveness), each measured by five indicators. Therefore, the total number of indicators is 15, meaning the ideal minimum sample size is approximately 75 respondents. With 100 respondents, the study meets and exceeds the required sample size, ensuring robust analysis and accurate results.

3.4. Research Findings

Table 1. Results of Multiple Linear Regression Analysis

Independent Variable	β Coefficient	t-value	Sig.	Description
Digital Management (X1)	0.435	3.512	0.001	Significant
Product Quality (X2)	0.297	2.949	0.004	Significant
Constant (α)	1.234	—	—	—
R² = 0.612	F = 24.892	Sig. F = 0.000		

Source: Processed primary data, 2025 Summary of Regression Results

- Digital Management (X1):
 $\beta = 0.435$, $t = 3.512$, Sig. = 0.001 (Significant)
- Product Quality (X2):
 $\beta = 0.297$, $t = 2.949$, Sig. = 0.004 (Significant)
- Constant (α): $\alpha = 1.234$
- Model Fit:
 $R^2 = 0.612$, $F = 24.892$, Sig. F = 0.000

4. Research Results

4.1. Results of Multiple Linear Regression Analysis

The results of the multiple linear regression analysis demonstrate that both digital management and product quality have a significant influence on the competitiveness of MSMEs in Bogor City. The summary of the regression results is presented in Table 1.

Table 1. Results of Multiple Linear Regression Analysis

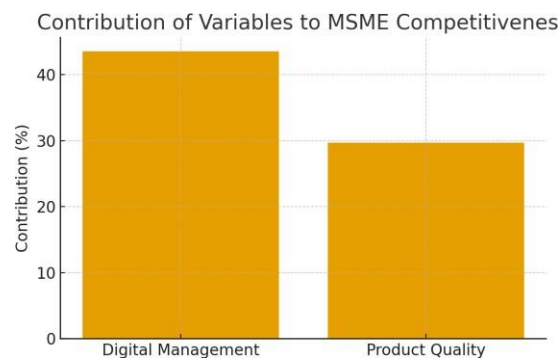
Independent Variable	β Coefficient	t-value	Sig.	Description
Digital Management (X1)	0.435	3.512	0.001	Significant
Product Quality (X2)	0.297	2.949	0.004	Significant
Constant (α)	1.234	—	—	—
R ²	0.612	—	—	—
F-value	24.892	—	0.000	Significant

Source: Processed primary data, 2025

The findings show that digital management has a positive and significant effect on MSME competitiveness, with a p-value of 0.001 (< 0.05). This indicates that the better the implementation of digital management practices, the higher the MSMEs' ability to compete in the market. Similarly, product quality also demonstrates a significant effect, with a p-value of 0.004, suggesting that improvements in product quality play an essential role in building customer loyalty and trust.

A bar chart illustrating the contribution of each variable shows that digital management contributes more strongly, 43.5% to MSME competitiveness, while product quality contributes 29.7%. These findings highlight the relatively stronger influence of digital management compared to product quality in enhancing competitiveness among MSMEs in Bogor City.

Figure 1. Contribution of Variables to MSME Competitiveness



- a. Digital Management (X_1): 43.5% contribution
- b. Product Quality (X_2): 29.7% contribution

Additionally, the R^2 value of 0.612 indicates that 61.2% of the variation in MSME competitiveness can be explained by the two independent variables included in the model. This demonstrates that both digital management and product quality collectively contribute substantially to improving MSME competitiveness in Bogor City.

4.2. Comparative Analysis with Previous Studies

The findings of this study are consistent with the results reported by Lestari (2021), who also found that digital management positively affects MSME competitiveness, primarily through operational efficiency and expanded market reach enabled by digitalization. The results also align with Rahayu (2022), who emphasized the importance of product quality in maintaining customer loyalty, which in turn enhances business competitiveness. Furthermore, the results reinforce Porter's (1990) theory of competitiveness, which highlights innovation and efficiency—achievable through digitalization and high product quality—as essential factors in determining a firm's competitive advantage.

Overall, the findings of this study not only support existing theories but also extend the understanding of how digital management and product quality work synergistically to strengthen MSME competitiveness, particularly within the local context of Bogor City.

5. Discussion

The findings of this study indicate that digital management has a stronger influence on MSME competitiveness compared to product quality. This relationship can be explained by linking the empirical results to Porter's (1990) theory of competitive advantage. Porter emphasizes that firms must develop sustainable advantages through innovation and efficiency, which are often achieved through the optimal utilization of technology and organizational resources. In the context of MSMEs, digital management provides opportunities to improve operational efficiency, expand market reach through digital platforms, and enhance the capacity for product and service innovation.

More specifically, the findings align with the concept of *digital capability*, which refers to an organization's ability to integrate and leverage digital technologies within its operations. Lestari (2021) states that MSMEs that successfully adopt digital technologies tend to be more efficient and more adaptable to market changes. In this study, the implementation of digital management among MSMEs in Bogor City has broadened their market reach, accelerated marketing processes, and enabled more effective customer relationship management, all of which directly strengthen their competitiveness.

The stronger influence of digital management relative to product quality is evident from the higher β coefficient for digital management (0.435) compared to product quality (0.297). One primary reason is that digitalization opens access to wider and more diverse marketing and distribution channels, allowing MSMEs to reach consumers across geographical boundaries. Digital marketing also enables MSMEs to monitor consumer behavior, quickly adjust their products, and provide more responsive customer service. Although product quality remains a crucial factor in building customer loyalty, in an increasingly digitalized environment, the ability to adapt rapidly through digital management often becomes more decisive in winning market competition.

The results also reveal that both digital management and product quality complement each other in shaping MSME competitiveness. Digital management provides efficiency and accessibility, while product quality builds consumer trust and satisfaction. The synergy between these two variables creates a stronger foundation for MSMEs to compete effectively in today's dynamic market environment.

5.1. Policy Implications for Local Government and MSME Associations

Based on the study's findings, several policy implications can be considered by the local government and MSME associations in Bogor City:

1. **Strengthening Digital Skills Training:**

The local government can enhance digital literacy programs for MSMEs, including training on the use of digital platforms for marketing, transactions, and customer data management. This would support MSMEs in achieving greater efficiency and overall competitiveness.

2. **Provision of Technology Access:**

The government may provide improved access to technology, such as subsidies for software, hardware, or digital tools that facilitate digital management adoption. Enhanced digital readiness can reduce operational costs and expand market reach for MSMEs.

3. **Empowerment of MSME Associations:**

MSME associations should implement programs that educate business owners on the importance of maintaining product quality while simultaneously leveraging digital technology. Collaboration between the associations and the government is essential to ensure a sustainable digital transformation.

4. **Tax Incentives for Digital MSMEs:**

Local authorities may consider providing tax incentives or subsidies for MSMEs that successfully integrate digital technologies into their operations, thereby encouraging greater investment in digital transformation.

A holistic approach that strengthens both digital capabilities and product quality will help foster more competitive and sustainable MSMEs in the digital era.

6. Conclusion

This study successfully identifies the influence of digital management and product quality on the competitiveness of MSMEs in Bogor City. The results show that digital management has a stronger impact on MSME competitiveness than product quality, as indicated by its higher β value (0.435) compared to product quality (0.297). This demonstrates

that in today's digital era, effective implementation of digital management has a more direct and significant effect on strengthening MSMEs' competitive position in the market.

The adoption of digital technologies offers several advantages for MSMEs, including expanded market reach, improved operational efficiency, and enhanced capacity for rapid innovation. Meanwhile, although product quality remains essential for building customer loyalty and brand reputation, the ability to manage and market products effectively through digital channels often becomes more critical in achieving competitive success.

The study also confirms that digital management and product quality work synergistically in enhancing MSME competitiveness. While digital management accelerates innovation and marketing processes, product quality forms a strong foundation for customer trust and loyalty.

6.1. Policy Implications

Based on these findings, several policy considerations can be recommended for the local government and MSME associations in Bogor City:

1. Digital Skills Training

Strengthening MSMEs' digital capabilities through structured training in digital platforms and information technology.

2. Technology Access Support

Providing subsidies for digital tools and technology-based training programs to accelerate digital transformation.

3. MSME Association Empowerment

Developing programs that simultaneously promote product quality improvement and the use of digital technology.

4. Incentive Policies

Implementing incentives for MSMEs that successfully adopt digital technologies in their operations.

Overall, supportive policies promoting digitalization and product quality enhancement will strengthen MSME competitiveness and contribute to sustainable local economic growth.

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ANALISIS PENGARUH *CAPITAL ADEQUACY RATIO* (CAR), *NON PERFORMING LOAN* (NPL), DAN *OPERATING COST ON OPERATING INCOME* (OCOI) TERHADAP KINERJA BANK STUDI KASUS PADA BANK PERSERO YANG TERDAFTAR DI BURSA EFEK INDONESIA PERIODE 2015-2022

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Abstract

The purpose of this research is to determine the effect of Capital Adequacy Ratio, Non-Performing Loans, and Operational Expenses on Operational Income on Bank Performance as proxied by Return On Assets. The bank used in this research is Bank Persero which is listed on the Indonesia Stock Exchange for the period 2015 to 2022. This research analysis uses the multiple linear regression method. From the results of testing the influence of each independent variable on the dependent variable using SPSS 29, it shows a significance value of t CAR of 0.003, NPL 0.124, and OCOI <0.001. From the significance value of t, it can be seen that CAR has a positive effect on ROA, NPL has no effect on ROA, and OCOI has a negative effect on ROA. The results of testing the influence of independent variables simultaneously on the dependent variable show a significance value of <0.001 so it can be concluded that CAR, NPL and OCOI simultaneously have an influence on ROA. And the results of testing the coefficient of determination show an Adjusted R Square value of 0.915, which means that CAR, NPL and OCOI influence the ROA value by 91.5%, while the remaining 8.5% is influenced by other variables outside this research model.

Keywords : CAR, NPL, OCOI, ROA, Bank Performance

1. Pendahuluan

Sebagai tulang punggung sistem keuangan, perbankan memainkan peran kunci dalam mengalokasikan sumber daya finansial untuk mendukung pertumbuhan ekonomi. Selain itu menurut Otoritas Jasa Keuangan, bank berperan penting dalam menjaga stabilitas keuangan suatu negara. Bank memastikan bahwa dana yang mereka kelola aman, dan mengambil langkah-langkah untuk mencegah kebangkrutan. Regulasi perbankan dan pengawasan dari pemerintah merupakan bagian penting dalam memastikan bahwa bank beroperasi dengan cara yang stabil dan aman.

Menurut Undang Undang RI Nomor 10 Tahun 1998 tentang Perbankan “Bank adalah badan usaha yang menghimpun dana dari masyarakat dalam bentuk simpanan dan menyalurkannya ke masyarakat dalam bentuk kredit atau dalam bentuk lainnya dalam rangka meningkatkan taraf hidup rakyat banyak”.

Mengumpulkan dana dari masyarakat dan menyediakan pinjaman kepada individu, perusahaan, dan pemerintah juga merupakan salah satu peran utama bank dalam pembangunan ekonomi. Bank membantu mengalirkan dana dari sektor yang memiliki kelebihan dana (tabungan) ke sektor yang membutuhkan dana (investasi). Proses ini membantu mendukung pertumbuhan ekonomi dengan memberikan sumber pendanaan untuk proyek-proyek produktif yang memungkinkan perluasan bisnis, penciptaan lapangan kerja, dan inovasi.

Sejak 2023, krisis perbankan terjadi di Amerika Serikat dan Eropa. Beberapa bank di Amerika Serikat dan Eropa seperti Silicon Valley Bank, Credit Suisse, dan First Republic Bank. Salah satu penyebab jatuhnya bank-bank tersebut adalah akibat gagal mendapatkan suntikan modal dan banyaknya penarikan dana yang dilakukan oleh nasabah dan investor. Meskipun tidak berhubungan langsung, namun krisis tersebut bisa saja mempengaruhi perbankan Indonesia. Misalnya adanya sentimen negatif dari masyarakat akibat krisis perbankan yang menyebabkan beberapa bank di Amerika Serikat dan Eropa jatuh tersebut.

Maka dari itu perbankan Indonesia harus selalu transparan mengenai laporan keuangan, agar masyarakat dapat percaya terhadap kinerja bank, dan tidak khawatir dengan dana yang dikelola oleh bank.

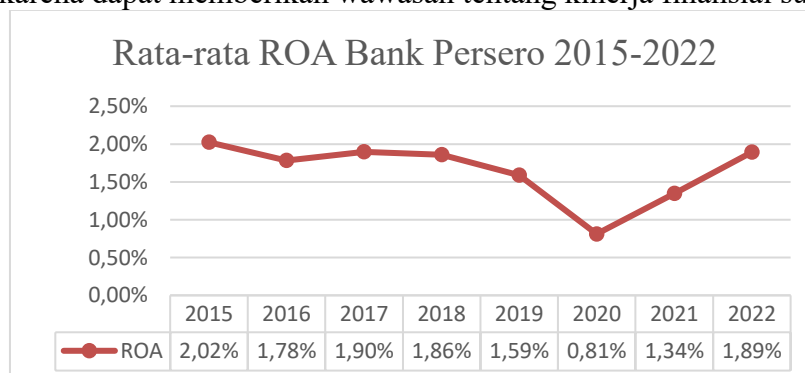
Mengingat besarnya pengaruh pada dunia ekonomi dan keuangan, sektor perbankan haruslah dapat memperhatikan kondisi keuangan yang dimiliki. Terdapatnya keterlibatan pengelolaan dana milik masyarakat yang kemudian disalurkan dalam bentuk berbagai investasi, seperti penyaluran kredit, pembelian surat-surat berharga, dan penanaman dana lainnya, menjadikan industri perbankan adalah suatu industri dengan risiko yang tinggi.

Sektor perbankan memiliki tanggung jawab besar untuk memberikan pelayanan keuangan yang berkualitas terhadap para nasabah dan masyarakat. Oleh karena itu, sektor perbankan juga harus menjadi sektor yang dapat dipercaya oleh nasabah yang ingin menyimpan dana atau mengajukan bantuan dana dari perbankan. (Yuliana & Listari, 2021).

Terdapat dua indikator yang sering digunakan untuk mengetahui bagaimana kinerja suatu bank, yaitu indikator pertama adalah *Return On Assets (ROA)*. Indikator ini yang menunjukkan persentase antara laba bersih dibandingkan dengan jumlah aktiva yang dimiliki perusahaan. Semakin tinggi nilai ROA, menggambarkan kecakapan perusahaan dalam mendayagunakan aset dengan baik untuk memperoleh keuntungan. Indikator yang kedua adalah *Return On Equity* atau disebut ROE, ROE didefinisikan sebagai rasio yang menggambarkan persentase antara pendapatan bersih dibandingkan dengan rata-rata modal atau investasi yang dimiliki bank (Arifin, 2009).

Hal yang melatarbelakangi dipilihnya *Return On Assets (ROA)* sebagai variabel terikat yaitu dikarenakan indikator ROA dapat digunakan sebagai alat ukur guna mengetahui tingkat efektivitas perusahaan dalam menggunakan aset yang dimiliki untuk menghasilkan *earnings*. ROA merupakan indikator yang menunjukkan persentase antara laba bersih terhadap jumlah aset yang dimiliki perusahaan, sehingga penggunaan indikator ROA memfokuskan kecakapan perusahaan untuk menghasilkan *earnings* dalam kegiatan operasional perusahaan. Meningkatnya nilai ROA, menunjukkan tingkat pengembalian atas aktiva yang dimiliki semakin besar sehingga menjelaskan semakin baiknya kinerja perusahaan (Dewi, 2017).

Kasmir (2019:203) mendefinisikan *Return on Assets (ROA)* sebagai indikator yang perusahaan gunakan untuk menggambarkan hasil dari total aset yang digunakan. ROA memperlihatkan gambaran mengenai seberapa baik perusahaan memanfaatkan asetnya dalam menghasilkan *earnings*. Rasio ini sangat penting bagi para investor, analisis keuangan, dan pemilik bisnis karena dapat memberikan wawasan tentang kinerja finansial suatu perusahaan.

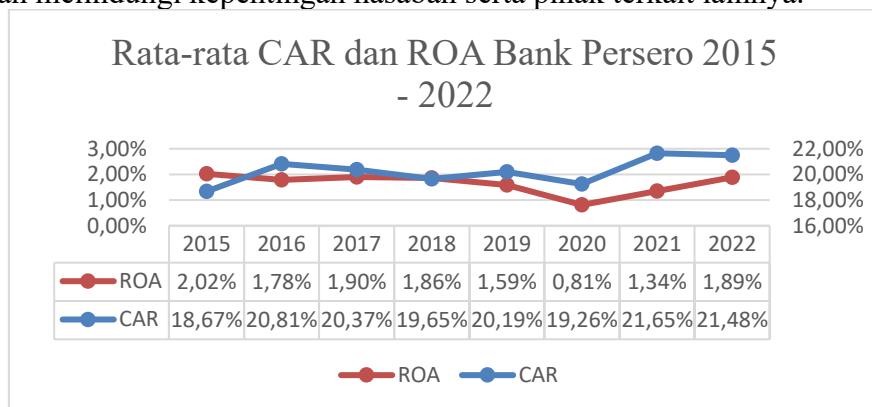


Sumber: “Laporan Keuangan Bank yang diolah”

Dapat dilihat dari gambar di atas, *Return on Assets* Bank Persero mengalami pertumbuhan negatif sebesar 0,24% dari tahun 2015 sampai dengan 2016. ROA meningkat di tahun 2017 dari tahun sebelumnya sebesar 0,12%, kemudian terjadi penurunan dari tahun 2017 sampai 2018 sebesar 0,04%. Terdapat penurunan sebesar 0,27% dari tahun 2018 sampai tahun 2019, kemudian pada 2020 kembali terjadi penurunan sebesar 0,78% dari tahun sebelumnya. Dimana penurunan ROA ini terjadi di saat sektor perbankan dihadapkan dengan pandemi

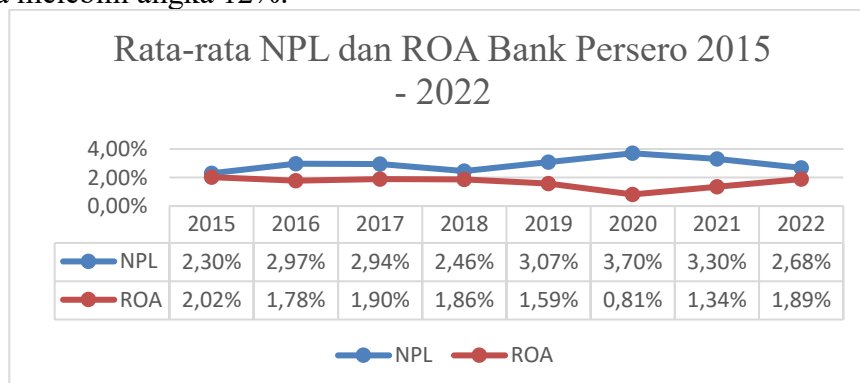
Covid-19. Pertumbuhan kembali mengalami peningkatan memasuki tahun 2021 sampai 2022. Terjadi peningkatan sebesar 0,53% di tahun 2021 dari tahun 2020, dan terus meningkat sampai 2022 sebesar 0,55%.

Variabel bebas atau disebut juga variabel stimulus yang dipilih dalam penelitian ini yang pertama adalah *Capital Adequacy Ratio* atau disebut juga dengan CAR. Hery (2019: 146), mendefinisikan *Capital Adequacy Ratio* sebagai alat ukur keuangan yang dipergunakan untuk menggambarkan kecukupan modal bank sebagai penunjang aset yang memuat atau menghasilkan risiko, seperti risiko operasional. *Capital Adequacy Ratio* memperlihatkan berapa besar bank memiliki risiko yang ikut dibiayai oleh dana masyarakat. Guna mengetahui nilai CAR dapat dilakukan dengan membandingkan total modal yang dimiliki perusahaan dengan ATMR (Aktiva Tertimbang Menurut Risiko). Meningkatnya nilai CAR, menunjukkan meningkatnya kecakapan bank untuk menanggung resiko dari setiap kredit/aktiva produktif yang beresiko. CAR juga menjadi faktor penting dalam menjaga stabilitas sistem perbankan dan melindungi kepentingan nasabah serta pihak terkait lainnya.



Sumber: Laporan Keuangan Bank yang diolah

Pada Gambar di atas, menunjukkan rasio *Capital Adequacy Ratio* mengalami fluktuasi setiap tahunnya. Pada 2016 terjadi peningkatan dari tahun sebelumnya sebesar 2,14%, dan mengalami penurunan di tahun 2017 dan 2018 berturut-turut sebesar 0,44% dan 0,72%. Di tahun 2019, terjadi peningkatan CAR sebesar 0,54% dari tahun 2018. Kemudian pada tahun 2020, terjadi penurunan pada rasio CAR sebesar 0,93%, dari tahun sebelumnya, dan kembali meningkat sebesar 2,39%. Peningkatan pada tahun 2021 merupakan fluktuasi terbesar CAR dalam 8 tahun terakhir. Kemudian pada 2022, CAR mengalami penurunan lagi sebesar 0,17%. Meskipun selalu terjadi fluktuasi, rata-rata CAR Bank Umum selalu dalam kriteria “sangat sehat” karena melebihi angka 12%.

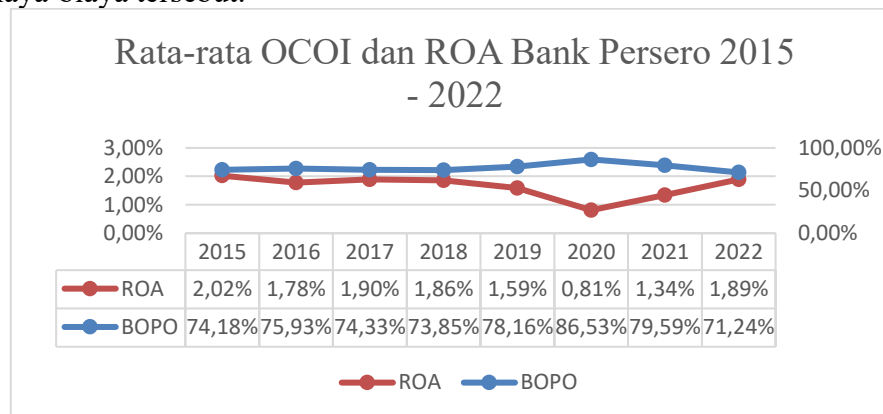


Sumber: Laporan Keuangan Bank yang diolah

Dilihat dari gambar di atas, terjadi peningkatan pada rasio *Non Performing Loan* Bank Persero dari tahun 2015 sampai tahun 2020. Terjadi peningkatan NPL sebesar 0,67% dari tahun 2015 sampai 2016. Kemudian di tahun 2017 dan 2018 terjadi penurunan sebesar 0,03% dan 0,48%. Pada 2019 terjadi kenaikan NPL sebesar 0,61% dari tahun 2018, dan terjadi peningkatan

sebesar 0,63% di tahun 2020. Adanya pandemi Covid-19 mengakibatkan kemampuan masyarakat dalam melunasi kreditnya melemah, sehingga jumlah kredit bermasalah meningkat. Kemudian mengalami penurunan NPL di tahun 2021 sebesar 0,40%, dan sebesar 0,38% di tahun 2022. Namun, meskipun dalam masa pandemi, tingkat NPL Bank Persero tetap dalam kriteria “Sehat” karena tidak melebihi angka 5%.

Variabel bebas ketiga yang dipilih pada penelitian ini adalah *Operating Cost on Operating Income* (OCOI). OCOI didefinisikan oleh Harmono (2018:120) sebagai indikator yang menggambarkan berapa nilai persentase antara beban operasional dengan pendapatan operasional suatu perusahaan yang terjadi dalam kurun waktu tertentu. Rasio OCOI memberikan gambaran tentang tingkat efisiensi bank dalam mengelola biaya operasionalnya. Rendahnya OCOI menggambarkan semakin efisien suatu bank dalam mengelola biaya operasionalnya, karena lebih sedikit persentase pendapatan operasional yang digunakan untuk menutupi biaya-biaya tersebut.



Sumber: “Laporan Keuangan Bank yang diolah”

Pada grafik di atas, terjadi peningkatan rasio OCOI Bank Persero dari tahun 2015-2020. Terjadi peningkatan nilai OCOI di tahun 2016 sebesar 1,75% dan penurunan di tahun 2017 dan 2018 sebesar 1,60% dan 0,48%. Pada 2019, OCOI meningkat dari tahun 2018 sebesar 4,31% dan meningkat lagi di tahun 2022 sebesar 8,37%. Kemudian pada 2021 dan 2022 OCOI mengalami penurunan. Penurunan sebesar 6,94% terjadi di tahun 2021 dan kembali menurun sebesar 8,35% terjadi di tahun 2022.

2. TINJAUAN PUSTAKA

2.1. Kesehatan Bank

Kesehatan bank menjadi kepentingan semua pihak (stakeholders) yaitu pemilik bank, manajemen bank, masyarakat sebagai pengguna jasa bank dan pemerintah sebagai regulator. Bank yang sehat adalah bank yang dapat menjalankan fungsi-fungsinya dengan baik seperti dapat menjaga kepercayaan masyarakat, dapat menjalankan fungsi intermediasi, dapat membantu kelancaran lalu lintas pembayaran, serta dapat melaksanakan kebijakan moneter (Irawati, 2016).

2.2. Laporan Keuangan

Dalam Pernyataan Standar Akuntansi Keuangan No. 1 laporan keuangan didefinisikan sebagai suatu penyajian terstruktur atas posisi keuangan dan kinerja keuangan suatu entitas. Kasmir (2019) mendefinisikan laporan keuangan sebagai laporan yang menjelaskan posisi keuangan suatu perusahaan/perorangan pada periode tersebut pada waktu tertentu.

Laporan keuangan dijelaskan oleh Sujarweni (2019) sebagai usaha guna menganalisis kondisi keuangan suatu perusahaan, kinerja masa lalu, dan ekspektasi masa mendatang untuk mengetahui kinerja entitas hingga saat ini dan memprediksin kinerja pada waktu ke depan.

2.3. Return on Asset

Kasmir (2018) menyatakan bahwa *Return on Assets* (ROA) digunakan sebagai indikator

yang menggambarkan besarnya pengembalian investasi. *Return on Assets* digunakan sebagai indikator yang membandingkan jumlah laba bersih dengan total aset, sehingga penggunaan rasio ROA memfokuskan pada kecakapan bank untuk menghasilkan *earnings* dalam operasional perusahaan. Tingginya nilai ROA memperlihatkan tingkat pengembalian yang semakin tinggi, sehingga kinerja perusahaan juga semakin baik, (Dewi, 2017).

2.4. Capital Adequacy Ratio

Rasio CAR adalah indikator yang mengukur persentase antara modal dengan ATMR. Modal yang memuat modal inti (tier 1) dan modal pelengkap (tier 2). Jilo (2017) menjelaskan bahwa *Risk Weighted Asset* atau Aktiva Tertimbang Menurut Risiko didefinisikan sebagai aset yang memuat bobot risiko paling besar adalah kredit, penyaluran kredit merupakan penyumbang pendapatan terbesar bagi perbankan. ATMR adalah penjumlahan aset-aset dalam neraca yang ditimbang sesuai ketentuan sesuai dengan tingkat risiko yang terkait pada masing-masing pos aset (Otoritas Jasa Keuangan, 2019).

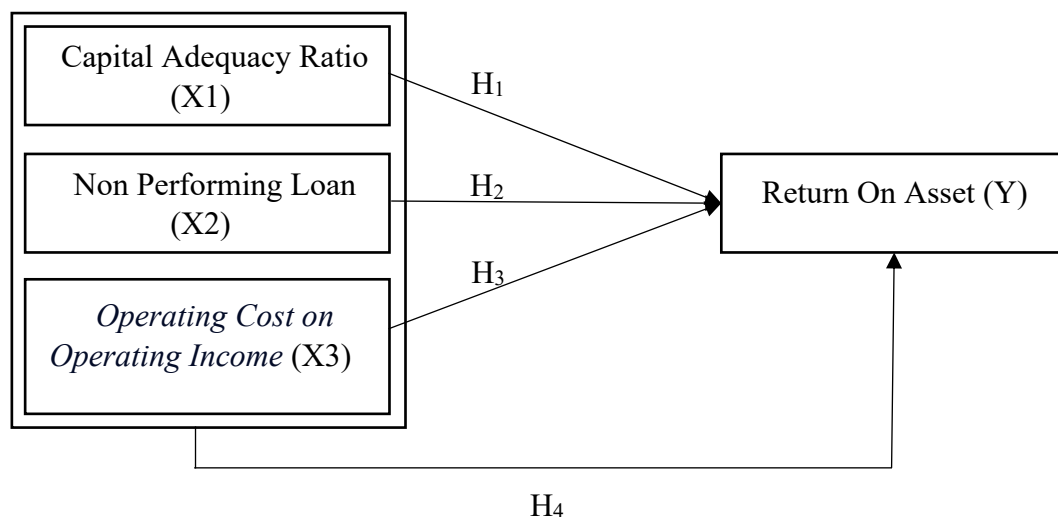
2.5. Non Performing Loan

Non Performing Loan digunakan sebagai alat ukur guna membandingkan jumlah kredit bermasalah dengan jumlah kredit yang disalurkan bank. Indikator ini berperan dalam memperlihatkan bagaimana kredit bermasalah dikelola oleh bank. Meningkatnya jumlah kredit yang bermasalah pada suatu bank, menyebabkan tingginya nilai NPL, sehingga kualitas kredit pada bank tersebut memburuk. Hal ini dapat mengakibatkan semakin besar kemungkinan suatu bank mengalami krisis keuangan (Lestari & Setianegara, 2020)

2.6. Operating Cost on Operating Income

Malayu S.P.H (2017) mendefinisikan rasio *Operating Cost on Operating Income* (OCOI) sebagai indikator yang mengukur persentase antara biaya operasional dibandingkan dengan pendapatan operasional dalam suatu periode. Selain berperan sebagai alat ukur tingkat efisiensi, indikator OCOI juga menunjukkan kecakapan bank dalam menjalankan operasional perusahaannya. Menghimpun dan menyalurkan dana masyarakat merupakan salah satu kegiatan utama bank sebagai lembaga perantara, sehingga biaya bunga dan hasil bunga mendominasi biaya dan pendapatan operasional bank (Syakhrun, dkk., 2019)

2.7. Kerangka Konseptual



3. Metodologi Penelitian

Dalam penelitian ini, penulis menggunakan jenis penelitian kuantitatif. (Sugiyono, 2018) mendefinisikan data kuantitatif sebagai penelitian yang dilakukan berdasarkan pada data konkret, yang mana statistik digunakan sebagai alat uji penghitungan, menggunakan data penelitian yang berupa angka-angka, berkaitan dengan masalah yang dipelajari dan diteliti untuk mendapatkan kesimpulan.

Penelitian ini termasuk dalam jenis penelitian korelasional. Objek yang digunakan dalam penelitian ini adalah data CAR, NPL, OCOI dan ROA periode 2015-2022 dan yang dijadikan subjek dalam penelitian ini ialah Bank Persero yang terdaftar di Bursa Efek Indonesia. Teknik *purposive sampling* adalah teknik penarikan sampel yang digunakan dalam penelitian ini. Sesuai dengan tujuan penelitian, penarikan sampel dilakukan berdasarkan pada suatu karakteristik tertentu sehingga digunakan teknik penarikan sample *purposive sampling*.

Berikut kriteria yang ditetapkan dalam pemilihan sampel :

- a. Perusahaan perbankan yang terdaftar di Bursa Efek Indonesia terhitung sejak tahun 2015 sampai dengan tahun 2022; dan
- b. Perusahaan perbankan yang merupakan Bank Persero.

Empat perusahaan perbankan yang dijadikan sebagai sampel dalam penelitian ini berlandaskan kriteria penarikan sampel yang disebutkan di atas, yaitu PT Bank Rakyat Indonesia (Persero) Tbk (BRI), PT Bank Negara Indonesia (Persero) Tbk (BNI), PT Bank Tabungan Negara (Persero) Tbk (BTN), dan PT Bank Mandiri (Persero) Tbk.

Metode pengumpulan data yang digunakan dalam penelitian ini adalah metode dokumentasi. Sugiyono (2015) mendefinisikan dokumentasi sebagai suatu cara mendapatkan data dan informasi seperti laporan serta keterangan yang dapat menunjang penelitian dalam bentuk tulisan angka, arsip, buku, dokumen, dan gambar. Data yang telah didapatkan kemudian diteliti dan ditelaah.

4. Hasil Dan Pembahasan

4.1. Hasil Analisis Deskriptif

Hasil analisis deskriptif adalah hasil analisis data yang menggunakan statistik untuk menggambarkan dan mendeskripsikan data-data yang telah dikumpulkan sesuai dengan sebenarnya untuk mendapatkan gambaran mengenai masalah yang terjadi di antaranya dalam bentuk tabel, grafik, diagram, dan lain sebagainya.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CAR	32	16.97	27.16	20.2606	2.21462
NPL	32	1.87	4.78	2.9294	.74836
OCOI	32	62.34	98.13	76.7259	8.70045
ROA	32	.07	2.89	1.6494	.73777
Valid N (listwise)	32				

Berdasarkan output program SPSS 29 pada tabe ldi atas, dapat diketahui hasil sebagai berikut.

1. Return On Asset (ROA)

Dapat dilihat nilai minimum variabel ROA terjadi pada Bank BTN di tahun 2017 dengan nilai sebesar 0,07% dan nilai maksimum terjadi pada Bank BRI di tahun 2015 sebesar 2,87%. Nilai rata-rata (mean) sebesar 1,6494 dan nilai standar deviasi sebesar 0,73777, hasil tersebut menunjukkan penyebaran data dikategorikan normal karena nilai mean lebih besar dari standar deviasi.

2. Capital Adequacy Ratio (CAR)

Dapat dilihat nilai minimum variabel CAR terjadi pada Bank BTN di tahun 2015 sebesar 16,97% dan nilai maksimum sebesar 27,16 yang terjadi pada Bank BRI di tahun 2021. Nilai rata-rata (mean) sebesar 20,2606 dan nilai standar deviasi sebesar 2,21465, hasil tersebut menunjukkan penyebaran data dikategorikan normal karena nilai mean lebih besar dari standar

deviasi.

3. *Non Performing Loan (NPL)*

Dapat dilihat nilai minimum variabel NPL sebesar 1,87% yang terjadi pada Bank Mandiri di tahun 2022 dan nilai maksimum terjadi pada Bank BTN di tahun 2020 sebesar 4,78%. Nilai rata-rata (mean) sebesar 2.9294 dan nilai standar deviasi sebesar 0,74836, hasil tersebut menunjukkan penyebaran data dikategorikan normal karena nilai mean lebih besar dari standar deviasi.

4. *Operating Cost on Operating Income (OCOI)*

Variabel OCOI menunjukkan nilai minimum sebesar 62,34% yang terjadi pada Bank Mandiri di tahun 2022 dan nilai maksimum sebesar 98,13 yang terjadi pada Bank BTN di tahun 2019. Nilai rata-rata (mean) sebesar 76,7259 dan nilai standar deviasi sebesar 8,70045, hasil tersebut menunjukkan penyebaran data dikategorikan normal karena nilai mean lebih besar dari standar deviasi.

Perhitungan nilai standar deviasi adalah untuk mengukur seberapa jauh kemungkinan nilai yang diperoleh menyimpang dari nilai yang diharapkan. Semakin besar kemungkinan nilai riil menyimpang dari yang diharapkan jika nilai standar deviasi semakin besar. Jika nilai rata-rata atau mean lebih kecil dari nilai standar deviasi, maka terdapat outlier (data yang terlalu ekstrim) pada data.

Dari hasil pengujian menggunakan SPSS pada tabel menunjukkan bahwa data variabel CAR, NPL, OCOI, dan ROA menunjukkan hasil yang baik karena standar deviasi data menunjukkan bahwa penyimpangan dari data variabel tersebut lebih kecil dari nilai rata-ratanya.

4.2. *Hasil Pengujian Data*

4.2.1. *Uji Normalitas*

Uji normalitas data dilakukan guna menguji apakah data yang digunakan dalam penelitian ini berdistribusi normal atau tidak. Uji ini dilakukan dengan melihat perbandingan antara profitabilitas yang diperoleh dengan taraf signifikansi atau alpha α sebesar 5%. Jika diperoleh nilai signifikansi lebih dari 5% (0,05), dapat diketahui data tersebut berdistribusi normal. Jika hasil menunjukkan nilai signifikansi kurang dari 5% (0,05), dapat diketahui data tidak berdistribusi dengan normal.

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		32
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	20.47643977
Most Extreme Differences	Absolute	.077
	Positive	.077
	Negative	-.073
Test Statistic		.077
Asymp. Sig. (2-tailed) ^c		.200 ^d
Monte Carlo Sig. (2-tailed) ^e	Sig.	.903
	99% Confidence Lower Bound	.896
	Interval Upper Bound	.911

Sumber: Data yang diolah SPSS 29

Berdasarkan output pengujian melalui SPSS, pada tabel dapat dilihat bahwa hasil dari uji *Kolmogorov Smirnov* diperoleh nilai *Asymp. Sig. (2-tailed)* sebesar 0,200 yang mana nilai tersebut lebih dari 5% (0,05). Berdasarkan hasil uji tersebut dapat diketahui bahwa data yang digunakan dalam penelitian ini berdistribusi normal.

4.2.2. Uji Multikolinearitas

Uji multikolinearitas dilakukan untuk menemukan terdapatnya korelasi yang tinggi atau sempurna antara variabel bebas dalam suatu model regresi.

Coefficients ^a			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	CAR	.772	1.295
	NPL	.332	3.009
	OCOI	.285	3.503
a. Dependent Variable: ROA			

Sumber: Data yang diolah SPSS 29

Berdasarkan hasil pengujian SPSS, pada tabel nilai *tolerance* dari ketiga variabel independen menunjukkan bahwa nilai tersebut di atas 0,1 dan nilai VIF menunjukkan nilai kurang dari 10. Sehingga dari hasil pengujian tersebut dapat disimpulkan bahwa antar variabel stimulus yang digunakan dalam penelitian ini tidak terjadi multikolinearitas.

4.2.3. Uji Autokorelasi

Uji autokorelasi dilakukan guna mencari tahu apakah pada periode *t* dengan kesalahan pada periode *t-1* (sebelumnya) dalam suatu model regresi linear terdapat korelasi residual atau tidak maka dilakukan uji autokorelasi.

Model Summary ^b					
Model	R	R Square	Adjusted Square	Std. Error of the Estimate	Durbin-Watson
1	.905 ^a	.820	.800	.33433	1.875
a. Predictors: (Constant), LN_X3, LN_X1, LN_X2					
b. Dependent Variable: LN_Y					

Sumber: Data yang diolah SPSS 29

Dari hasil pengujian menggunakan SPSS pada tabel di atas dapat dilihat bahwa nilai Durbin Watson (DW) pada data adalah sebesar 1,875. Sampel yang digunakan berjumlah 32 (*n*) dan jumlah variabel independen berjumlah 3 (*k*), dapat diketahui nilai $DL = 1,2437$, $DU = 1,6505$, dan nilai $4-DU = 2,3495$. Kriteria tidak terjadinya autokorelasi yaitu jika nilai DW lebih besar dari DU dan lebih kecil dari 4-DU ($DU < D < 4-DU$). Berikut hasil pengujian Durbin Watson.

$$DU = 1,6505 < DW = 1,875 < 4-DU = 2,3495$$

Hasil tersebut menunjukkan bahwa nilai DW lebih besar dari pada DU dan DW lebih kecil dari pada 4-DU sehingga dapat diketahui bahwa tidak terjadi autokorelasi dalam penelitian ini.

4.2.4. Uji Heteroskedastisitas

Uji heteroskedastisitas dilakukan untuk mengetahui apakah terdapat ketidaksamaan *variance* dari residual dalam model regresi maka dilakukan uji heteroskedastisitas. Pada penelitian ini, uji park adalah uji yang digunakan untuk melakukan uji heteroskedastisitas. Dikatakan tidak terjadi heteroskedastisitas jika hasil menunjukkan nilai signifikansi $>0,05$.

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	6.958	7.562		.920
	CAR	.001	.002	.144	.478
	NPL	-.002	.009	-.070	.820
	OCOI	-.001	.001	-.231	.489
a. Dependent Variable: LN_RES					

Sumber: Data yang diolah SPSS 29

Pada hasil uji menggunakan SPSS di atas, diketahui nilai signifikansi variabel stimulus yaitu CAR sebesar 0,478, NPL sebesar 0,820, dan OCOI sebesar 0,489 menunjukkan nilai tersebut lebih dari 0,05. Dari hasil tersebut dapat diketahui bahwa dalam penelitian ini tidak terjadi heteroskedastisitas.

4.3. Hasil Analisis Regresi Linear Berganda

Untuk mengetahui keeratan hubungan antar variabel independen terhadap variabel dependen, maka dilakukan uji regresi linear berganda. Berikut hasil uji regresi linear berganda menggunakan SPSS.

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	559.816	73.729		7.593
	CAR	.065	.020	.196	3.286
	NPL	-.142	.090	-.144	-1.585
	OCOI	-.063	.008	-.746	-7.603
a. Dependent Variable: ROA					

Sumber: Data yang diolah SPSS 29

Berdasarkan tabel di atas, persamaan regresi linear berganda adalah sebagai berikut .

$$Y = 559,816 + 0,065 X_1 - 0,142 X_2 - 0,063 X_3 + e$$

Keterangan :

- Y = ROA
X₁ = CAR
X₂ = NPL
X₃ = OCOI

Dari persamaan linear berganda di atas, dapat dijabarkan sebagai berikut.

- Nilai konstanta sebesar 559,816 menunjukkan konstanta dari ROA (Y) dengan asumsi jika variabel *Capital Adequacy Ratio* (X₁), *Non Performing Loan* (X₂) dan *Operating Cost on Operating Income* (X₃) sama dengan nol atau konstan maka nilai *Return on Asset* (Y) mengalami kecenderungan menaik sebesar 559,816.
- Koefisien regresi *Capital Adequacy Ratio* (X₁) sebesar 0,065 menyatakan bahwa setiap peningkatan nilai *Capital Adequacy Ratio* sebesar 1 satuan berdampak pada *Return on Asset*

yang meningkat sebesar 559,881 dengan anggapan bahwa variabel lain, yaitu *Non Performing Loan* (X2) dan *Operating Cost on Operating Income* (X3) tidak dianggap ada. Terdapatnya hubungan yang positif ini, menjelaskan bahwa antara *Capital Adequacy Ratio* dengan *Return on Asset* menunjukkan hubungan yang searah.

- c. Koefisien regresi *Non Performing Loan* (X2) sebesar 0,142 menyatakan bahwa setiap peningkatan nilai *Non Performing Loan* sebesar 1 satuan menyebabkan *Return on Asset* mengalami penurunan sebesar 559,647 dengan anggapan bahwa variabel lain, yaitu *Capital Adequacy Ratio* (X1) dan *Operating Cost on Operating Income* (X3) dianggap tidak ada. Adanya hubungan yang negatif ini, berarti bahwa antara *Non Performing Loan* dengan *Return on Asset* menunjukkan hubungan yang tidak searah.
- d. Koefisien regresi *Operating Cost on Operating Income* (X3) sebesar 0,063 menjelaskan bahwa setiap peningkatan *Operating Cost on Operating Income* sebesar 1 satuan, berdampak pada penurunan *Return on Asset* sebesar 559,753 dengan anggapan bahwa variabel lain, yaitu *Capital Adequacy Ratio* (X1) dan *Non Performing Loan* (X2) dianggap tidak ada. Terdapatnya hubungan yang negatif ini, berarti bahwa antara *Operating Cost on Operating Income* dengan *Return on Asset* terdapat hubungan yang tidak searah.

4.4. Hasil Pengujian Hipotesis

4.4.1. Uji T (Uji Signifikan Parsial)

Uji T atau uji signifikansi individual dilakukan untuk mengetahui bagaimana pengaruh masing-masing variabel bebas yaitu CAR, NPL, dan OCOI terhadap variabel terikat yaitu kinerja bank (ROA). Berikut hasil pengujian uji T dapat dilihat pada tabel berikut.

Coefficients ^a					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	559.816	73.729		7.593	<,001
CAR	.065	.020	.196	3.286	.003
NPL	-.142	.090	-.144	-1.585	.124
OCOI	-.063	.008	-.746	-7.603	<,001

a. Dependent Variable: ROA

Sumber : Data yang diolah SPSS 29

Berdasarkan tabel dari hasil perhitungan SPSS dalam tabel di atas, dapat diketahui bahwa nilai signifikansi masing-masing variabel stimulus adalah sebagai berikut :

- a. CAR memiliki nilai signifikansi kurang dari 0,05 yaitu sebesar 0,003, dan nilai t menunjukkan nilai positif yaitu 3,286, maka diketahui $t \text{ hitung } 3,286 > T \text{ tabel } 1,70113$, sehingga dalam penelitian ini CAR berpengaruh positif terhadap variabel dependen yaitu ROA.
- b. NPL memiliki nilai signifikansi lebih dari 0,05 yaitu sebesar 0,124, dan nilai t menunjukkan nilai negatif yaitu -1,585, maka diketahui $t \text{ hitung } 1,585 < T \text{ tabel } 1,70113$, sehingga dalam penelitian ini NPL tidak berpengaruh terhadap variabel dependen yaitu ROA.
- c. OCOI memiliki nilai signifikansi kurang dari 0,05 yaitu sebesar <0,001, dan nilai t menunjukkan nilai negatif yaitu -7,603, maka diketahui $t \text{ hitung } 7,603 > T \text{ tabel } 1,70113$, sehingga dalam penelitian ini OCOI tidak berpengaruh terhadap variabel dependen yaitu ROA.

4.4.2. Uji F (Uji Signifikan Simultan)

Uji F atau uji simultan dilakukan untuk mengetahui dampak yang ditimbulkan oleh variabel stimulus secara bersamaan terhadap variabel konsekuen.

ANOVA ^a					
Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	155738.053	3	51912.684	111.831	<,001 ^b
Residual	12997.822	28	464.208		
Total	168735.875	31			
a. Dependent Variable: ROA					
b. Predictors: (Constant), OCOI, CAR, NPL					

Sumber: Data yang diolah SPSS 29

Berdasarkan hasil pengujian menggunakan SPSS dalam tabel di atas, dapat diketahui bahwa nilai signifikansi F adalah sebesar <0,001^b yang berarti variabel independen memberikan pengaruh terhadap variabel dependen.

4.4.3. Uji Koefisien Determinan (R²)

Uji terhadap nilai koefisien determinasi (R²) ini bertujuan untuk memprediksi dan mengetahui bagaimana kontribusi pengaruh variabel stimulus secara simultan terhadap variabel konsekuen.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.961 ^a	.923	.915	21.54549
a. Predictors: (Constant), OCOI, CAR, NPL				

Sumber: Data yang diolah SPSS 29

Pada tabel di atas dapat diketahui hasil uji menunjukkan nilai Adjusted R Square sebesar 0,915, maka memiliki arti bahwa variabel CAR, NPL, dan OCOI memberikan sumbangan pengaruh secara bersama-sama sebesar 91,5% terhadap variabel ROA dan sisanya 8,5% dipengaruhi oleh variabel lain di luar penelitian ini. Hasil pengujian ini mendekati angka satu, artinya variabel terikat dapat menjelaskan variabel terikat dengan baik.

4.5. Pembahasan

4.5.1. Pengaruh Capital Adequacy Ratio (CAR) terhadap Kinerja (Return on Assets)

Hipotesis pertama dalam penelitian ini yaitu apakah CAR berpengaruh terhadap kinerja keuangan (ROA). Hasil uji pengaruh masing-masing variabel stimulus terhadap variabel konsekuen menggunakan SPSS menunjukkan bahwa CAR memiliki nilai signifikansi kurang dari 0,05 yaitu sebesar 0,003 dan nilai t menunjukkan nilai positif yaitu 3,286, sehingga dapat diketahui bahwa variabel CAR berpengaruh positif terhadap ROA. CAR adalah rasio yang digunakan untuk mengukur perbandingan antara modal dengan aset berisiko atau disebut Aktiva Tertimbang Menurut Risiko (ATMR). Dari hasil pengujian dapat diketahui CAR berpengaruh positif terhadap ROA, yang menjelaskan bahwa meningkatnya kecukupan modal suatu bank, berdampak pada peningkatan nilai ROA bank tersebut. Hal tersebut dikarenakan bank mampu untuk menutup risiko-risikonya yang mungkin akan dihadapi oleh bank di masa yang akan datang menggunakan modal yang dimiliki. Maka semakin meningkatnya kualitas

dan kuantitas bank, semakin meningkat pula kemampuan bank dalam menyerap risiko, sehingga dengan berkurangnya risiko ini, maka kinerja bank akan semakin meningkat. Hasil pengujian tersebut sejalan dengan penelitian Amir Triyadi S (2021), Aminah Fitriyeska P (2021), dan Syinta J, Panji Dewa J. R, Faiz Irsyad P, & Erry R (2018) yang menunjukkan bahwa CAR berpengaruh positif terhadap ROA.

4.5.2. Pengaruh *Non Performing Loan (NPL)* terhadap Kinerja (*Return of Assets*)

Hipotesis kedua dalam penelitian ini yaitu apakah NPL berpengaruh terhadap kinerja keuangan (ROA). Hasil uji pengaruh masing-masing variabel stimulus terhadap variabel konsekuen menggunakan SPSS menunjukkan bahwa NPL memiliki nilai signifikansi lebih dari 0,05 yaitu sebesar 0,12, sehingga dapat diketahui bahwa variabel NPL tidak berpengaruh terhadap ROA. *Non Performing Loan* yaitu rasio yang menunjukkan perbandingan antara jumlah kredit bermasalah yaitu dalam kondisi kurang lancar, diragukan, dan macet dengan jumlah kredit yang disalurkan oleh bank. Pada tabel di bawah, menunjukkan bahwa nilai rata-rata NPL Bank Persero periode tahun 2015 sampai 2022 dalam kriteria “sehat” karena berada di kisaran 2% sampai dengan 5%. Dari hasil pengujian dapat diketahui bahwa NPL tidak berpengaruh terhadap ROA, hal tersebut dikarenakan NPL pada Bank Persero selama periode 2015 sampai dengan 2022 dalam kondisi sehat. NPL yang sehat tersebut menunjukkan bahwa tingkat kredit bermasalah yang dimiliki bank berjumlah sedikit. Hal tersebutlah yang menyebabkan NPL tidak memberikan pengaruh kepada ROA. Hasil penelitian ini sejalan dengan hasil penelitian oleh M. Budi Rifansa dan Nur Aisyah F. P (2022) dan hasil penelitian oleh Rita A dan Puji M (2020) yang menunjukkan bahwa NPL tidak berpengaruh terhadap ROA.

4.5.3. Pengaruh *Operating Cost on Operating Income (OCOI)* terhadap Kinerja (*Return of Assets*)

Hipotesis ketiga dalam penelitian ini yaitu apakah OCOI berpengaruh terhadap kinerja keuangan (ROA). Hasil uji pengaruh masing-masing variabel stimulus terhadap variabel konsekuen menggunakan SPSS menunjukkan bahwa CAR memiliki nilai signifikansi kurang dari 0,05 yaitu sebesar $<0,001$ dan nilai t menunjukkan nilai negatif yaitu -7.603, sehingga dapat disimpulkan bahwa variabel OCOI berpengaruh negatif terhadap ROA. Berdasarkan data yang diperoleh dari laporan keuangan pada Bank BRI, BNI, BTN, dan Mandiri, rata-rata nilai OCOI keempat bank tersebut pada periode tahun 2015 sampai dengan 2022 menunjukkan bahwa Bank BRI, BNI, dan Bank Mandiri memiliki rata-rata nilai OCOI yang sangat sehat yaitu kurang dari 83%. Sedangkan nilai OCOI Bank BTN dalam kondisi kurang sehat yaitu lebih dari 87% dan kurang dari 89%. Hasil penelitian ini sejalan dengan hasil penelitian oleh Intan Rika Yuliana dan Sinta Listari (2021) dan hasil penelitian oleh Muhammad Syakhrun dkk (2019) yang menunjukkan bahwa OCOI berpengaruh negatif terhadap ROA.

4.5.4. Pengaruh CAR, NPL, dan OCOI terhadap Kinerja Bank (*Return of Assets*)

Hipotesis terakhir dalam penelitian ini adalah apakah CAR, NPL, dan OCOI berpengaruh terhadap kinerja keuangan (ROA). Hasil pengujian pengaruh variabel stimulus secara bersamaan terhadap variabel konsekuen menggunakan SPSS menunjukkan bahwa variabel dependen yaitu CAR, NPL, dan OCOI memiliki nilai signifikansi kurang dari 0,05 yaitu sebesar $<0,001$ sehingga dapat diketahui bahwa variabel CAR, NPL, dan OCOI secara bersamaan berpengaruh terhadap ROA. Hasil pengujian koefisien determinan menunjukkan bahwa nilai *Adjusted R Square* sebesar 0,915, maka memiliki arti bahwa variabel CAR, NPL, dan OCOI memberikan sumbangan pengaruh secara bersama-sama sebesar 91,5% kepada variabel ROA dan sisanya 8,5% dipengaruhi oleh variabel lain di luar penelitian ini. Hasil pengujian ini mendekati angka satu, artinya variabel stimulus yang digunakan yaitu CAR, NPL dan OCOI dapat menjelaskan variabel konsekuen yaitu kinerja bank yang diproksikan dengan ROA dengan baik.

5. Penutup

Berdasarkan hasil analisis data dan pembahasan yang telah ditemukan Hasil Pengujian dan Pembahasan, maka dapat ditarik kesimpulan bahwa :

1. Variabel *Capital Adequacy Ratio* berpengaruh positif terhadap kinerja bank (ROA). Artinya jika nilai *Capital Adequacy Ratio* suatu bank meningkat, maka akan diikuti dengan peningkatan nilai ROA.
2. Variabel *Non Performing Loan* tidak berpengaruh terhadap kinerja bank (ROA). Artinya, jika terjadi peningkatan maupun penurunan nilai NPL tidak akan mempengaruhi terhadap peningkatan dan penurunan nilai ROA.
3. Variabel *Operating Cost on Operating Income* berpengaruh negatif terhadap kinerja bank (ROA). Artinya jika nilai *Operating Cost on Operating Income* suatu bank meningkat, maka akan diikuti dengan penurunan nilai ROA.
4. Variabel *Capital Adequacy Ratio*, *Non Performing Loan*, dan *Operating Cost on Operating Income* secara bersamaan berpengaruh terhadap kinerja bank (ROA).

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THE EFFECT OF WORK MOTIVATION, WORK ENVIRONMENT ON EMPLOYEE PERFORMANCE WITH JOB SATISFACTION AS A MEDIATING VARIABLE

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Abstract

Using a quantitative explanatory design, data were collected through a Likert-scale questionnaire distributed to 120 employees from several manufacturing companies in Bangkalan East Java. Data analysis was conducted using the Structural Equation Modeling – Partial Least Squares (SEM-PLS) approach. The results show that work motivation has a direct and significant effect on employee performance, whereas its indirect effect through job satisfaction is not significant. Conversely, the work environment significantly affects job satisfaction, which in turn has a significant positive effect on employee performance, confirming the mediating role of job satisfaction in this relationship. The findings indicate that motivation functions as a direct driver of performance, while the work environment enhances performance indirectly through increased job satisfaction. Theoretically, this research strengthens the motivation–environment–satisfaction–performance model and validates the relevance of Herzberg’s motivation theory and self-determination theory in the manufacturing context. Practically, the study suggests that managers should improve both motivational and environmental factors simultaneously to sustain employee productivity and well-being in industrial settings

Keywords: Work Motivation, Work Environment, Job Satisfaction, Employee Performance, Manufacturing Industry..

1. Introduction

Employee performance is a fundamental factor in determining organizational success in an era of increasingly dynamic global competition. In the manufacturing industry, performance is measured not only by productivity and efficiency but also by employee commitment and engagement with company goals. Changing work patterns, digitalization, and global competitive pressures require companies to pay attention to internal dimensions that influence human resource performance, particularly work motivation and the work environment. A study by Fernet *et al.* (2012) confirmed that work motivation plays a crucial role in building commitment and reducing work fatigue, which directly impact individual performance. Therefore, improving employee performance in modern manufacturing companies is inextricably linked to organizational strategies to create motivating working conditions that support employee psychological wellbeing..

The work environment significantly influences employee satisfaction and performance because it serves as a platform where individuals interact, adapt, and contribute to the organization. Budiono *et al.* (2021); Safrizal *et al.* (2020) demonstrated that a conducive work environment increases employee job satisfaction and motivation at PWC Indonesia, ultimately leading to optimal work outcomes. Meanwhile, Pawirosumarto *et al.* (2017) confirmed that a

positive work environment, supported by a supportive leadership style and organizational culture, plays a crucial role in improving employee satisfaction and performance in the Indonesian hospitality sector. In the manufacturing context, where work pressure is high and productivity targets are stringent, a safe, harmonious, and psychologically supportive work environment is key to balancing between organizational demands and employee wellbeing.

Work motivation is a key driver of employee behavior to achieve superior work results. Herzberg's motivation theory and self-determination theory explain that intrinsic and extrinsic motivation have different contributions to individual performance. Hardiyanto *et al.* (2019) found that work motivation, along with individual characteristics and the work environment, significantly influences job satisfaction. Meanwhile, Prabowo *et al.* (2018) showed that work motivation has both direct and indirect effects on employee performance through job satisfaction as a mediating variable. These findings emphasize the importance of understanding how manufacturing organizations can manage reward systems, communication, and career development to maintain sustainable motivation. When motivation is well managed, employees tend to display proactive work behavior, high loyalty, and significant productivity increases.

Job satisfaction serves as a psychological bridge between organizational factors and work outcomes. This concept asserts that while motivation and the work environment influence performance, these influences are often indirect and mediated by the individual's level of job satisfaction. Vandenabeele (2009) provides empirical evidence that job satisfaction and organizational commitment mediate the relationship between public service motivation and self-reported performance. These research findings are supported by Deomedes & Adam (2021), who show that motivation, discipline, and the work environment collectively enhance job satisfaction, which in turn improves employee performance outcomes. Thus, job satisfaction can be viewed as a central variable linking internal and external organizational conditions with employee performance in the workplace.

The relationship between work motivation, work environment, satisfaction, and performance has been the focus of numerous empirical studies across various industrial sectors. Waimuri *et al.* (2024) showed that in the service-based recreation industry, motivation and work environment significantly influence performance, with job satisfaction as an intervening variable. Another study by Kurniawanto & Rahmadi (2022); Faidal (2020) in the manufacturing sector also confirmed that work environment and compensation influence performance through job satisfaction as a mediator. This indicates that the pattern of relationships between these variables is consistent across sectors and is relevant for further examination in the manufacturing industry, which has specific work characteristics, such as production intensity and high efficiency demands. Thus, the manufacturing industry context provides an ideal empirical field to re-examine the mediating mechanism of job satisfaction in the motivation–environment–performance model.

2. Hypothesis development

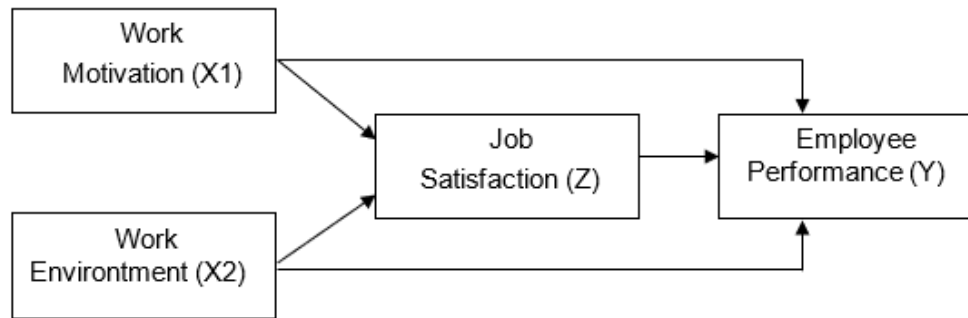


Figure 1. Research Model

Based on the research model in Figure 1, the following hypotheses can be formulated:

- H1: Work motivation has a positive and significant effect on employee performance
- H2: Work environment has a positive and significant effect on employee performance
- H3: Job satisfaction has a positive and significant effect on employee performance
- H4: Work motivation has a positive and significant effect on job satisfaction
- H5: Work environment has a positive and significant effect on job satisfaction
- H6: Job satisfaction mediates the effect of work motivation on employee performance
- H7: Job satisfaction mediates the effect of the work environment on employee performance.

3. Methodology

This study uses a quantitative explanatory approach with the aim of empirically testing the influence of work motivation and work environment on employee performance, with job satisfaction as a mediating variable in the manufacturing industry in Indonesia. The quantitative approach was chosen because it is able to provide objective and measurable results through hypothesis testing using numerical data (Prabowo *et al.*, 2018; Hardiyanto *et al.*, 2019). The research design used was a correlational survey, in which data were collected from manufacturing company employees through a five-point Likert-scale closed-ended questionnaire measuring their perceptions of work motivation, work environment, job satisfaction, and employee performance. The study population consisted of all permanent employees at several medium- and large-scale manufacturing companies operating in Bangkalan East Java, using a purposive sampling technique to select respondents who had worked for at least two years, to ensure their understanding of organizational conditions (Budiono, 2021; Pawirosumarto *et al.*, 2017). The sample size in this study was set at 120 respondents, which is considered adequate for structural analysis based on the minimum sample size recommendations in structural equation modeling (SEM) analysis.

The data collection instrument was developed based on variable indicators adapted from previous research with a high level of reliability. Work motivation variables were measured using indicators developed from Herzberg's two-factor theory, including the need for achievement, recognition, and responsibility (Deomedes & Adam, 2021; Fernet *et al.*, 2012). Work environment variables included the physical condition of the workplace, interpersonal relationships, and organizational support (Budiono *et al.*, 2021; Kurniawanto & Rahmadi, 2022). Meanwhile, job satisfaction was measured using satisfaction with compensation, career development opportunities, and job comfort (Saputra *et al.*, 2018; Yuniarti *et al.*, 2023).

Employee performance variables were measured using quantitative and qualitative indicators, including productivity, punctuality, quality of work results, and initiative (Vandenabeele, 2009; Waimuri *et al.*, 2024).

Prior to the main analysis, the questionnaire were first tested for validity and reliability. Validity testing was conducted using confirmatory factor analysis (CFA), and reliability was assessed using the Cronbach's Alpha coefficient, which is expected to be ≥ 0.70 to ensure the instrument's internal consistency (Pawirosumarto *et al.*, 2017). Next, hypothesis testing was conducted using Partial Least Squares (PLS)-based Structural Equation Modeling (SEM) method, which allows for simultaneous analysis of direct and indirect relationships among variables, including the mediating effect of job satisfaction (Prabowo *et al.*, 2018; Waimuri *et al.*, 2024). Testing for mediation effects was conducted using a bootstrapping approach to estimate the significance of the indirect pathway from work motivation and work environment to employee performance through job satisfaction.

4. Results and discussion

The outer model test aims to ensure that all indicators adequately represent the latent constructs. Based on the convergent validity test, most indicators exhibited loading factor values above 0.70, indicating strong representation of the constructs. However, two indicators had loading factor values below 0.70 and were therefore removed from the model to maintain consistency and accuracy of the analysis. This step is a standard procedure in the SEM-PLS approach to ensure only high-quality indicators are used in further testing.

Furthermore, the discriminant validity test results showed that the square root of the Average Variance Extracted (AVE) value for each construct was higher than the correlations between the other constructs. This condition meets the Fornell-Larcker criteria, meaning each construct clearly differentiates itself from the others. The Cronbach's Alpha and Composite Reliability values for all variables were above 0.70, indicating excellent consistency and reliability of the research instrument.

Table 1. Results of validity and reliability tests

Variabel	Item	Loading Factor	AVE	Cronbach's Alpha	Composite Reliability
Work Motivation	X1.1–X1.5	0,792–0,831	0,655	0,825	0,884
Work Environment	X2.1–X2.5	0,718–0,848	0,684	0,867	0,902
Job Satisfaction	Z1–Z5	0,713–0,878	0,653	0,867	0,903
Employee Performance	Y1–Y5	0,836–0,889	0,766	0,898	0,929

All variables met the criteria for convergent validity (loading factor > 0.7 and AVE > 0.5) and construct reliability (Cronbach's Alpha and Composite Reliability > 0.7). Therefore, the research instrument was deemed valid and reliable, allowing the structural model to

proceed.

Discriminant validity was tested using the Fornell-Larcker Criterion approach. The results showed that the square root of each construct's AVE was greater than the correlation between constructs, indicating that each construct has conceptual clarity and does not overlap with others.

Table 2. Results of Discriminant Validity Test

Konstruk	X1 (Motivation)	X2 (Environment)	Y (Performance)	Z (Satisfaction)
Work Motivation (X1)	0,809			
Work Environment (X2)	0,518	0,805		
Employee Performance (Y)	0,457	0,304	0,875	
Job Satisfaction (Z)	0,413	0,473	0,480	0,808

These results confirm that all constructs exhibit good discriminant validity, as the diagonal elements (square roots of AVEs) are higher than the off-diagonal correlations.

An inner-model analysis was conducted to examine the direct and indirect relationships among the research variables. Structural model evaluation uses the R-square (R^2) statistic to measure the proportion of variance in the dependent variable explained by the independent variables. The R^2 values for Job Satisfaction and Employee Performance were 0.312 and 0.263, respectively, indicating that both models are in the moderate to strong range and have good predictive ability.

Tabel 3. Hasil Pengujian Model Struktural.

Hipotesis	Original Sample (O)	T-Statistic	P-Value	Information	R^2
Work Motivation → Employee Performance	0,325	3,721	0,000	Significant	0,312
Work Motivation → Job Satisfaction	0,230	1,896	0,058	Not Significant	
Work Environment → Employee Performance	0,036	0,352	0,725	Not Significant	0,263
Work Environment → Job Satisfaction	0,354	3,177	0,005	Significant	

Job Satisfaction → Employee Performance	0,362	3,178	0,001	Significant	
Work Motivation → Job Satisfaction → Employee Performance	0,083	1,616	0,106	Not Significant	
Work Environment → Job Satisfaction → Employee Performance	0,128	2,371	0,018	Significant	

The results of the inner model test indicate that work motivation has a significant direct effect on employee performance, with a t-statistic of 3.721 ($p < 0.05$). Conversely, the effect of work motivation on job satisfaction was insignificant ($t = 1.896$). The work environment variable had a significant effect on job satisfaction ($t = 3.177$; $p < 0.05$), but had no direct effect on employee performance ($t = 0.352$). Furthermore, job satisfaction was shown to have a significant effect on employee performance ($t = 3.178$; $p = 0.001$).

The mediation effect test showed that job satisfaction significantly mediated the effect of the work environment on employee performance, with a t-statistic of 2.371 and $p = 0.018$ (< 0.05). Meanwhile, job satisfaction did not mediate the effect of work motivation on employee performance, with a t-statistic of 1.616 (< 1.96). Thus, increased employee performance is more directly influenced by motivation, whereas the work environment only affects performance when job satisfaction also increases.

Overall, these results indicate that the research model has sufficient ability to explain the relationships between variables with good predictive power. High reliability values, met convergent and discriminant validity, and significant structural model test results for several key pathways confirm that the collected empirical data meet the requirements for use in the next stage of analysis, namely the discussion and interpretation of the research results.

5. Discussion

The results of this study indicate a complex relationship between work motivation, work environment, job satisfaction, and employee performance in the manufacturing industry in Indonesia. Structural model analysis shows that work motivation has a direct and significant effect on employee performance, while the indirect effect through job satisfaction is insignificant. Conversely, the work environment has a significant influence on job satisfaction, which, in turn, influences employee performance, thereby exerting a strong mediating effect. These findings confirm that, in the manufacturing context, the work environment is a primary psychological determinant of employee satisfaction, while work motivation is a direct driver of performance. This phenomenon aligns with the theoretical view that employee performance results from the interaction between individual factors (motivation) and contextual factors (work environment), as explained by Herzberg's motivation theory and self-determination theory (Fernet, Austina, & Vallerand, 2012). Thus, the results of this study emphasize the

importance of understanding the relative roles of internal drives and external conditions in shaping productive work behavior.

The research findings showing that work motivation has a direct effect on employee performance align with the findings of Prabowo *et al.* (2018), who asserted that work motivation can improve performance both directly and through job satisfaction. In the manufacturing industry context, employees with high intrinsic motivation tend to demonstrate greater work discipline, perseverance, and productivity because they are emotionally engaged with their tasks. Hardiyanto *et al.* (2019) also showed that motivation plays a significant role in improving satisfaction and performance, even under high-pressure working conditions. However, in this study, the mediating effect of job satisfaction on the relationship between motivation and performance was insignificant, indicating that, in manufacturing environments, work motivation tends to have a direct impact without necessarily going through job satisfaction. This can be explained by the nature of work in the manufacturing sector, which emphasizes quantitative results and targets; therefore, extrinsic motivations such as incentives, bonuses, and performance awards are more influential than emotional satisfaction with the work itself. These findings reinforce the idea that the relationship between motivation and performance is situational, highly dependent on the company's organizational structure and productivity culture.

The finding that the work environment has a significant influence on job satisfaction but not directly on employee performance aligns with research by Budiono *et al.* (2021), Pawirosumarto *et al.* (2017), Safvitri *et al.* (2024) and Hasan & Safrizal (2025) which demonstrated that a good work environment increases employee satisfaction before affecting performance. In the manufacturing context, the work environment encompasses not only physical conditions such as cleanliness, lighting, and safety, but also social relationships among workers and vertical-horizontal communication patterns that occur on the production line. When these aspects are met, employees experience psychological comfort, which, in turn, increases loyalty and the willingness to contribute optimally to the company. This indicates that improved performance in the manufacturing sector is not a direct result of improved work environments, but rather through a psychological mediation process manifested in job satisfaction. This finding reaffirms the view of Deomedes and Adam (2021), Hidayat *et al.* (2022) that job satisfaction acts as a key bridge between organizational variables and employee performance outcomes.

Job satisfaction has been shown to have a significant direct influence on employee performance and mediates the influence of the work environment on performance. These results are consistent with Vandenabeele's (2009), Jannah & Pranjoto (2025) study, which confirmed that job satisfaction and organizational commitment serve as mediators, strengthening the relationship between employee-reported motivation and performance. In the manufacturing context, job satisfaction reflects the balance between employee expectations and reality, particularly in terms of compensation, interpersonal relationships, and job security. Waimuri (2024), Safrizal *et al.* (2020) also supports this view by showing that job satisfaction is an important variable that bridges the influence of motivation and environment on performance in the tourism services sector, which shares psychological characteristics with manufacturing. Thus, this study provides empirical evidence that employee performance improvement strategies should not only focus on increasing motivation but also consider aspects of the work environment that foster satisfaction. From a theoretical perspective, these results strengthen the position of job satisfaction as a mediating variable in modern models of organizational behavior.

6. Conclusion

This study aims to evaluate the influence of work motivation and the work environment on employee performance, with job satisfaction as a mediating variable, in the manufacturing industry in Bangkalan, Jawa Timur. Based on the SEM-PLS structural model analysis, work motivation has a direct and significant influence on employee performance, whereas its indirect influence through job satisfaction is not significant. Conversely, the work environment is proven to have a significant influence on job satisfaction, which in turn has a significant impact on employee performance. These results confirm that a good work environment increases job satisfaction, and high satisfaction drives increased individual performance. However, work motivation acts as a direct driver that does not depend on job satisfaction as a mediator.

6.1. Research implications

From a theoretical perspective, this study extends the validation of the motivation-environment-satisfaction-performance model, which has been tested in various contexts, with new empirical evidence from the Indonesian manufacturing industry. The finding that job satisfaction only partially mediates the relationship between variables indicates that the psychological mechanisms of manufacturing employees differ from those of service or public sector employees, as described by Yuniarti, Mursidi, and Arifiani (2023). In this context, external motivations (such as financial incentives and output-based reward systems) appear to be more dominant than intrinsic motivation. This study also contributes to self-determination theory (Fernet *et al.*, 2012) by showing that when the work environment supports autonomy and collaboration, satisfaction and performance simultaneously increase. Thus, this study emphasizes the importance of integrating classical motivation theories with modern organizational behavior approaches to understand performance in technology- and output-intensive manufacturing contexts.

These empirical findings have strong practical implications for human resource management in the manufacturing sector. First, management needs to foster a work environment that supports psychological well-being, for example, by increasing two-way communication, ensuring adequate safety facilities, and facilitating cross-team collaborative training. Second, work motivation must be managed strategically, balancing financial incentives with non-financial rewards such as achievement recognition and career development opportunities (Budiono *et al.*, 2021; Kurniawanto & Rahmadi, 2022). Third, prioritizing job satisfaction is crucial, as it has been shown to serve as a crucial bridge connecting organizational factors with employee performance. By simultaneously strengthening these factors, manufacturing companies can create a sustainable cycle of productivity in which satisfaction, motivation, and performance mutually reinforce one another. This approach will also improve employee retention and foster an adaptive and results-oriented work culture.

6.2. Limitations of Research and Suggestions

Although this study provides in-depth empirical and theoretical insights, several limitations need to be considered. First, the study's scope is limited to Bangkalan East Java, so the results cannot be generalized to the entire Indonesian manufacturing industry. Second, the data were obtained through a perception survey, which allows for subjective bias in respondents' assessments of the measured variables. Third, this study did not consider external variables such as leadership style, organizational culture, or affective commitment, which,

according to Pawirosumarto et al. (2017), can strengthen the relationship between satisfaction and performance. Therefore, future research is recommended to use a mixed-methods approach, adding qualitative data from interviews or field observations to enrich interpretation of the quantitative results. Furthermore, testing the model in a cross-industry context or across multinational companies could provide stronger generalizations to the motivation-environment-satisfaction-performance model.

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UNDERSTANDING PEER PRESSURE IN THE BUY NOW PAY LATER PHENOMENON: A LITERATURE REVIEW FROM AN ORGANIZATIONAL BEHAVIOR PERSPECTIVE

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Abstract

This study aims to understand the relationship between peer pressure and the adoption of Buy Now Pay Later (BNPL) services from an organizational behavior perspective, focusing on how social impact influences adoption among young people. This research uses a systematic literature review method. Data were synthesized from 12 eligible articles, which were found through a search in the ScienceDirect database (published 2024-2025) in the fields of psychology and economics. Findings indicate that peer effects significantly impact BNPL usage through three mechanisms: social norms (conformity pressure), social comparison (status seeking), and social learning (risk perception reduction). Organizational behavior principles, such as group dynamics and social identity, drive the prioritization of social acceptance, leading to impulsive decisions and increased financial vulnerability. The limitation of this study is its focus on a literature review. Further research is recommended to empirically test these mechanisms to develop effective policy interventions or financial literacy programs to protect vulnerable consumers.

Keywords: Buy Now Pay Later, Organizational Behavior, Peer Pressure.

1. Introduction

Internet users use the internet to communicate and conduct transactions, sell goods, do business, and work (Andriani et al., 2022). One of the most prominent and rapidly growing innovations in the field of financial technology (FinTech) is the Buy Now Pay Later (BNPL) service (Kumar et al., 2024). As an innovation, fintech makes it easier for customers to make transactions, such as e-money (Purnomo et al., 2019). Entrepreneurs must skillfully manage financial resources to support their business activities and utilize technological advances, such as financial technology (fintech), for efficient capital management (Sari & Hadyarti, 2024). From the utilization of these advances, BNPL services allows customers to purchase products now and pay for them later in installments, often with no fees or interest if paid on time (Ashby et al., 2025). With direct integration into e-commerce checkout systems and promotion as an innovative alternative to traditional credit, major providers such as Afterpay, Klarna, and Affirm are showing significant global growth (Donou-Adonsou & Leslie-Piper, 2025). BNPL (Buy Now, Pay Later) is growing in popularity, especially among younger and lower-income groups, as evidenced by a significant increase in transaction volumes recorded globally. BNPL can now be linked to online purchases. Online purchases refer to transactions that occur between sellers and buyers on websites (Wantara et al., 2023). This is also linked to conventional credit card payment methods, often charges additional fees to businesses, and easily integrates financing at the time of purchase with little credit verification (Kumar et al., 2024).

The rapid growth of BNPL is in line with new findings and data showing that BNPL influences consumer shopping habits. According to research, the adoption of BNPL has led to an increase in order size in the online retail environment (Ashby et al., 2025), meanwhile, BNPL

service providers claim that BNPL increases the average transaction size (Kumar et al., 2024). Some studies suggest that this effect stems from the display of installment prices, which can lower consumers' perception of purchase costs due to the numerosity effect, making the direct costs appear smaller than the overall price (Ashby et al., 2025). Explanations are also provided by behavioral economic theories such as present bias and hyperbolic discounting, which state that consumers value instant gratification from a product more than the difficulty of spread-out and delayed payments. In addition, BNPL services have been linked to impulsive purchases, which can encourage excessive spending. However, some users may experience financial difficulties as a result of this increase in spending (Ashby et al., 2025).

Human Activity Recognition has been studied for several years (Victoria et al., 2022). The activity that is currently trending in this era is the peer effect. Peer effect is a widely documented phenomenon that can be broadly defined as the influence that individuals or organizations have on the decisions and actions of others in their industry group or network. This influence can take various forms, such as competitive imitation or rivalry, where entities imitate competitors to maintain equality or social position, as well as social learning, where people imitate peers who are considered to have advantages related to information. The peer effect has been found in various fields, including general consumer behavior and business financial decisions (Wu et al., 2025), physical activity, and even corporate social responsibility (Gu & Shen, 2024; Wu et al., 2025). Various social networks and geographic features often play an important role in facilitating this effect by facilitating interaction, comparison, and observation (Zhou et al., 2025).

It is important to analyze both the social context in which decisions are made and individual psychological variables in order to understand how consumers accept and use BNPL. Behavior can be greatly influenced by peer pressure and social pressure, especially during identity formation stages such as adolescence and early adulthood when conforming to social norms is essential (Protudjer, 2025). To maintain social status or avoid falling behind, people may experience explicit or implicit pressure to imitate the shopping habits or purchasing methods of their peers (Zhou et al., 2025; Percy, 2025). This social dimension is highly relevant to BNPL because its use can be constrained by negative feedback related to the recipient's ability to purchase certain goods or services through installment payments. The organizational behavior (OB) perspective provides a useful analytical framework for understanding this situation because its principles often explain how individual behavior is influenced by group norms, social comparison, and disturbances within the relevant environment (Wu et al., 2025), similar to how consumers behave in social contexts and their surrounding environment.

The actual function of peer pressure in the context of BNPL adoption and use is still largely unknown, even though the impact of BNPL on individual spending has been proven and the power of peer influence is recognized in various areas of behavior. Most of the available research on BNPL currently focuses on its financial implications, specific user characteristics, or comparisons with conventional payment systems from the perspective of consumer psychology or finance (Donou-Adonsou & Leslie-Piper, 2025; Ashby et al., 2025; Kumar et al., 2024). However, although peer influence has been studied in the areas of finance and consumption (Zhou et al., 2025; Corzo et al., 2024), there is still a significant research gap regarding its specific application to the BNPL phenomenon, particularly through a theoretical

framework of organizational behavior that emphasizes social influence and group dynamics. Therefore, the purpose of this study is to evaluate the literature to summarize current understanding and understand the relationship between peer pressure and BNPL usage from an organizational behavior perspective, highlighting important mechanisms and possible outcomes.

2. Methodology

This study examines and summarizes previous research on the impact of peer pressure on the Buy Now Pay Later (BNPL) phenomenon from an organizational behavior perspective using a systematic literature review method. This method is used to find, evaluate, and interpret all relevant research available on a specific research topic. This review aims to answer the following research questions: QR1: How does peer pressure influence the use of Buy Now Pay Later? QR2: Why does social influence encourage individuals to use Buy Now Pay Later? QR3: How does organizational behavior explain the relationship between social pressure and impulsive financial decisions?.

2.1. Sample and Data Collection

The data collection method for this systematic literature review involved a search strategy and a rigorous article selection process.

2.1.1 Literature search strategy

The ScienceDirect database was used to conduct a comprehensive literature search. The following are the steps involved in finding and selecting articles: (1) Initial Search: 4,796 articles were found after an initial search conducted on the ScienceDirect database without any specific filters. Topics such as BNPL, peer pressure, and organizational behavior were the main keywords used in this initial search. (2) Publication Year Filter: Only publications published between 2024 and 2025 were included in the search results after filtering by publication year. This criterion was used to ensure that the studies reviewed were original and relevant. There are 559 articles after applying this filter. (3) Article Type Filter: After that, only review and research articles were included using the article type filter. To focus on empirical findings and comprehensive syntheses, other types of articles such as editorials, brief reports, or letters to the editor were excluded. After this filter, 463 items remained. (4) Topic Area Filter: The topic area filter was used to select publications most relevant to the theoretical framework of the study, which included financial, psychological/behavioral, and economic perspectives. The selected subject areas are Economics, Econometrics, and Finance, as well as Psychology. After this screening, 134 articles remained. (5) Open Access Screening: Finally, to ensure that the publications were fully available for study, open access screening was used. The result of this step was 73 articles.

2.1.2 Article selection process

After passing through all filters, the 73 articles were manually screened to ensure their relevance to the specific research topic of organizational behavior, peer pressure, and BNPL. The titles, abstracts, and keywords of the articles were reviewed to perform this screening. Articles that specifically discussed the relationship between peer pressure or social influence and the use of BNPL, or that provided relevant insights from the perspective of organizational behavior and impulsive financial decision-making in a social context, were retained. Articles that only discuss BNPL from a purely technical or macroeconomic perspective, or that do not

touch on social or behavioral aspects, were excluded. Through this selection process, 12 articles were identified as the most appropriate and relevant to be included in this systematic literature review.

2.2. Data analysis

A narrative approach was used to synthesize data extracted from 12 carefully selected articles. The main issues, theoretical foundations, empirical findings, and research gaps related to the impact of peer pressure on the adoption and use of BNPL will be the main focus of the analysis. This synthesis will specifically examine how organizational behavior concepts can explain how social pressure and financial decisions related to BNPL, including the possibility of impulsive behavior, are interrelated. The results of this synthesis will be used to answer the research questions and provide a comprehensive summary of the current understanding in this field.

3. Results and discussion

Based on the 12 articles identified, the results of the study are presented in Table

Table 1. Research on peer pressure and the buy now, pay later phenomenon

Author (year)	Title	Methodology Sample	& Key findings
Teresa Corzo, Ramon Hernan, & Guilermo Pedrosa (2024)	Behavioral finance in a hundred keywords	Bibliometric approach	Keyword analysis and data visualization from five leading journals reveal a close relationship between the disciplines of economics and behavioral finance. These findings confirm that behavioral finance is a dynamic and evolving field with new issues constantly emerging.
Donou-Adonsou & Leslie-Piper (2025)	BNPL and financial fragility in U.S. households	Quantitative. US national survey (N > 7,000). Probit, PSM, and IV analyses.	Financially vulnerable individuals (those with insufficient emergency savings) are more likely to use BNPL. This correlation is particularly strong among those aged 35+ and with middle incomes.
Zhou, Wu, & Sun (2025)	Consumption peer effects among migrants in China	Quantitative. Data from the China Migrants Dynamic Survey (N=72,872). IV analysis.	There is a positive peer effect (peer consumption +10% -> migrant consumption +2.81%). The mechanism is social learning and risk-sharing, not keeping up with the

Juita, Pujani, Rahim, & Rahayu (2024)	Dataset on online impulsive buying behavior of buy now pay later users and non-buy now pay later users in Indonesia using the stimulus-organism-response model	Quantitative (Data Paper). Online survey (N=806) in Indonesia (convenience/snowball sampling).	The dataset reveals a distinct pattern. Stimuli (BNPL promotions, social influence) affect organisms (self-control), which in turn affect responses (impulsivity)
Gu & Shen (2024)	Peer effect of enviromental information disclosure behavior in China: Empirical test based on “Real green” and Fake green”	Quantitative. Panel data archive (N=5,780 firm-year observations). OLS & PSM analysis.	There is a significant peer effect. The mechanisms are social learning (for “Fake green”) and competitive imitation (for “Real green”). The peer effect of EID quality inhibits green innovation.
Wu, Shi, & Zhang (2025)	Peer effect of key audit matters disclosure.	Quantitative. Archival data (N=13,082). OLS & IV analysis.	There is a significant peer effect on KAMs. The main mechanism is rivalry-based pressure, NOT information seeking. This peer effect reduces the communicative value of KAMs.
Protudjer (2025)	Peer influence, social pressure, and food allergy: Evidence to inform interventional work and advocacy	Clinical Review (Literature synthesis)	Peer influence and social pressure are very challenging. Teenagers are reluctant to discuss allergies in front of their peers. Bullying related to allergies is common.
Müller et al. (2025)	Pyschotherapy research for compulsive buying-shopping disorder: Quo vadis?	Position Paper / Conceptual Review.	CBT has been the most widely studied, but existing studies are limited (small sample sizes, waitlist controls). Research has failed to incorporate psychological mechanisms and online shopping.
Pearcy (2025)	Status incentive and peer spillover effects on physical activity	Quantitative, longitudinal, quasi-experimental (RDD).	Status incentives effectively shape physical activity habits. There is a positive

	habits	UK insurance data (N=120,873).	peer spillover effect within a policy (e.g., couples), especially from high-activity members to low-activity members.
Kumar, Salo, & Bezawada (2024)	The effects of buy now, pay later (BNPL) on customers' online purchase behavior	Quantitative, experimental (Synthetic Nordic transactional data (N=7,104 treatments)).	quasi-DiD). retailer data BNPL adoption increased order size by 6.42%. The effect was stronger among younger, lower-income, and promotion-sensitive customers.
Ashby, Sharifi, Yao, & Ang (2025)	The influence of the buy-now-pay-later payment mode on consumer spending decisions	Mixed methods (secondary transaction data + 5 experiments). Sample from Brazil (pilot) & the US (experiment)	BNPL increases spending. The mechanism: BNPL offers lower installment prices, which reduces the perception of high prices.
Zhang, Zheng, & Zhu (2024)	Why are Indonesian consumers buying on live streaming platforms? Research on consumer perceived value theory	Quantitative. Online survey in Indonesia (N=204). SEM analysis.	Utilitarian, hedonistic, and social values have a positive effect on purchase intention. Trust (in the product and platform) mediates this relationship.

(Source: Processed data, 2025)

3.1. Peer Pressure's Influence on BNPL Usage

The influence of peers on various financial and consumption decisions is consistently recognized in the reviewed literature (Wu et al., 2025). People often imitate or adjust their behavior because they are reluctant to fall behind their peers' consumption patterns. Several studies provide relevant indirect data, although not all articles directly examine peer pressure on BNPL. For example, young people, the group most vulnerable to peer pressure and social influence in identity and behavior formation, are the main users of BNPL. This effect is also seen in other contexts, such as physical exercise, where individual behavior can be influenced by the behavior of peers in social groups (Zhou et al., 2025; Donou-Adonsou & Leslie-Piper, 2025).

According to several studies, the decision to adopt something, such as an innovation or habit, is often hindered by social media and peer-related observations (Wu et al., 2025; Zhou et al., 2025). In the context of BNPL, its ease of access and integration with e-commerce platforms and social media make it stand out (Donou-Adonsou & Leslie-Piper, 2025), which can facilitate customer payments and increase the potential for social impact. Users may need to use BNPL if their peers do so, either to accommodate themselves or to be able to participate in group consumption. Research on payday loans and other types of credit shows that the use of

alternative credit is often hampered by financial difficulties, but can also be influenced by social norms within the community.

Understanding the social influence on BNPL requires an understanding of peer effects (Zhou et al., 2025). According to research, people naturally compare themselves and their consumption habits with reference groups (Zhou et al., 2025; Pearcy, 2025). This can be seen in BNPL in various ways. First and foremost, social learning is very important (Gu & Shen, 2024). Customers may observe their peers using BNPL to purchase certain goods or lifestyles, especially if they are younger or less financially knowledgeable. This observation has the potential to normalize the use of this new payment method and reduce the uncertainty surrounding its use.

Second, comparisons of social status and status seeking are very important (Zhou et al., 2025; Pearcy, 2025). BNPL enables instant purchases of goods that can serve as status symbols or fit the lifestyle of a particular group (Pearcy, 2025; Zhang et al., 2024). The pressure to “keep up with peers” can encourage people to use BNPL to purchase items that they might not be able to afford at that moment or with other payment methods. In addition, status-based incentives, such as those seen in loyalty programs or physical activity promotions, show how status can encourage sustained effort, even after external incentives are removed. In short, BNPL can provide consumers with a similar “status” of affordability.

Third, compliance and social norms encourage usage (Donou-Adonsou & Leslie-Piper, 2025; Gu & Shen, 2024; Zhou et al., 2025). People may feel compelled to use BNPL in order to be accepted or considered “normal” when this service becomes commonplace within a social group (Protudjer, 2025). This is in line with research on corporate environmental disclosure, which shows that behavioral homogeneity is driven by normative pressure (Gu & Shen, 2024). The main age group of BNPL users, namely teenagers and young adults, is a period when the urge to follow trends is most intense. The urge to follow peers can encourage risky behavior, which may also apply to financial decisions such as using BNPL, according to research on social factors related to food allergies in adolescents (Protudjer, 2025).

3.2. Social Influence Mechanism in Encouraging the Use of BNPL

The literature identifies several potential mechanisms for why social influence drives individuals to use BNPL:

1. **Social Learning:** After seeing their peers use BNPL with ease or to gain certain benefits, people may decide to adopt it themselves. Uncertainty or perceived risks surrounding this new payment option can be minimized by seeing peers successfully manage interest-free installment payments (Wu et al., 2025; Zhou et al., 2025). According to the information learning hypothesis, businesses (or individuals) can absorb relevant information and reduce uncertainty by imitating their peers. Customers considering BNPL may experience a similar scenario.
2. **Social Comparison and Status Seeking:** The use of BNPL may be driven by pressure to “follow trends” (Zhou et al., 2025). If people have to pay in full upfront, they may not be able to afford luxury items or trends that they can buy directly through BNPL (Donou-Adonsou & Leslie-Piper, 2025; Müller et al., 2025). According to Zhang et al. (2024), this can help people maintain or improve their social status or image in the eyes of their peers. Status serves as a motivator to achieve or maintain a hierarchical position within a group. One way to demonstrate consumption capabilities that are in line with the

reference group is to use BNPL.

3. **Social Norms and Conformity:** People may feel compelled to use BNPL in order to fit in or be accepted if this method becomes common or normal within a social group. Both explicit and implicit pressure to conform can occur (Protudjer, 2025). Based on research on corporate environmental disclosure, companies imitate the disclosure practices of their peers in the same industry, partly due to a desire for recognition and normative pressure (Gu & Shen, 2024).

Impulsive buying becomes easier with the significant interaction between specific BNPL features and social influence (Juita et al., 2024). The perception of costs has changed significantly due to the option to defer and reduce payments (Ashby et al., 2025). The numerosity effect, which states that smaller numerical amounts (installment prices) are perceived as cheaper than total prices even if the final amount is the same or higher when there are late fees, is used when installment costs are displayed. The psychological threshold for making impulsive purchases can be lowered by focusing on cheaper installment prices and feeling reassured by seeing peers making similar purchases.

In addition, BNPL's integration into live streaming and e-commerce platforms directly reduces transaction barriers and increases convenience, two factors known to encourage impulse purchases (Juita et al., 2024; Kumar et al., 2024). Hedonic value (enjoyment) and social value (interaction, sense of community) can both influence purchasing in the highly social and participatory purchasing environment provided by live streaming services, in particular. In addition to real-time comments and purchases from other viewers (virtual peers), recommendations from streamers or influencers can provide a strong sense of urgency and social validation, which can encourage impulsive decisions. Data on the impulsive purchasing patterns of BNPL users in Indonesia shows how internal conditions (happiness, self-control) interact with external stimuli (BNPL promotions, social influence) to trigger purchasing reactions.

Financial vulnerability can be a risk associated with this tendency. BNPL may be more common among vulnerable individuals, such as those who lack self-control or experience financial stress, as a coping strategy or as a result of peer pressure, which can lead to excessive debt (Donou-Adonsou & Leslie-Piper, 2025; Juita et al., 2024; Ashby et al., 2025). Easy access to credit can exacerbate compulsive shopping behavior, according to research on compulsive buying disorder (CBSD), and psychological characteristics including sensitivity to triggers and difficulty regulating emotional behavior are significant contributors (Müller et al., 2025). These triggers can be reinforced by social influences, which also normalize excessive spending.

3.3. Organizational Behavior, Social Pressure, and Impulsive Financial Decisions

The concept of organizational behavior (OB) helps explain the relationship between social pressure and impulsive financial decisions related to BNPL:

1. **Group Dynamics and Self-Adjustment:** According to OB's concept of group dynamics, people often change their behavior to adjust to group norms in order to gain acceptance from others or avoid rejection. Although using BNPL may not be the best financial decision for individuals, this urge to conform can cause people to do so, especially if their peers use it frequently (Protudjer, 2025). The peer effect, driven by competition and the desire to maintain parity, has been observed in studies on the disclosure of key audit matters (KAMs). These studies show how entities, in this case auditors, change their

- behavior to conform to their peers (Wu et al., 2025).
2. **Social Identity:** Social identity theory in OB explains how membership in groups shapes individuals' self-concepts and behavior (Zhou et al., 2025). If the use of BNPL is considered part of the identity or lifestyle of a desired peer group (e.g., modern, tech-savvy, able to afford trendy items), individuals may be motivated to use it as a way to strengthen their affiliation with that group (Zhang et al., 2024).
 3. **Relationship with Impulsive Decisions:** Impulsive purchases can be triggered by social pressure to own or consume certain items (Juita et al., 2024). BNPL can lower the psychological threshold for making impulse purchases by deferring payment and breaking down the expense into smaller amounts (the numerosity effect) (Kumar et al., 2024; Ashby et al., 2025). In the study by Donou-Adonsou & Leslie-Piper (2025), easy access to quick credit without strict credit checks can also encourage impulsive or excessive purchasing. Based on research on compulsive buying disorder (CBSD), the availability of cheap credit such as BNPL may exacerbate problems for people who are vulnerable and under social pressure. A tendency toward triggers and a decrease in impulse control are two characteristics that contribute to uncontrolled shopping behavior (Müller et al., 2025).

4. Conclusion

Peer pressure and the use of Buy Now Pay Later (BNPL) services have a significant relationship, as shown by this literature analysis. This interaction can be adequately explained through organizational behavior (OB). By identifying certain social dynamics that drive the acceptance of BNPL, this study successfully achieved its objectives. The results of the study indicate that significant social influence and economic considerations play a role in the decision to use BNPL.

Specifically, three main mechanisms have been identified. First, because people see their peers using BNPL, social learning reduces the perceived uncertainty about it. Second, BNPL facilitates instant purchases, while social comparison and the desire to conform to the lifestyle of peers encourages consumerism to “follow” the lifestyle of peers. Third, pressure to conform arises from social norms, which make using BNPL an expected behavior in order to fit in with the group.

The contribution of this study lies in the use of the OB framework to explain the relationship between impulsive financial decisions and social impact. Social identity and group dynamics explain why people may prioritize social acceptance over financial prudence. Through characteristics such as installment pricing and the numerosity effect, BNPL can lower psychological barriers to purchase, thereby facilitating impulsive needs driven by social factors. This study shows how social pressure and BNPL are interrelated, which increases the risk of financial instability. The main weakness of this study is that it is a literature review, which relies on secondary sources. To quantitatively analyze the relationship between specific OB mechanisms (such as social identity) and BNPL usage behavior, further empirical research is needed. To understand the ways in which specific social situations, such as live streaming, can mitigate the impact of peers on impulsive purchases facilitated by BNPL, further research is also needed.

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FASHION BRAND SUSTAINABILITY COMMUNICATION STRATEGIES: COMPARATIVE NARRATIVE ANALYSIS OF INSTAGRAM CONTENT

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Abstract

This study aim For test and compare in a way comprehensive implementation of communication strategies related sustainability in certain fashion brands through the content they present on the Instagram platform, using methodology Analysis Narrative Comparative Research This driven by reality that the digital era has shift focus marketing to online media, where Instagram has proven to be become very channel efficient and successful for Small and Medium Enterprises (SMEs) in fashion increase Awareness Brand Awareness and Engagement customer engagement (Haikal Saputra, 2024; Seminar Nasional Hasil Riset Dan Pengabdian ORGANISASI PELAKSANA CIASTECH 2021, n.d, Gemilang et al., 2025; Erwita & Handayani, 2022). Brands adopt marketing content (content marketing) as tactics main For produce valuable, relevant, and organized material to be able to push action purchase from consumers (Kosim & Loisa, 2023). Although thus, increasing attention global public towards issue environment urge fashion industry for convey practice sustainability they in a way transparent. There is gap literature Because lack of dissecting study sustainability narrative in general comparative on Instagram, even though known that quality content and delivery messages that are entertaining (hedonic messages) have Power very persuasive strong in push purchase fashion products online (Simanjuntak et al., 2023; Yusak & Magdalena, 2025). Therefore that, research This will identify packaging models narrative sustainability and comparing impact effectiveness messages the in building Brand Image (Ignabettha & Loisa, 2023) and trigger customer engagement on Instagram, in order to generate guide strategic optimal sustainability communication.

Keywords: Communication Strategy Sustainability; Fashion Brands; Analysis Narrative Comparative; Instagram Content; Customer Engagement.

1. Introduction

Rapidly the development of the digital era has cause shift significant paradigm in marketing strategy, encouraging company For switch in a way massive from use channel conventional to digital media because proven Far more efficient and effective. Transition This supported by the characteristics of digital media which can operate in a way time real time and offer wide and transcendent reach limitation geographical (Gemilang, 2025) (Umbara, 2023). In the middle condition this, Instagram has confirm his position as dominant and vital social media applications, especially in context marketing product. This platform make communication digital marketing as key main for growth the rapid and dynamic growth of Small and Medium Enterprises (SMEs) in the fashion sector in Indonesia (Dewi, 2025) (Erwita, 2022).

Respond the dynamics of this market, many local fashion brands focus business them in implementing marketing strategies content (content marketing), which is defined as approach planned For create and distribute content that has value, relevance, and consistency (AS et al., 2025, Kosim, 2023). This strategy aim For increase Awareness Brand Awareness in general effective (As & Fatmariyah, 2023, Vidia Naldly Putri, 2023; Dewi, 2025) and

build involvement consumers (customer engagement) in order to trigger action customers who generate benefits (Erwita, 2022). Digital marketing through Instagram is also becoming very important. Because today's consumers follow fashion influencers on social media, which is proven to influence intention purchase and facilitate sale product (Yudis Sugianto et al., 2021) (Putri, 2022). However, it appears a new challenge along with soaring global awareness of environmental and social issues, forcing the fashion industry to no longer only focus on aspects transactional, but also demanding brands to convey their sustainability to the public with transparency.

This study is expected to give substantial contribution, both from the theoretical and implementation practically. In the theoretical, this study will enrich treasury knowledge communication marketing, in particular in the framework of Narrative Comparative Analysis on social media, with a deep understanding about how narrative sustainability is formed and influences consumer perception. Findings linking correlation between quality content and customer engagement (customer engagement) in sustainability issues (Erwita, 2022) (Simanjuntak, 2023) will function as a runway for developing communication models greater digital sustainability effectiveness. On the other hand practically, results of this study can be made into a very strategic guide worth for Small and Medium Enterprises (SMEs) in fashion in Indonesia and practitioners communication brand. Insight comparative about practice proven communication effectiveness will help fashion brands to increase Brand Awareness (Dewi, 2025) and building a credible Brand Image (Ignabettha, 2023) in the eyes of increasingly consumers sensitive to sustainability issues, as well as minimize the risk of greenwashing through the narrative presented in a way transparent and consistent.

The main objective from literature is to do analysis and identification in a way details to form narrative and communication strategies related to sustainability issues implemented by certain fashion brands through the content they upload on the Instagram platform.

2. Methodology

This study will adopt a qualitative method with a descriptive interpretive approach, because the focus mainly is to describe and interpret communication strategies marketing and narratives used by fashion brands. The core method for data collection and analysis will be used is Narrative Comparative Analysis to Instagram content from two or more brand fashion selected based on criteria comparison narrative sustainability they.

Data collection techniques will use combination observation, deep interview, and studies documentation of relevant content. In specific, study will be implemented through non-participant observation deep and studies documentation to various uploads (feed, Reels, stories) on the brand's Instagram account, similar with methods applied in studies analysis content marketing previously.

Unit of analysis in this study is every Instagram content which in a way explicit and implicit communicates sustainability issues. Every posts will be encoded and analyzed based on:

1. Type Content : like information products, photos, and appreciation consumers.
2. Themes Raised : covering quality, emotion, relationship, and service.
3. Structure Narration : used for packing message sustainability the.

Data analysis will be implemented with a thematic approach to identify the most dominant narrative, and so on done comparison narrative between brand to evaluate its

effectiveness in push involvement consumers (customer engagement).

2.1. Research Question

1. How fashion brands studied framing , building , and presenting narrative their sustainability in Instagram content (including type content , themes , and consistency message)?
2. Differences in communication strategies narrative What only the dominant one between the fashion brands studied (especially in use messages that are entertaining /hedonic messages and quality content) in communicate sustainability on Instagram?
3. How effective is it ? narrative sustainability implemented (including aspect transparency and credibility) influence formation image What is the brand image of the fashion brands studied on Instagram?
4. How comparison narrative sustainability between brand capable encourage customer engagement consumers) in the column Instagram comments , based on type interactions that arise (for example , conversations about quality , emotion , or relation)?

3. Results and discussion

Findings from studies previously focused on Communication Strategy , Marketing Content (Content Marketing), and its influence to fashion brands on Instagram have identify a number of patterns and principles the key that will used as runway for analysis narrative sustainability This .

1. Significance Marketing Instagram Content and Dominance : A Number study in a way consistent confirm that the digital era has dictate change fundamental in marketing strategy . Platforms like Instagram have to solidify himself as channel primary marketing for Small and Medium Enterprises (SMEs) in the fashion sector for increase growth business they (Dewi , 2025; Lathifah , 2024). Tactics main used is Marketing Content (Content Marketing), which is defined as approach systematic in create and distribute valuable , relevant , and informative material consistent (Kosim A. &., 2023). Implementation of effective digital marketing strategies must covers merger use of social media , content marketing, SEO, and even technology advanced use maximize awareness Brand Awareness and sales (Lathifah , 2024).
2. Type and Quality Content Determinant Involvement Consumers : In context content uploaded on Instagram , research show that effective content marketing involving a number of type posts , such as information brand , information products , photos , and appreciation consumer (Erwita, 2022). Type content This proven effective as information marketing . More further , quality content proven become variables influential key positive to intention purchase (purchase intention) of fashion products (Simanjuntak, 2023). Effective content in triggering conversation- centered Customer Engagement in the column uplifting comments topics like quality , emotion , relationship , and service related products and brands (Erwita, 2022).
3. The Role of Narrative Persuasive and Credible : Success content on social media very influenced by narrative persuasive presentation . Findings show that content that is entertaining (hedonic messages) proven more convincing and effective in context marketing fashion (Yusak, 2025)products on Instagram . In addition that , the effectiveness of short video marketing (which is often used For narrative fast on Instagram Reels or TikTok) and credibility from the person who conveys messages

(influencers or celebrity endorsers) also significant influence intention buy online (Yusak, 2025) (Putri, 2022). Credibility This often mediated by para- social interactions that are constructed between influencers and their followers (Simanjuntak, 2023).

4. Impact of Communication Strategy on Brand Image: Objectives end from communication strategy Integrated digital marketing (Integrated Marketing Communication or IMC) is For building a strong and positive brand image (Astuty, 2024). Study prove that use good digital marketing concepts , including planning content and public relations, successful building the desired brand image (Ignabettha, 2023). Brand Awareness which is results from promotion and planning the right content targets also play a role important in formation image brand (Putri V. N., 2023) (Dewi, 2025).

4. Discussion

4.1. Narrative and Framing Sustainability in Instagram Content (RQ 1)

Findings study show that effective fashion brands in communicate sustainability tend integrate narrative This to in various type content and themes marketing . Based on framework marketing (Erwita, 2022) content , narrative sustainability No only served through content informative about material standard or production process (product information), but also through constructive content relation emotional (emotion and relationship) with consumers .

- Type Content : Narrative sustainability framed through mixture uploads photos /videos showing products (visual sustainability), stories that document ethical production processes (transparency), and customer appreciation that highlights community or impact social from purchase (Erwita, 2022).
- Consistency Message : Brands that are rated succeed in communication sustainability show level consistency high message (Dewi , 2025). Consistency This seen from application eight step structured in planning *content marketing* (Kosim A. &., 2023), which works For ensure that message *sustainability* does not only displayed as trend a moment , but integrated in a way deep as core values of brand the .

4.2. Comparison of Communication Strategies Narrative Comparative (RQ 2)

Comparison between communication strategies narrative disclose existence significant difference in emphasis message , namely between message that only focused on information factual with messages that are persuasive and entertaining . Communication strategy sustainability that has proven to be most effective on the Instagram platform is a strategy that works combine information related *sustainability* with element entertainment and supported by quality content that tall .

1. Message Entertaining (*Hedonic Messages*) : Brand narratives sustainability they packed through short video format (*short video marketing*) which has characteristic entertaining — for example , a clip *behind the scenes of the* recycling process repeat presented with music interesting or style *vlog* — proven Far more persuasive in context *fashion* (Yusak , 2025). On the other hand , brands that only focused on delivery message based text and informative tend not enough succeed interesting attention audience , especially those dominated by Generation Z.
2. Quality Content (*Content Quality*): Findings comparative underline that , regardless from characteristic Serious theme sustainability , quality content presented — includes visual aesthetics , concise and easy narrative understood , and level professional production — is

factor prediction main to intention purchase (Simanjuntak , 2023). Brands that are considered succeed is a brand that is capable serve evidence sustainability they with attractive and attractive visuals .

3. Implications Comparative : Brands that only depend on approach *branding* conventional and less adaptive towards digital marketing strategies (Lathifah , 2024) tends to lost compete in implant narrative sustainability . Differences significant seen when compared to with brands that take advantage of features available on Instagram in general maximum.

4.3. Effectiveness Narration Sustainability to Brand Image (RQ 3)

Effectiveness narrative implemented sustainability own impact significant to formation image brand image *in* the eyes of public . Existing studies strengthen that the digital communication strategy is implemented with good , includes marketing content (*content marketing*), in a collective success form A profitable brand *image* (Ignabettha , 2023; Astuty , 2024). Although thus, when discuss issue *sustainability* , factors transparency and credibility become element the most important determinant .

1. Credibility and Transparency : Narrative sustainability something brand assessed effective if delivered by a credible narrator Good That involving *fashion influencer* in tune with values brand , as well as internal employees who are Honest serve practice *sustainability* (Putri, 2022). Strengthening reception public to claim sustainability the supported by the existence of strong para- social interactions that are established between consumers and narrators (Simanjuntak , 2023).
2. Brand Image Formation : Narrative sustainability presented in a way transparent and supported by evidence concrete will form *Brand Image* as brands that have not quite enough answer social and environmental . This solid brand image rooted strong in Awareness Brand Awareness that has built through consistent communication (Putri VN, 2023; Dewi , 2025), so that succeed change perception consumer from just brand *fashion* become brand who upholds tall ethics (*ethical brand*).

4.4. Impact Narration Sustainability to Customer Engagement (RQ 4)

Comparison between narrative show that height involvement consumers (*customer engagement*) not only driven by the number knob *like* or *share* , but also very influenced by the type interactions that appear in the column comment .

- Trigger Engagement : Narration the most effective sustainability is successful narrative trigger deep conversation . Based on findings previously (Erwita , 2022), narrative kind of That push *customer engagement* which is realized through discussion about :
 - a) Quality : Comments that discuss or praise resilience products (*slow fashion*).
 - b) Emotions and Relationships : Comments expressing pride or existence identification self with values brand (*relationship*), as well as support to impact resulting social (emotion).
 - c) Services : More questions specific about procedure recycling repeat or source material the standard used .
 - d) Convert Engagement into eWOM : Customer engagement positive and driven by a compelling narrative in a way direct contribute to the formation of Electronic Word-of-Mouth (eWOM) positive (Gemilang, 2025). Phenomenon eWOM this , which was created from interaction consumers on social media , ultimately become factor strong influence intention buy consumer others , so that strengthen cycle success of communication strategy sustainability brand .

5. Conclusion

From the analysis narrative comparative this , can concluded that success communication brand sustainability *fashion* on Instagram lies in the ability brand For transform issue Serious become persuasive and entertaining narrative , supported by quality high and consistent content . Superior brand in context This is the one that succeeds integrate mark *sustainability* to in messages main around quality products , relationships emotional , and impact social , as well as utilize visual formats such as short video marketing for increase Power pull it . Effective narrative strategies This become very important in build image a credible and ethical brand image in the eyes of public , which only can achieved through practice total transparency to mitigate risk *greenwashing* . Ultimately , a compelling narrative will trigger involvement in -depth customer engagement , where discussions in *the* column comment values - centered brand . This in turn will encourage positive Electronic Word-of-Mouth (eWOM) and become key for growth sustainable brands in the digital market. Therefore that's the solution strategic for brand is prioritize investing in compelling narratives and honest visuals For push *engagement* based on trust .^{[1][2]}_[SEP]

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**PENGARUH ROA, ROE, DAN EPS TERHADAP RETURN SAHAM (PADA
PERUSAHAAN *CONSUMERS GOODS* SUB SEKTOR *FOOD AND BEVERAGES*
YANG TERDAFTAR DI BURSA EFEK INDONESIA PADA PERIODE 2016 – 2020)**

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Abstract

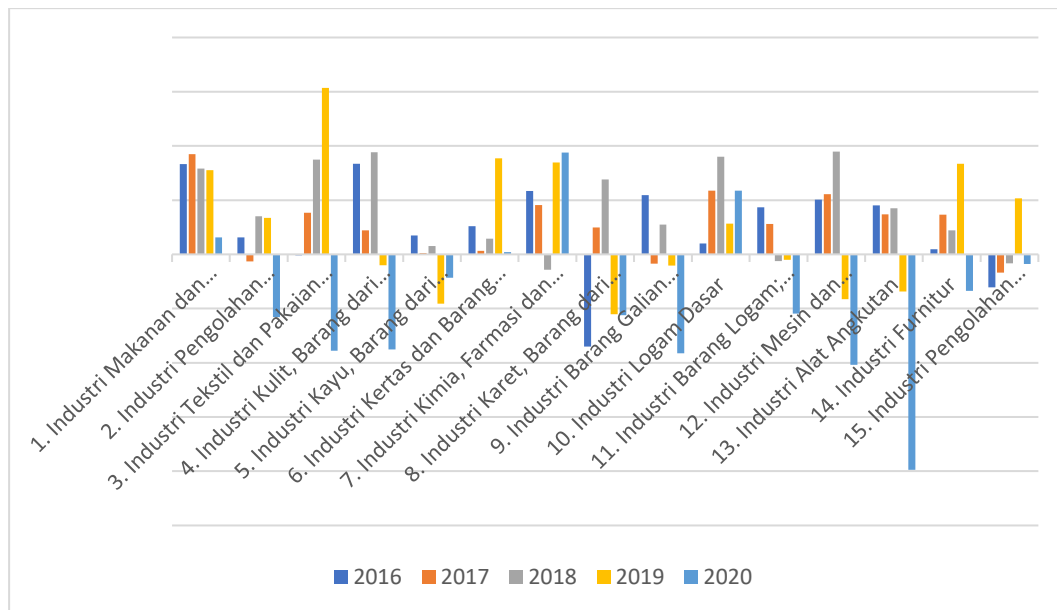
This study is an explanatory research which aims to examine various types of relationships between Hypothetical Variables. The variables used in this study are Return on Assets (ROA) or Return on Equity (ROE) or Earning per Share (EPS) and Stock Returns. This study aims to analyze the effect of Return on Assets (ROA), Return on Equity (ROE), and Earning per Share (EPS) on Stock Returns in Consumer Goods Companies in the Food and Beverages sub-sector listed on the Indonesia Stock Exchange during 2016-2020. The analytical methods used are classical assumption, multiple linear regression, coefficient of determination, partial test (T-Test), and simultaneous test (F-Test). Test data is executed with IBM SPSS Statistics 25 software. The results of this study indicate that: 1) Return on Assets (ROA) (X1) does not have a significant effect on Stock Returns. 2) Return on Equity (ROE) (X2) does not have a significant effect on Stock Returns. 3) Earning per Share (EPS) (X3) does not have significant effect on Stock Returns. 4) Return on Assets (ROA), Return on Equity (ROE) and Earning per Share (EPS) do not have a simultaneous and significant effect on Stock Returns.

Keywords: Return on Assets (ROA), Return on Equity (ROE), Earning per Share (EPS), Stock Return.

1. Introduction

Perkembangan perekonomian saat ini sangat berkembang pesat, banyak inovasi yang dilakukan manusia untuk memenuhi kebutuhan hidup. Salah satu sektor penopang pertumbuhan manufaktur dan ekonomi yaitu sektor Consumer Goods. Consumer Goods merupakan produk yang bertujuan untuk dikonsumsi oleh konsumen akhir, atau produk barang konsumsi yang tidak dimanfaatkan untuk diproduksi kembali karena barang konsumsi dapat dikatakan sebagai barang konsumen. Perusahaan ini adalah produsen yang tergolong kedalam industri manufaktur. Pada Sektor Consumer Goods terdapat beberapa Subsektor salah satunya Subsektor Makanan dan Minuman. *Food and Beverages* sendiri merupakan suatu industri yang bergerak dibidang makanan dan minuman.

Berikut adalah grafik pertumbuhan subsector industry Makanan dan minuman :



Sumber : BPS.go.id

Gambar 1
Pertumbuhan Industri Makanan dan Minuman

Dapat dilihat pada tabel diatas, pertumbuhan industri makanan dan minuman memiliki kondisi pertumbuhan yang stabil Dibandingkan dengan industri lainnya pada Sektor non migas. Beberapa perusahaan Makanan dan Minuman yang mencatat Pertumbuhan Positif, Seperti PT Mayora Indah Tbk (MYOR) yang mencatat *return* positif 15,61% secara ytd (*year-to-date*). Lalu PT Akasha Wira International Tbk (ADES) , PT Indofood Sukses Makmur Tbk (INDF) , PT Indofood CBP Sukses Makmur Tbk (ICBP) dan lain lain. Sumber : investasi.kontan.co.id

Kementerian Perindustrian mencatat, sumbangan industri makanan dan minuman kepada PDB industri non-migas mencapai 34,95 persen pada triwulan III tahun 2017. Hasil kinerja ini menjadikan sektor tersebut kontributor PDB industri terbesar dibanding subsektor lainnya. Selain itu, capaian tersebut mengalami kenaikan empat persen dibanding periode yang sama tahun 2016. Sedangkan, kontribusinya terhadap PDB nasional sebesar 6,21 persen pada triwulan III/2017 atau naik 3,85 persen dibanding periode yang sama tahun sebelumnya. Selanjutnya, dilihat dari perkembangan realisasi investasi, sektor industri makanan dan minuman untuk penanaman modal dalam negeri (PMDN) triwulan III/2017 mencapai Rp27,92 triliun atau meningkat sebesar 16,3 persen dibanding periode yang sama tahun 2016. Sedangkan, untuk penanaman modal asing (PMA) sebesar USD1,46 miliar. Perusahaan Food and Beverages mempunyai saham yang dapat bertahan pada krisis moneter atau ekonomi, karena dalam kondisi baik maupun krisis produk makanan dan minuman tetap memiliki permintaan yang konsisten. Hal ini disebabkan karena produk tersebut tergolong kebutuhan dasar masyarakat. Oleh karena itu, perusahaan yang bergerak di sektor barang konsumsi cenderung lebih menarik perhatian investor, mengingat tingkat konsumsi masyarakat terus meningkat seiring dengan bertambahnya kebutuhan hidup. Investor biasanya menilai kondisi finansial perusahaan sebagai salah satu pertimbangannya. Jika perusahaan menunjukkan performa yang positif, maka minat terhadap sahamnya cenderung meningkat, yang pada akhirnya dapat mendorong naiknya harga saham tersebut.

Penelitian ini memfokuskan data pada saham-saham dari perusahaan yang bergerak di sektor Consumer Goods, khususnya subsektor Makanan dan Minuman. Pemilihan sektor ini didasari oleh prospeknya yang menjanjikan untuk terus tumbuh. Perusahaan dalam bidang Makanan dan Minuman dianggap layak menjadi pilihan investasi bagi para investor karena

produk-produknya memiliki permintaan tinggi di masyarakat serta berpotensi memberikan keuntungan baik dalam jangka pendek maupun jangka panjang.



Sumber : Investing.com

Gambar 2
Pergerakan Harga saham Perusahaan *Food and Beverages*

Pada tabel Gambar 1.2, bisa dilihat bahwa harga saham mengalami fluktuatif yang berarti menunjukkan turun dan naiknya harga.

Dalam naik dan turunnya harga saham sangat berpengaruh terhadap *Return Saham*, saat harga saham suatu perusahaan meningkat maka akan berdampak pada *Return* saham yang akan mengalami kenaikan (*high return*). Mengacu pada penjelasan yang telah diuraikan sebelumnya, peneliti bermaksud mengkaji bagaimana pengaruh *Return On Asset* (ROA), *Return On Equity* (ROE), dan *Earning Per Share* (EPS) terhadap *Return Saham* pada perusahaan yang bergerak di sektor industri barang konsumsi, khususnya pada subsektor makanan dan minuman. Sehingga Peneliti mengambil penelitian mengenai “Pengaruh ROA, ROE, EPS Terhadap *Return Saham* (Pada Perusahaan *Consumers Goods* Subsektor *Food and Beverages* yang Terdaftar Di Bursa Efek Indonesia Periode 2016 – 2020)”.

Tabel 1
Emiten yang akan diteliti

No	Kode Saham	Nama Penerbit Efek
1	ADES	Akasha Wira International Tbk.
2	INDF	Indofood Sukses Marmur Tbk.
3	DLTA	Delta Jakarta Tbk.
4	MLBI	Multi Bintang Indonesia Tbk.
5	MYOR	Mayora Indah Tbk.
6	CEKA	Wilmar Cahaya Indonesia Tbk.
7	ALTO	Tri Banyan Tirta Tbk.
8	ROTI	PT Nippon Indosari Corpindo Tbk
9	ULTJ	PT Ultrajaya Milk Industry & Trading Company Tbk
10	STTP	PT Siantar Top Tbk

Sumber : sahamidx.com

2. Literature Review

2.1 Pasar Modal

Secara garis besar, pasar modal adalah suatu wadah yang mempertemukan pihak yang ingin menawarkan dana dengan pihak yang membutuhkan dana melalui transaksi keuangan. Dalam kegiatan ini, terdapat dua pelaku utama, yaitu emiten dan investor. Emiten adalah perusahaan yang mencari pendanaan dengan menawarkan instrumen keuangan di pasar modal. Sementara itu, investor adalah pihak yang tertarik membeli instrumen tersebut dari emiten yang mereka anggap potensial memberikan keuntungan (Kasmir, 2011). Dalam konteks yang lebih spesifik, pasar modal juga dapat dimaknai sebagai lembaga yang tersusun secara sistematis, tempat berlangsungnya jual beli efek yang disebut bursa efek.

2.2 Investasi

Investasi merujuk pada kegiatan menempatkan sejumlah dana atau aset dengan tujuan memperoleh keuntungan di masa mendatang. Aktivitas ini bisa dilakukan melalui sektor riil, seperti pembelian tanah, emas, mesin, atau properti, maupun melalui instrumen keuangan seperti deposito, saham, dan obligasi. Menurut pendapat Kasmir dan Jakfar (2012), investasi merupakan bentuk penanaman modal yang dilakukan dalam jangka waktu yang cukup panjang dan melibatkan berbagai sektor usaha. Dalam cakupan yang lebih terbatas, investasi bisa berarti pembiayaan pada proyek-proyek tertentu, baik yang bersifat fisik seperti pembangunan pabrik, jalan, jembatan, serta gedung, maupun proyek non-fisik seperti riset dan pengembangan.

2.3 Saham

Secara garis besar, saham merupakan instrumen keuangan berbentuk surat berharga yang bisa diperjualbelikan oleh individu maupun institusi di bursa atau pasar modal. Saham mencerminkan kepemilikan modal seseorang atau suatu badan usaha dalam suatu entitas bisnis, seperti perseroan terbatas. Dengan memiliki saham tersebut, pemiliknya berhak atas bagian keuntungan perusahaan, memiliki hak terhadap aset yang dimiliki perusahaan, serta memperoleh hak suara dalam pelaksanaan Rapat Umum Pemegang Saham (RUPS). Saham adalah salah satu instrument pasar modal yang paling banyak diminati oleh investor, karena mampu memberikan tingkat pengembalian yang menarik. Saham adalah kertas yang tercantum dengan jelas nilai nominal, nama perusahaan, dan diikuti dengan hak dan kewajiban yang telah dijelaskan kepada setiap pemegangnya (Fahmi, 2015).

2.4. Return On Assets (ROA)

“Return On Assets (ROA) adalah salah satu indikator profitabilitas yang digunakan untuk menilai seberapa efektif perusahaan dalam memanfaatkan total asetnya untuk memperoleh keuntungan. ROA mencerminkan sejauh mana aset yang dimiliki perusahaan mampu menghasilkan laba” (Kasmir, 2014).”

2.5 Return On Equity (ROE)

Pengertian Return On Equity (ROE) Return On Equity (ROE) yaitu mengukur kemampuan perusahaan menghasilkan laba bersih berdasarkan modal tertentu. Rasio ini merupakan ukuran profitabilitas dilihat dari sudut pandang pemegang saham.

2.6 Earning Per Share (EPS)

Pengertian Earning Per Share (EPS) adalah suatu rasio keuangan yang menunjukkan seberapa besar keuntungan yang diperoleh perusahaan untuk setiap saham biasa yang dimiliki oleh pemegang saham. Bagi investor, data mengenai laba per saham (EPS) dipandang sebagai salah satu informasi utama yang sangat bermanfaat. Hal ini karena EPS dapat mencerminkan potensi laba perusahaan di waktu yang akan datang serta menjadi indikator efektivitas kinerja perusahaan. Dalam pandangan Kasmir (2012: 207), EPS adalah rasio yang digunakan untuk menilai sejauh mana manajemen berhasil menciptakan keuntungan bagi para pemegang saham.

2.7 Return Saham

Menurut Irham (2015), saham adalah bukti tertulis atas kepemilikan modal dalam sebuah perusahaan yang memuat informasi seperti nilai nominal, identitas perusahaan, serta hak dan kewajiban yang melekat bagi pemilik saham tersebut. Sementara itu, Jogiyanto (2013) mengartikan return saham sebagai keuntungan yang diperoleh dari aktivitas berinvestasi di saham. Return ini bisa berupa hasil yang telah terealisasi atau proyeksi keuntungan di masa mendatang yang masih bersifat harapan.

2.8. Hipotesis Penelitian

Hipotesis ialah dugaan atau jawaban sementara yang harus dibuktikan kebenarannya dengan metode penelitian. Berdasarkan kerangka pemikiran diatas maka penelitian ini dilakukan agar dapat mengambil kesimpulan sementara (Hipotesis) yaitu sebagai berikut:

H1 : Diduga ROA memiliki pengaruh terhadap return saham

H2 : Diduga ROE memiliki pengaruh terhadap return saham

H3 : Diduga EPS memiliki pengaruh terhadap return saham

H4 : Diduga ROA, ROE, dan EPS memiliki pengaruh secara serentak terhadap return saham.

3. Methodology

3.1. Jenis, Objek, dan Subjek Penelitian

“Jenis penelitian yang akan digunakan yaitu penelitian kuantitatif mengenai Pengaruh Return On Asset (ROA), Return On Equity (ROE), dan Earning Per Share (EPS) terhadap return saham pada perusahaan Consumers Goods Subsektor Food and beverages yang terdaftar di Bursa Efek Indonesia (BEI). Penelitian dilakukan dengan pengujian teori-teori dan pengukuran variable penelitian dengan angka.” Pembuktian dalam penelitian ini dilakukan melalui penerapan teknik analisis statistik. Objek pada penelitian ini yaitu variabel Return on asset , Return On Equity , Earning Per Share Terhadap Return Saham. Subjek pada Penelitian ini yaitu Perusahaan yang termasuk kedalam sub sektor industry Makanan dan Minuman (Food and Beverages) Yang terdaftar di Bursa Efek Indonesia (BEI) pada periode 2016 – 2020

3.2. Unit Analisis, Populasi, Teknik Penarikan Sampel

“Populasi adalah wilayah generalisasi yang terdiri atas objek/subjek yang mempunyai kualitas dan karakteristik tertentu yang ditetapkan oleh peneliti untuk dipelajari dan kemudian ditarik kesimpulannya. Populasi dalam penelitian ini adalah perusahaan Consumers Goods yang terdaftar di Bursa Efek Indonesia (BEI) Periode 2016-2020” (Sugiyono 2016).

Penelitian pada teknik pengambilan sampel yang digunakan yaitu Return On Assets (ROA) (X1), Return On Equity (ROE)(X2), Earning Per Share (EPS)(X3) Dan Return Saham (Y) Sampel yang digunakan dalam penelitian ini yaitu perusahaan Consumers Goods subsektor Food and Beverages yang terdaftar di Bursa Efek Indonesia (BEI) Periode 2016-2020.

3.3. Jenis, Sumber, dan Metode Pengumpulan Data

Jenis data yang di kumpulkan merupakan jenis data sekunder. Data sekunder merupakan data yang didapat tidak secara langsung dari objek penelitian. Peneliti mendapatkan data yang sudah jadi yang dikumpulkan oleh pihak lain dengan berbagai metode baik secara komersial maupun non komersial. Metode pengumpulan data yang akan digunakan yaitu metode dokumentasi.

4. Result and Discussion

4.1 Hasil Penelitian dan hasil Uji Hipotesis

a) Analisis Regresi Linier Berganda

Analisis regresi linier berganda digunakan untuk menguji hipotesis tentang pengaruh variabel independen secara simultan maupun parsial. Hasil analisis regresi dapat dilihat pada Tabel 4.4 berikut ini:

Tabel 2
Hasil Analisis Regresi

Coefficients^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-,114	,105		-,083
	ROA	-,004	,011	-,122	,706
	ROE	,014	,010	,475	,144
	EPS	,001	,002	,075	,655
a. Dependent Variable: RETURN SAHAM					

Sumber: Data yang telah diolah menggunakan SPSS 25

Adapun interpretasi atas persamaan regresi tersebut dapat dinyatakan sebagai berikut:

- Nilai konstanta sebesar -0,114 menunjukkan bahwa jika *Return on Asset (ROA)*, *Return on Equity (ROE)*, dan *Earning per Share (EPS)* tidak berubah atau dianggap konstan bernilai nol, maka *Return Saham* mengalami penurunan sebesar 0,114%.
- Koefisien *Return on Asset (ROA)* sebesar -0,004 menunjukkan bahwa jika nilai variabel *Return on Asset (ROA)* naik sebesar 1% akan menyebabkan nilai *Return Saham* naik sebesar 0,004% dengan asumsi variabel lainnya konstan atau tidak mengalami perubahan.
- Koefisien *Return on Equity (ROE)* sebesar 0,014 menunjukkan bahwa jika nilai variabel *Return on Equity (ROE)* naik sebesar 1% akan menyebabkan nilai *Return Saham* naik sebesar 0,014% dengan asumsi variabel lainnya konstan atau tidak mengalami perubahan.
- Koefisien *Earning per Share (EPS)* sebesar 0,001 menunjukkan bahwa jika nilai variabel *Earning Per Share (EPS)* sebesar 1% akan menyebabkan nilai *Return Saham* naik sebesar 0,001% dengan asumsi variabel lainnya konstan atau tidak mengalami perubahan.

b) Hasil Pengujian Hipotesis

1. Uji Koefisien Determinasi

Tabel 3
Hasil Uji Koefisien Determinasi

Model Summary^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,351 ^a	,123	,056	,17212
a. Predictors: (Constant), EPS, ROE, ROA				
b. Dependent Variable: RETURN SAHAM				

Sumber: Data yang telah diolah menggunakan SPSS 25

Pada tabel 3 dapat diketahui bahwa *R Square* (R^2) yaitu 0,123. Hal ini menunjukkan bahwa 12,3% variabel *Return Saham* dapat dijelaskan oleh variabel independen *Return on Asset (ROA)*, *Return on Equity (ROE)*, dan *Earning per Share (EPS)*. Sedangkan sisanya sebesar 87,7% dijelaskan oleh faktor lain diluar model yang dianalisis.

2. Uji Simultan (F)

Tabel 4
Hasil uji Simultan (Uji F)

<i>ANOVA^a</i>						
<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	<i>Regression</i>	,163	3	,054	1,823	,159 ^b
	<i>Residual</i>	1,165	39	,030		
	<i>Total</i>	1,328	42			
<i>a. Dependent Variable: RETURN SAHAM</i>						
<i>b. Predictors: (Constant), EPS, ROE, ROA</i>						

Sumber: Data yang telah diolah menggunakan SPSS 25

Berdasarkan hasil yang tercantum pada Tabel 4.8, diperoleh nilai Fhitung sebesar 1,823, sedangkan nilai Ftabel tercatat sebesar 2,845. Karena Fhitung berada di bawah Ftabel dan nilai signifikansi yang diperoleh yaitu 0,159 melebihi ambang batas 0,05, maka dapat disimpulkan bahwa variabel Return On Assets, Return On Equity, serta Earning per Share tidak menunjukkan pengaruh yang signifikan secara bersama-sama terhadap Return Saham dalam penelitian ini.

3. Uji Signifikansi Parameter Individual (Uji statistik t)

Tabel 5
Hasil Uji Hipotesis Parsial t

<i>Coefficients^a</i>						
<i>Model</i>		<i>Unstandardized Coefficients</i>		<i>Standardized Coefficients</i>	<i>t</i>	<i>Sig.</i>
		<i>B</i>	<i>Std. Error</i>	<i>Beta</i>		
1	<i>(Constant)</i>	-,114	,106		-1,078	,288
	<i>ROA</i>	-,004	,011	-,119	-,369	,714
	<i>ROE</i>	,014	,010	,472	1,480	,147
	<i>EPS</i>	,001	,002	,074	,449	,656
<i>a. Dependent Variable: RETURN SAHAM</i>						

Sumber: Data yang telah diolah menggunakan SPSS 25

Penelitian ini memiliki 4 hipotesis yang diajukan untuk meneliti Pengaruh *Return on Assets (ROA)*, *Return on Equity (ROE)*, dan *Earning per Share (EPS)* Terhadap Return Saham Pada Perusahaan *Consumers Goods* Sub Sektor *Food and Beverages* Periode 2016-2020. Hasil hipotesis-hipotesis tersebut dijelaskan sebagai berikut :

1) Pengaruh Return On Asset terhadap Return Saham.

Hasil penelitian menunjukkan bahwa Return On Asset (ROA) tidak memiliki pengaruh yang berarti terhadap Return Saham. Hal ini dibuktikan melalui nilai t hitung sebesar -0,369 yang lebih kecil dari t tabel sebesar 2,022. Selain itu, pengujian regresi secara parsial juga memperlihatkan bahwa nilai signifikansi untuk variabel ROA sebesar 0,714, yang melebihi tingkat signifikansi $\alpha = 0,05$. Sehingga **H1 ditolak**.

2) Pengaruh Return On Equity terhadap Return Saham.

Berdasarkan hasil analisis, Return On Equity (ROE) terbukti tidak memiliki pengaruh yang signifikan terhadap Return Saham. Hal ini ditunjukkan oleh nilai t hitung sebesar 1,480 yang lebih kecil dibandingkan t tabel sebesar 2,022, serta

tingkat signifikansi sebesar 0,147 yang melebihi ambang batas 0,05. Dengan demikian, dapat disimpulkan bahwa ROE tidak memberikan dampak berarti terhadap Return Saham. Sehingga, **H2 ditolak**.

3) Pengaruh *Earning per share (EPS)* terhadap *Return Saham*.

Dari hasil analisis penelitian, diketahui bahwa Earning per Share (EPS) tidak memiliki pengaruh yang signifikan terhadap Return Saham. Hal ini ditunjukkan oleh nilai t hitung yang hanya mencapai 0,449, lebih rendah dibandingkan t tabel sebesar 2,022, serta nilai signifikansi yang melebihi batas 0,05, yaitu sebesar 0,656. Artinya *Earning per Share* Tidak berpengaruh secara signifikan terhadap *Return Saham*. **H3 Ditolak**.

4) Pengaruh *Return On Asset (ROA)*, *Return On Equity (ROE)*, dan *Earning per Share (EPS)* terhadap *Return Saham* Berdasarkan hasil Uji F menunjukkan nilai signifikansi lebih besar dari 0.05 yaitu 0.159. Dengan demikian diperoleh kesimpulan bahwa variabel *Return On Asset (ROA)*, *Return On Equity (ROE)* dan *Earning per Share (EPS)* secara simultan berpengaruh positif namun tidak signifikan terhadap Return Saham yang berarti **H4 Ditolak**.

4.2. Pembahasan Hasil Penelitian

1. Pengaruh Return on Assets (ROA) Terhadap Return Saham

“Dari Hasil Pengujian Analisis Regresi diperoleh nilai t hitung Sebesar -0,369 Dengan tingkat Signifikansi 0,714 ($>0,05$) variable maka Return on Assets(X1) tidak berpengaruh secara signifikan terhadap Return Saham yang berarti H1 ditolak. Temuan dalam penelitian ini sejalan dengan studi yang dilakukan oleh Mende dan Van Rate (2017), yang menyimpulkan bahwa Return On Assets (ROA) tidak memiliki pengaruh signifikan terhadap Return Saham. Sebaliknya, hasil ini bertentangan dengan penelitian oleh Putra dan Kindangen (2016), yang menyatakan bahwa ROA justru memberikan pengaruh signifikan terhadap Return Saham.”

2. Pengaruh Return on Equity (ROE) Terhadap Return Saham

“Dari Hasil Pengujian Analisis Regresi diperoleh nilai t hitung sebesar 1.480 dengan tingkat signifikansi 0,147 ($<0,05$) ROE tidak berpengaruh terhadap return saham berarti H2 ditolak. Tinggi atau rendahnya Return on Equity (ROE) tidak selalu menjadi faktor penentu bagi investor dalam mengambil keputusan investasi. Hal ini karena jika perusahaan dapat mengelola modal yang dimilikinya dengan efektif, maka potensi untuk memperoleh keuntungan tetap ada. Dengan demikian, penurunan modal perusahaan belum tentu berdampak langsung pada return sahamnya. Temuan ini sejalan dengan penelitian oleh Hadiningrat, Mangantar, dan Pondaag (2017) yang menyimpulkan bahwa ROE tidak memengaruhi return saham. Hasil serupa juga ditemukan dalam studi yang dilakukan oleh Samalam, Mangantar, dan Saerang (2018). Namun, hasil berbeda diperoleh dalam penelitian oleh Malinggato, Taroreh, dan Rumokoy, yang menunjukkan adanya pengaruh ROE terhadap return saham.”

3. Pengaruh Earning per Share (EPS) Terhadap Return Saham

Dari Hasil Pengujian Analisis regresi diperoleh nilai t hitung Sebesar 0,449 dengan tingkat signifikansi 0,656 ($>0,05$) EPS tidak berpengaruh terhadap Return Saham H3 Ditolak. hasil penelitian ini didukung oleh penelitian yang dilakukan oleh Suherman Sodikin, Nurul Wuldani (2016) yang menyatakan bahwa tidak terdapat pengaruh Earning per Share (EPS) Terhadap Return Saham, tetapi berbeda dengan hasil penelitian yang dilakukan oleh yuningsih (2015) menyatakan bahwa Earning per Share (EPS) Berpengaruh terhadap Return Saham.”

4. Pengaruh Return on Assets, Return on Equity, Earning per Share Secara Simultan Terhadap Return Saham
“Dari hasil pengujian analisis regresi diperoleh nilai f hitung sebesar 1,823 lebih kecil dari f tabel 2,845 ($1,823 < 2,845$) dengan tingkat signifikansi sebesar 0.288 ($> 0,05$) maka variabel Return on Assets (ROA), Return on Equity (ROE), dan Earning per Share (EPS) secara simultan tidak berpengaruh signifikan terhadap Return Saham yang berarti H_4 ditolak.”

5. Conclusion and Suggestion

5.1 Kesimpulan

Dari hasil Analisis yang telah dilakukan terhadap penelitian, dapat disimpulkan bahwa:

1. Secara parsial Return On Asset tidak berpengaruh signifikan terhadap Return Saham pada Perusahaan Manufaktur Sub Sektor Food and Beverage yang terdaftar di Bursa Efek Indonesia Periode 2016 - 2020.”
2. Secara parsial Return On Equity tidak berpengaruh signifikan terhadap Return Saham pada Perusahaan Manufaktur Sub Sektor Food and Beverage yang terdaftar di Bursa Efek Indonesia Periode 2016 - 2020.”
3. Secara parsial Earning per Share tidak berpengaruh signifikan terhadap Return Saham pada Perusahaan Manufaktur Sub Sektor Food and Beverage yang terdaftar di Bursa Efek Indonesia Periode 2016 - 2020.”
4. Secara Simultan Return On Asset, Return On Equity dan Earning Per Share tidak berpengaruh terhadap Return Saham pada Perusahaan Manufaktur Sub Sektor Food and Beverage yang terdaftar di Bursa Efek Indonesia Periode 2016 - 2020.”

5.2. Saran

1. Bagi perusahaan disarankan agar meningkatkan nilai Return On Assets (ROA) dengan memaksimalkan asset yang dimiliki. Ada beberapa cara yang dapat dilakukan diantaranya dengan menyewakan aset-aset yang dimiliki perusahaan, dengan besarnya aset yang dimiliki perusahaan dapat digunakan sebagai jaminan untuk memperoleh pinjaman dari investor, selain itu juga dapat dilakukan penjualan atas aset-aset yang sudah habis umurnya yang hasilnya dapat digunakan untuk pengadaan aset yang baru sehingga dapat mengurangi beban biaya perawatan dan dapat menambah pendapatan operasional perusahaan.
2. Disarankan agar perusahaan dapat meningkatkan nilai Return On Equity dengan memanfaatkan semaksimal mungkin modal yang dimiliki. Dalam meningkatkan ROE dapat dilakukan dengan beberapa cara, salah satunya adalah dengan meningkatkan penjualan tanpa adanya peningkatan beban operasional perusahaan. Dengan adanya peningkatan pada ROE perusahaan diharapkan akan semakin memberi kepercayaan investor dalam memberikan investasi.
3. Disarankan agar perusahaan dapat memperhatikan Earning per Share karena rasio tersebut sering digunakan oleh investor untuk menilai saham, kinerja perusahaan, dan memprediksi return yang akan diperoleh, sehingga investor dapat mengambil keputusan untuk melakukan investasi diperusahaan.
4. Untuk peneliti selanjutnya yang melakukan penelitian sejenis hendaknya menambah atau mengganti variabel yang berbeda dari penelitian ini, yang dapat memberikan hasil maksimal dalam menilai saham dan memprediksi return yang diharapkan, misalnya rasio likuiditas, ROI, GPM, dan PMR. Sehingga dapat diketahui lebih lanjut apakah terdapat perbedaan dan hasilnya dapat lebih obyektif.

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PENGARUH PERSEPSI KEGUNAAN, KEMUDAHAN, DAN KEAMANAN TERHADAP MINAT MENGGUNAKAN *MOBILE BANKING* BCA DI BOGOR

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Abstract

The digital transformation in the banking sector has significantly accelerated the adoption of mobile banking services across Indonesia, including in the Bogor region. BCA Mobile, as one of the leading digital banking applications, continues to face challenges in increasing user interest. This study aims to examine the influence of perceived usefulness, ease of use, and security on the intention to use BCA mobile banking. A quantitative approach was employed through a survey of 100 respondents who are BCA customers residing in Bogor City and Regency. Data were collected using a Likert-scale questionnaire and analyzed with Structural Equation Modeling–Partial Least Squares (SEM-PLS). The results indicate that all three independent variables—perceived usefulness, perceived ease of use, and perceived security—have a positive and significant effect on the intention to use BCA Mobile Banking. These findings reinforce the relevance of the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) in the context of digital banking adoption. Practically, this study provides strategic insights for BCA management to enhance mobile banking services by strengthening functional features, user-friendly interfaces, and trustworthy security systems

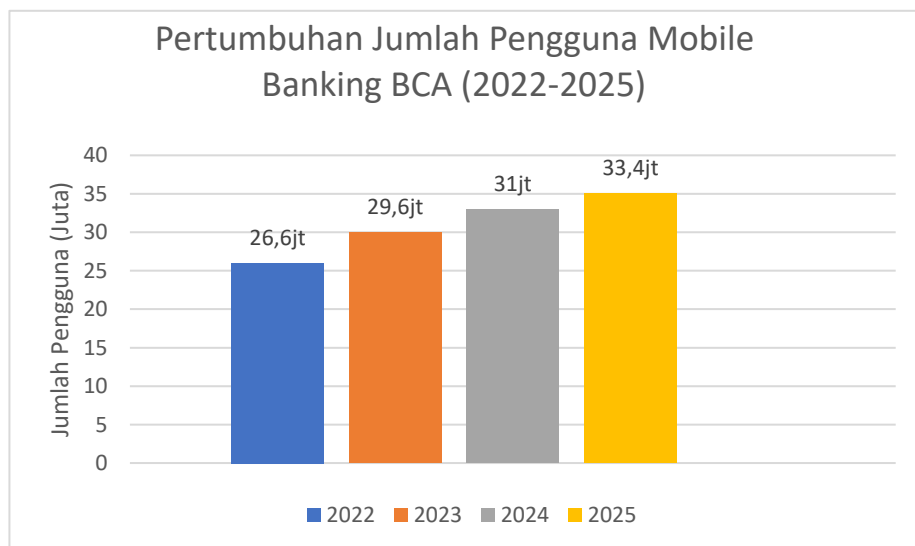
Keywords: Mobile Banking, Behavioral Intention, Perceived Usefulness, Perceived Ease of Use, Security, SEM-PLS

1. Introduction

1.1. Latar Belakang

Transformasi digital di sektor perbankan Indonesia semakin masif sejak awal dekade ini, melahirkan perubahan signifikan dalam cara masyarakat mengelola keuangan. Mobile banking kini telah menjadi kanal utama karena kemudahan akses dan kecepatan transaksi yang ditawarkannya. Nilai total transaksi melalui saluran digital perbankan termasuk mobile banking, internet banking, SMS/phone banking mencapai Rp87 kuadriliun pada Desember 2024, melonjak 50,6% YoY dibanding tahun sebelumnya. Sementara itu, data Bank Indonesia mencatat pertumbuhan sebesar 34,5% YoY pada kuartal II 2024, dengan lebih dari 5,36 miliar transaksi digital, menandakan adopsi yang semakin merata dan intensif oleh Masyarakat. Fenomena ini juga tercerminkan di segmen *mobile banking*, di mana penetrasi penggunaan terus meningkat seiring membaiknya infrastruktur digital, semakin meluasnya akses internet, dan peningkatan literasi keuangan masif. Data Bank Indonesia memproyeksikan bahwa nilai transaksi digital banking dapat tumbuh sebesar 23,2% YoY dan diperkirakan mencapai Rp71.584 triliun pada 2024, serta Rp85.044 triliun pada 2025. Proyeksi tersebut menunjukkan bahwa digital banking ,khususnya mobile banking akan terus mendominasi lanskap pembayaran dan layanan keuangan di Indonesia (Otoritas Jasa Keuangan, 2024).

Semua ini menjadikan mobile banking tidak hanya sebagai alat transaksi tetapi juga pusat manajemen keuangan digital. Lebih lanjut, dari perspektif bank, mobile banking seperti BCA Mobile juga berperan penting dalam mengurangi biaya operasional karena menurunkan kebutuhan transaksi di cabang fisik dan ATM. Dengan demikian, peran mobile banking terutama BCA Mobile sangat strategis dalam memberikan akses layanan keuangan yang cepat, mudah, aman, dan murah. Penyediaannya telah mengubah perilaku publik dalam pengelolaan keuangan harian, sekaligus mendukung tujuan inklusi keuangan digital di Indonesia (Ciptarianto & Anggoro, 2024).



Gambar 1
Pertumbuhan Jumlah Pengguna *Mobile Banking* BCA (2022-2025)

Sumber : <https://finansial.bisnis.com>.

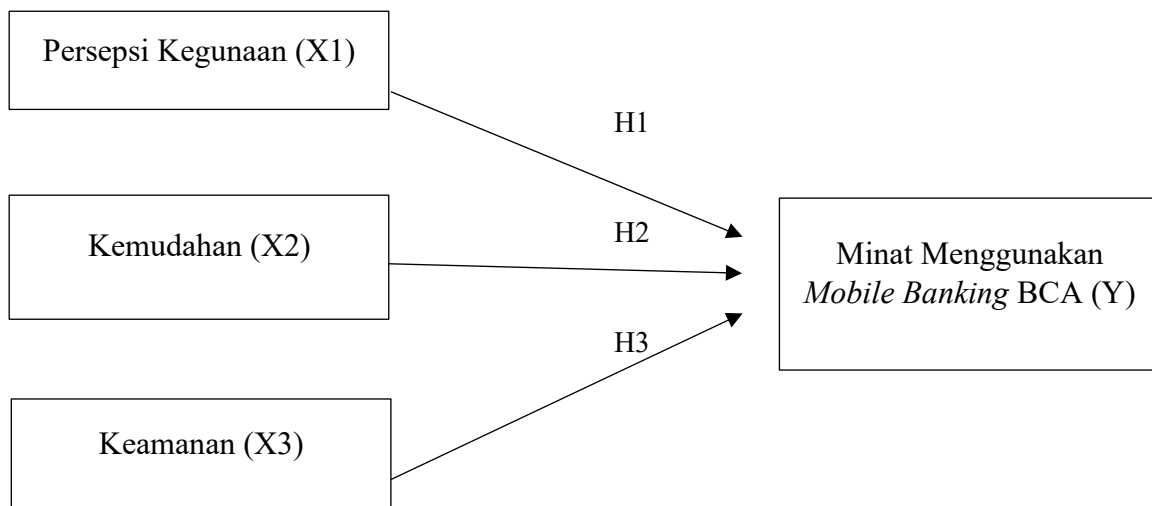
Pada gambar diatas menggambarkan tren pertumbuhan jumlah pengguna aplikasi BCA Mobile selama periode 2022 hingga kuartal pertama tahun 2025. Data ini menunjukkan bahwa minat masyarakat terhadap layanan digital banking BCA mengalami pertumbuhan yang konsisten dan signifikan setiap tahunnya. Pada akhir tahun 2022, jumlah pengguna BCA Mobile mencapai 26,6 juta, seperti dilaporkan oleh Kontan (2022). Kenaikan ini merupakan hasil dari upaya BCA dalam mendorong transformasi digital, termasuk kemudahan pembukaan rekening online yang saat itu menyumbang 64,4% dari seluruh rekening baru yang dibuka selama tahun tersebut (Kontan.co.id, 2022). Memasuki tahun 2023, jumlah pengguna meningkat menjadi 29,6 juta, menunjukkan lonjakan hampir 3 juta pengguna hanya dalam enam bulan. Namun, data kuantitatif dari pertengahan 2023 belum dipublikasi secara luas oleh pihak BCA, sehingga angka ini diambil dari perhitungan proyeksi berdasarkan pertumbuhan tahunan sebelumnya. Pada tahun 2024, jumlah pengguna kembali mengalami peningkatan dan mencapai 31 juta, atau tumbuh sekitar 5% year-on-year dari semester I tahun sebelumnya. Informasi ini diperoleh dari laporan BCA yang dirilis melalui media Antara News, yang juga menyebutkan bahwa frekuensi transaksi digital meningkat sebesar 24%, menandakan bahwa pertumbuhan pengguna tidak hanya kuantitatif tetapi juga diiringi peningkatan aktivitas transaksi (Antara News, 2024). Selanjutnya, pada kuartal I tahun 2025, jumlah pengguna aplikasi digital mencapai 33,4 juta pengguna, mengalami pertumbuhan sekitar 7% dibandingkan periode yang sama tahun sebelumnya. Data ini dirilis oleh Bisnis Indonesia yang memuat hasil evaluasi kinerja digital banking empat bank besar di Indonesia.

Latar belakang ini menjadi acuan penelitian mengenai pengaruh Persepsi Kegunaan, Kemudahan, dan Keamanan Terhadap Minat Menggunakan *Mobile Banking* BCA.

Penelitian ini bertujuan untuk menguji hubungan ketiga variabel tersebut melalui data responden di Bogor. Sebagai landasan teori, penelitian ini menggunakan TAM (*Technology Acceptance Model*) dan UTAUT (*Unified Theory of Acceptance and Use of Technology*), yang relevan untuk mengukur pendorong adopsi layanan *mobile banking* dan telah divalidasi di berbagai konteks geografis. Hasil penelitian diharapkan dapat memberikan kontribusi dalam pengembangan strategi BCA untuk meningkatkan layanan *Mobile Banking* dan pemahaman lebih dalam tentang faktor – faktor yang memengaruhi minat menggunakan *mobile banking* di era digital. Penulis tertarik untuk meneliti “Persepsi Kegunaan, Kemudahan, dan Keamanan Terhadap Minat Menggunakan *Mobile Banking* BCA di Bogor.”

1.2. Kerangka Pemikiran

Berdasarkan pemikiran pada penelitian ini mengenai Persepsi Kegunaan (X1), Kemudahan (X2), dan Keamanan (X3) Terhadap Minat Menggunakan *Mobile Banking* BCA (Y). Terlampir kerangka pemikiran Konseptual.



Gambar 2 Kerangka Pemikiran Konseptual

2. TINJAUAN PUSTAKA

2.1. Technology Acceptance Model (TAM)

Menurut Jogiyanto (2017), Model Penerimaan Teknologi (Technology Acceptance Model atau TAM) adalah suatu model penerimaan sistem teknologi informasi yang akan digunakan oleh pengguna. Technology Acceptance Model (TAM) memiliki tujuan untuk memberikan penjelasan secara sederhana atas faktor penentu dari perilaku pengguna teknologi informasi terhadap penerimaan penggunaan teknologi informasi itu sendiri (Davis et al, 1989). Unified Theory of Acceptance and Use of Technology (UTAUT)

2.2. Persepsi Kegunaan

Menurut Kamus Besar Bahasa Indonesia (KBBI), persepsi diartikan sebagai tanggapan atau penerimaan yang diperoleh melalui pancaindra, serta cara seseorang melihat atau memahami sesuatu. Hal ini menunjukkan betapa pentingnya persepsi dalam mengolah informasi yang diterima. Persepsi tidak hanya melibatkan reaksi instan, tetapi juga mencakup proses pemilihan, pengaturan, dan pengolahan informasi sensoris, yang menghasilkan pandangan yang berarti tentang dunia (Robbins & Judge, 2021).

2.3. Kemudahan (Perceived Ease of Use)

Persepsi kemudahan merupakan salah satu variabel utama dalam Technology Acceptance Model (TAM) yang diperkenalkan oleh Davis (1989), dan terus digunakan secara luas dalam studi tentang penerimaan teknologi. Menurut Ernawati dan Noersanti (2020), persepsi kemudahan adalah sejauh mana seseorang percaya bahwa menggunakan suatu sistem atau teknologi tidak memerlukan usaha yang besar.

2.4. Keamanan (Perceived Security)

Menurut Richard Apau & Harjinder Singh Lallie (2022) Perceived security didefinisikan sebagai tingkat di mana pengguna merasa bahwa aplikasi mobile banking terlindungi dari ancaman digital, termasuk adanya kontrol keamanan seperti enkripsi, autentikasi, dan perlindungan terhadap potensi serangan siber, faktor yang terbukti berpengaruh signifikan terhadap minat penggunaan aplikasi tersebut.

3. Methodology

3.1. Jenis, Objek, dan Subjek Penelitian

Jenis penelitian ini menggunakan metode kuantitatif. Objek penelitian yang digunakan dalam penelitian ini adalah Persepsi Kegunaan, Kemudahan, dan Keamanan sebagai variabel independen serta Minat Menggunakan Mobile Banking BCA sebagai variabel dependen. Subjek penelitian pada judul "Pengaruh Persepsi Kegunaan, Kemudahan, dan Keamanan Terhadap Minat Menggunakan Mobile Banking BCA" adalah nasabah yang berminat menggunakan mobile banking BCA yang berdomisili di Bogor.

3.2. Unit Analisis, Populasi, dan Teknik Penarikan Sampel

Unit analisis adalah objek yang menjadi fokus dalam suatu penelitian yang dianalisis datanya, baik berupa individu, kelompok, organisasi, atau dokumen (Sugiyono, 2022). Menurut Sugiyono (2020) dalam metode penelitian kuantitatif, populasi adalah wilayah generalisasi yang terdiri atas objek atau subjek yang mempunyai kualitas dan karakteristik tertentu yang ditetapkan oleh peneliti untuk dipelajari dan kemudian ditarik kesimpulannya. Populasi dalam penelitian ini adalah Masyarakat yang minat menggunakan mobile banking BCA yang berdomisili di Bogor (Kota dan Kabupaten). Teknik sampling adalah cara untuk menentukan jumlah dan anggota sampel yang akan diambil dari suatu populasi sehingga dapat mewakili populasi tersebut (Sugiyono, 2022). Teknik Penarikan Sampel dalam penelitian ini menggunakan non probability sampling dengan metode purposive sampling, yaitu pemilihan sampel berdasarkan kriteria tertentu yang relevan dengan tujuan penelitian. Kriteria yang digunakan untuk menentukan sampel dalam penelitian ini adalah :

1) Berdomisili di Kota atau Kabupaten Bogor

2) Berusia minimal 17 tahun

penulis menggunakan 100 responden dalam penentuan sampel yang dibutuhkan dalam penelitian ini.

3.3. Jenis, Sumber, dan Metode Pengumpulan Data

Jenis data yang digunakan pada penelitian ini yaitu data primer. Data yang penulis ambil bersumber dari data primer yang di implementasikan melalui kuisisioner yang di berikan kepada nasabah melalui Google Form. Dari sudut pandang teknik pengumpulan data, data dapat dikumpulkan melalui wawancara, kuesioner, observasi, atau kombinasi dari ketiganya. Dalam penelitian ini, sumber data primer diperoleh dari kuesioner yang di isi oleh responden, dalam hal ini adalah nasabah pada bank BCA yang minat menggunakan mobile banking. Kuisisioner tersebut mencakup identitas responden serta tanggapan mereka.

Menurut Sugiyono (2019), skala Likert adalah jenis skala pengukuran yang digunakan untuk mengukur sikap, pendapat, dan persepsi individu. Responden diminta menyatakan tingkat persetujuan atau ketidaksetujuan mereka terhadap setiap pernyataan. Oleh karena itu, responden akan diminta menjawab pertanyaan yang disusun berdasarkan skala berikut:

Tabel 1
Skala *Likert*

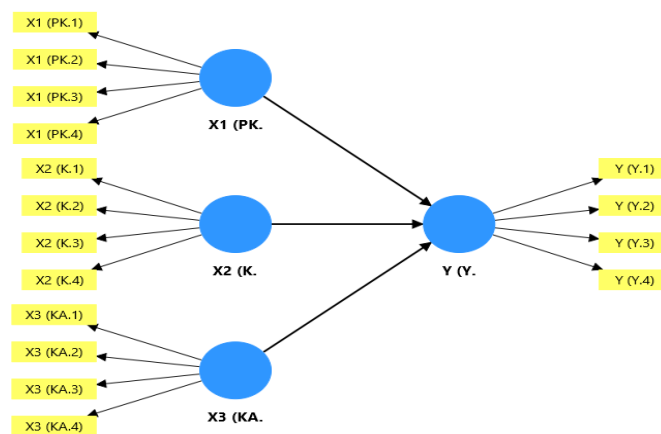
Jawaban	Skor
Sangat Tidak Setuju	1
Tidak Setuju	2
Netral	3
Setuju	4
Sangat Setuju	5

4. Result and Discussion

4.1. Hasil dan Pembahasan

4.1.1 Pengujian Model Pengukuran (*Outer Model*)

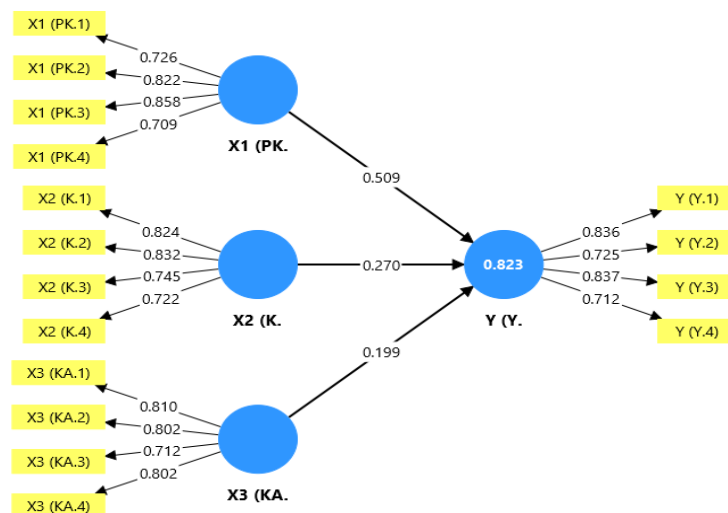
1. Model Penelitian Awal



Gambar 3 Model PLS Awal

Sumber : *Smart – PLS*, Tahun 2025 (diolah)

Hasil pengolahan data dengan menggunakan Smart-PLS yang digunakan pada penelitian dapat dilihat pada gambar 4.1 yang kemudian akan digunakan menjadi model penelitian sampai akhir penelitian ini.



Gambar 4 Model SEM PLS
Sumber : *Smart – PLS*, Tahun 2025 (diolah)

4.1.2 Uji Validitas

1. Uji Validitas Convergent Validity

Tabel 2 Outer Loadings untuk Semua Construct

	X1 (PK.)	X2 (K.)	X3 (KA.)	Y (Y.)
X1 (PK.1)	0.726			
X1 (PK.2)	0.822			
X1 (PK.3)	0.858			
X1 (PK.4)	0.709			
X2 (K.1)		0.824		
X2 (K.2)		0.832		
X2 (K.3)		0.745		
X2 (K.4)		0.722		
X3 (KA.1)			0.810	
X3 (KA.2)			0.802	
X3 (KA.3)			0.712	
X3 (KA.4)			0.802	
Y (Y.1)				0.836
Y (Y.2)				0.725
Y (Y.3)				0.837
Y (Y.4)				0.712

Sumber : *Smart – PLS*, Tahun 2025 (diolah)

Pada gambar dan tabel diatas menunjukkan bahwa semua *loading factor* memiliki nilai diatas 0,70 dan sudah memenuhi syarat sehingga konstruk untuk ssemua variable tidak ada yang harus dikeluarkan dari model. Hal ini menyatakan bahwa model konstruk sudah memenuhi kriteria *Convergent Validity*.

2. Uji AVE (*Average Variance Extrancted*)

Tabel 3 Hasil AVE (*Average Variance Extrancted*)

	Average variance extracted (AVE)
X1 (PK.	0.610
X2 (K.	0.612
X3 (KA.	0.612
Y (Y.	0.608

Sumber : Smart – PLS, Tahun 2025 diolah)

Berdasarkan pada tabel diatas menunjukan bahwa uji convergent validity juga dapat dilihat dari hasil Average Variance Extracted (AVE) dengan aturan lebih dari 0,50. Dan setiap nilai AVE di atas pada tiap variabel memiliki nilai di atas 0,50 sehingga nilai AVE dinyatakan valid sesuai dengan aturan convergent validity dan dinyatakan valid serta memenuhi syarat validitas.

1. *Composite Reliability* dan Uji *Cronbach Alpha*

a. Uji *Composite Reliability*

Tabel 4. *Composite Reliability*

	Composite reliability (rho_a)	Composite reliability (rho_c)
X1 (PK.	0.817	0.862
X2 (K.	0.795	0.863
X3 (KA.	0.792	0.863
Y (Y.	0.803	0.860

Sumber : *Smart – PLS*, Tahun 2025 (diolah)

Berdasarkan Tabel 4 *Composite Reliability* digunakan untuk mengukur keandalan konstruk laten berdasarkan kontribusi indikator-indikator yang mengukurnya. Nilai CR di atas 0.70 menunjukkan bahwa proporsi varians valid lebih besar dibandingkan dengan varians error, sehingga instrumen pengukuran dinilai stabil dan dapat diandalkan. Dengan demikian, seluruh konstruk dalam model ini telah memenuhi kriteria reliabilitas, dan tidak terdapat masalah terkait keandalan pengukuran, sehingga layak untuk digunakan dalam tahap pengujian model struktural.

b. Uji *Cronbach Alpha*

Tabel 5 Nilai *Cronbach's alpha*

	Cronbach's alpha
X1 (PK.	0.788
X2 (K.	0.788
X3 (KA.	0.788
Y (Y.	0.784

Sumber : *Smart – PLS*, Tahun 2025 (diolah)

Seluruh konstruk dalam model memenuhi kriteria reliabilitas berdasarkan nilai Cronbach's Alpha, dan instrumen yang digunakan dinyatakan reliable untuk digunakan dalam analisis selanjutnya

4.1.3 Pengujian Model Struktural (Inner Model)

a) Uji Multikolinear

Tabel 6 Uji Inner VIF

	VIF
X1 (PK.1)	1.443
X1 (PK.2)	1.709
X1 (PK.3)	1.834
X1 (PK.4)	1.422
X2 (K.1)	1.839
X2 (K.2)	1.892
X2 (K.3)	1.354
X2 (K.4)	1.463
X3 (KA.1)	1.622
X3 (KA.2)	1.709
X3 (KA.3)	1.342
X3 (KA.4)	1.711
Y (Y.1)	1.733
Y (Y.2)	1.388
Y (Y.3)	1.877
Y (Y.4)	1.452

Sumber : *Smart – PLS*, Tahun 2025 (diolah)

Berdasarkan tabel diatas menyatakan bahwa hasil perhitungan VIF pada masing – masing variable konstruk < 5. Maka seluruh variabel tidak memiliki gejala multikolinieritas, serta model stabil dan tidak terganggu oleh korelasi tinggi antar variabel bebas dan dapat digunakan dalam analisis selanjutnya.

b) Uji R-Square

Tabel 7 Uji R-Square

	R-square	R-square adjusted
Y (Y.)	0.823	0.818

Sumber : *Smart – PLS*, Tahun 2025 (diolah)

Berdasarkan Tabel di atas, diketahui bahwa nilai *R-Square* untuk variabel Minat Menggunakan *Mobile Banking* BCA adalah sebesar 0,823, sedangkan nilai *R-Square Adjusted* sebesar 0,818. Hal ini menunjukkan bahwa 82,3% variasi Minat Menggunakan *Mobile Banking* BCA dapat dijelaskan oleh variabel independen yaitu Persepsi Kegunaan, Kemudahan, dan Keamanan sedangkan sisanya sebesar 17,7% dijelaskan oleh variabel lain di luar model penelitian ini. Nilai R-Square tersebut berada di atas 0.67, yang menurut Ghazali (2021) menunjukkan bahwa model memiliki kekuatan prediktif yang kuat.

c) Goodness Of Fit (GoF)

Untuk mengetahui GOF ini di hitung secara manual. Berikut hasil dari perhitungan nilai GOF :

$$GoF = \sqrt{AVE \times R^2}$$

$$GoF = \sqrt{\frac{0.610 + 0.612 + 0.612 + 0.608}{4} \times \frac{0.823 + 0.818}{2}}$$

$$GoF = \sqrt{0.6105 \times 0.8205}$$

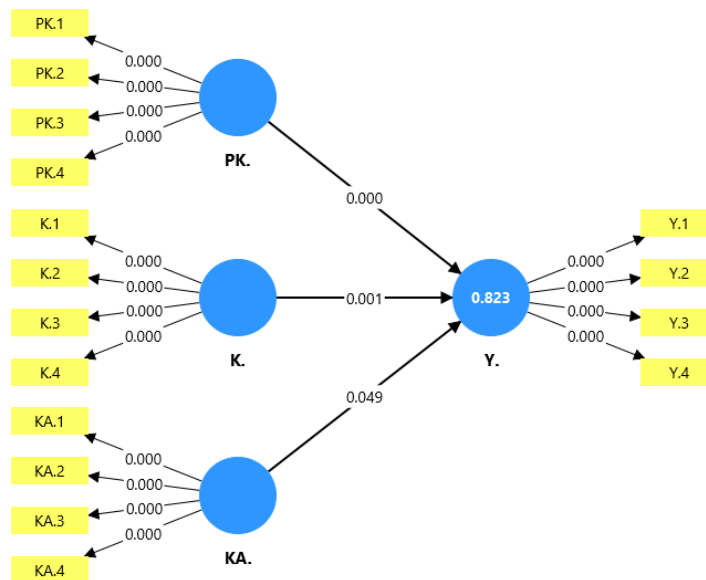
$$GoF = 0.70$$

Tiga kategori nilai GoF Index yaitu :

- 0.00 – 0.24 → termasuk kedalam kategori yang rendah
- 0.25 – 0.35 → termasuk kedalam kategori yang sedang
- 0.36 – 1.00 → termasuk kedalam kategori yang tinggi.

Dari hasil GOF Indeks di atas, sudah di dapatkan hasil dari GOF tersebut sebesar 0.70. Angka tersebut masuk kedalam rentang nilai 0.38 – 1.00. Dimana memiliki arti model tersebut memiliki kecocokan yang tinggi.

4.1.4. Bootstrapping (Uji Hipotesis)



Gambar 5. Hasil Bootstrapping

Sumber : *Smart – PLS*, Tahun 2025 (diolah)

Tabel 8 Bootstrapping

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
X1 (PK. -> Y (Y.))	0.509	0.510	0.104	4.913	0.000
X2 (K. -> Y (Y.))	0.270	0.268	0.081	3.343	0.001
X3 (KA. -> Y (Y.))	0.199	0.203	0.101	1.969	0.049

Sumber : *Smart – PLS*, Tahun 2025 (diolah)

Berdasarkan Tabel diatas menunjukkan hasil bahwa :

1. Pengaruh Persepsi Kegunaan (X1) terhadap Minat Menggunakan *Mobile Banking* BCA (Y) memiliki nilai t-statistik $4.913 > 1,96$ dan p-value $0.000 < 0,05$, serta nilai dari original sample positif sebesar 0.509. Maka dapat disimpulkan H1 diterima dan H0 ditolak atau dapat di katakan bahwa Persepsi Kegunaan berpengaruh positif dan signifikan terhadap Minat Menggunakan *Mobile Banking* BCA.
2. Pengaruh Kemudahan (X2) terhadap Minat Menggunakan *Mobile Banking* BCA (Y) memiliki nilai t-statistik $3.343 > 1,96$ dan p-value $0.001 < 0,05$, serta nilai dari original sample positif sebesar 0.270. Maka dapat disimpulkan H1 diterima dan H0 ditolak atau dapat di katakan bahwa Kemudahan berpengaruh positif dan signifikan terhadap Minat Menggunakan *Mobile Banking* BCA.
3. Pengaruh Keamanan (X3) terhadap Minat Menggunakan *Mobile Banking* BCA (Y) memiliki nilai t-statistik $1.969 > 1,96$ dan p-value $0.049 < 0,05$, serta nilai dari original sample positif sebesar 0.199. Maka dapat disimpulkan H1 diterima dan H0 ditolak atau dapat di katakan bahwa Keamanan berpengaruh positif dan signifikan terhadap Minat Menggunakan *Mobile Banking* BCA.

4.2. Pembahasan

4.2.1. Pembahasan Hipotesis 1

Hasil uji menunjukkan bahwa variabel Persepsi Kegunaan berpengaruh positif dan signifikan terhadap minat menggunakan *Mobile Banking* BCA. Nilai t-statistik sebesar $4.913 > 1,96$ dan p-value $0.000 < 0,05$ menunjukkan bahwa hubungan ini signifikan secara statistik. Artinya semakin tinggi Persepsi Kegunaan, semakin tinggi pula minat seseorang untuk menggunakan *Mobile Banking* BCA.

4.2.2. Pembahasan Hipotesis 2

Hasil uji menunjukkan bahwa variabel Kemudahan berpengaruh positif dan signifikan terhadap minat menggunakan *Mobile Banking* BCA. Nilai t-statistik sebesar $3.343 > 1,96$ dan p-value $0.001 < 0,05$ menunjukkan bahwa hubungan ini signifikan secara statistik. Artinya semakin tinggi Kemudahan, semakin tinggi pula minat seseorang untuk menggunakan *Mobile Banking* BCA.

4.2.3. Pembahasan Hipotesis 3

Hasil uji menunjukkan bahwa variabel Keamanan berpengaruh positif dan signifikan terhadap minat menggunakan *Mobile Banking* BCA. Nilai t-statistik sebesar $1.969 > 1,96$ dan p-value $0.049 < 0,05$ menunjukkan bahwa hubungan ini signifikan secara statistik. Artinya semakin tinggi Keamanan, semakin tinggi pula minat seseorang untuk menggunakan *Mobile Banking* BCA.

5. Conclusion and Suggestion

5.1. Kesimpulan

Berdasarkan hasil pengolahan data dan pembahasan pada bab sebelumnya mengenai pengaruh Persepsi Kegunaan, Kemudahan dan Keamanan terhadap Minat Menggunakan *Mobile Banking* BCA di Bogor, maka penulis dapat menarik beberapa kesimpulan sebagai berikut:

- a. Variabel (X1) Persepsi Kegunaan berpengaruh positif dan signifikan terhadap Minat Menggunakan *Mobile Banking* pada Bank Central Asia. Hal ini dibuktikan dari hasil olah data menggunakan SmartPLS yang menunjukkan bahwa nilai t-statistik $4.913 > 1,96$ dan p-value $0.000 < 0,05$, serta nilai dari original sample positif sebesar 0.509.
- b. Variabel (X2) Kemudahan berpengaruh positif dan signifikan terhadap Minat Menggunakan *Mobile Banking* pada Bank Central Asia. Hal ini dibuktikan dari hasil

olah data menggunakan SmartPLS yang menunjukkan bahwa nilai t-statistik $3.343 > 1,96$ dan p-value $0.001 < 0,05$, serta nilai dari original sample positif sebesar 0.270. Variabel (X3) Keamanan berpengaruh positif dan signifikan terhadap Minat Menggunakan *Mobile Banking* pada Bank Central Asia. Hal ini dibuktikan dari hasil olah data menggunakan SmartPLS yang menunjukkan bahwa nilai t-statistik $1.969 > 1,96$ dan p-value $0.049 < 0,05$, serta nilai dari original sample positif sebesar 0.199.

5.2. Saran

Berdasarkan hasil analisis dan pembahasan yang telah dilakukan dan disimpulkan, maka dapat diberikan beberapa saran yang dapat dijadikan sebagai bahan pertimbangan, yaitu:

- Bagi peneliti yang akan datang diharapkan dapat memperluas ruang lingkup dengan memanfaatkan dan mengembangkan hasil penelitian yang lebih luas juga melakukan penelitian lain dengan menggunakan variabel – variabel yang berbeda.
- Peningkatan aspek yang dinilai rendah untuk setiap variabelnya, dengan tujuan meningkatkan minat pengguna secara keseluruhan.
- Bagi pihak PT. Bank Central Asia (Persero) Tbk, disarankan untuk terus mempertahankan dan mengembangkan keunggulan dalam aspek Persepsi Kegunaan, Kemudahan, dan Keamanan. Peningkatan berkelanjutan dalam pelatihan digital bagi nasabah, inovasi antarmuka pengguna yang intuitif, serta sistem keamanan yang adaptif terhadap potensi ancaman digital akan sangat berkontribusi terhadap Minat Menggunakan *Mobile Banking* BCA.

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TALENT MANAGEMENT IN DRIVING SUSTAINABLE PERFORMANCE AND ORGANIZATIONAL COMPETITIVENESS IN THE DIGITAL AGE

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Abstract

The contemporary business environment is characterized by widespread volatility, uncertainty, complexity, and ambiguity (VUCA). along with the acceleration of the pace of the Fourth Industrial Revolution and digital transformation. This technological shift has profoundly changed the functioning of core organizations, making talent management (TM) a vital strategic pillar. Talent is widely recognized as the most critical resource for achieving sustainable competitive advantage and ensuring long-term sustainability, encouraging organizations to strategically integrate advanced digital technologies to drive innovation and maintain high performance. The study used a five-step systematic literature review (SLR) to comprehensively investigate the dynamic relationship between TM practices, digital transformation, and the achievement of sustainable organizational performance. This research aims to identify the complex human-centric and technological mechanisms through which strategic talent management is optimized to effectively drive long-term performance and organizational competitiveness in the digital age. These findings confirm that while digital transformation increases the strategic importance of TM, its effectiveness relies heavily on human-oriented non-technical capabilities. The analysis shows that the relationship between technological inputs, such as analytical capabilities and digital TM systems, and strategic outcomes is often indirect. For example, the impact of analytics on competitiveness is fully mediated by the use of Management Control Systems (MCS), while the benefits of Generative Artificial Intelligence (Generative AI) on exploitative innovation are negatively affected by the organization's ethical dilemma. As a result, successful TM in a volatile digital landscape requires strategic leadership that proactively invests in talent and capabilities, while ensuring that technology implementation is supported by strong ethical and managerial controls. The identified methodological and contextual gaps direct the agenda for future research efforts.

Keywords: Digital Transformation, Organizational Competitiveness, Sustainable Organizational Performance, Talent Management.

1. Introduction

Today's global business landscape is characterized by widespread volatility, uncertainty, complexity, and ambiguity (vuca), along with the accelerating power of the fourth industrial revolution (industry 4.0) and digital transformation (COMNETSAT 2021 : IEEE International Conference on Communication, Networks and Satellite : Proceedings : Purwokerto, Indonesia, Online Conference, on July 17-18, 2021, 2021). Digitalization is no longer just a support tool, but a driver of transformation that profoundly changes core organizational processes, including human resource management (HRM) and innovation capabilities. As a result, organizations are facing intense pressure to adopt advanced digital technologies and integrate them strategically to maintain competitiveness and ensure long-term sustainability (Mollah et al., 2024a; Priyadi et al., 2022; Rožman et al., 2023a).

In the midst of this digital revolution, talent is widely recognized as the most crucial resource to ensure a continued competitive advantage. The rapid evolution of technology and job demands have created a significant gap between existing employee competencies and the skills needed for future roles, making the acquisition, development, and retention of creative and digitally skilled employees an existential necessity. Talent management (TM), therefore, must go beyond traditional practices that are often outdated to become a strategic and flexible function that actively leverages digital tools to attract, develop, and retain human capital that aligns with ever-evolving business models (Aina & Atan, 2020; Hasanah et al., 2023; Rožman et al., 2023b)

However, efforts to achieve digital excellence present complex challenges that go beyond just technology adoption. Research consistently shows that the success of digital transformation and the organizational outcomes it generates rely heavily on human-oriented non-technical factors, especially organizational culture, effective leadership, and strong internal control mechanisms (Safrizal et al., 2020). For example, while emergent technologies such as generative AI can enhance innovation, their implementation poses significant ethical dilemmas that must be carefully managed to prevent negative impacts on the results of exploitative innovations. Similarly, the concrete benefits of advanced tools such as analytical capabilities (AC) are not immediately realized, but must be mediated through a mature management control system (MCS) to effectively improve the competitiveness of the organization (Mullah et al., 2024).

Therefore, this study aims to investigate the complex interactions between talent management practices and organizational success in the digital age. This research seeks to clarify the mechanisms by which both human and technological talent management can be adapted and optimized to effectively drive sustainable organizational performance and higher competitiveness (Mawardi & Cahyadi, 2024). Understanding these dynamics is critical for organizations that want to navigate the inherent paradox of digitalization and ensure the prosperity of their employees and businesses in a rapidly changing world.

2. Methodology

2.1. Sample and Data Collection

The methodology of this study uses Systematic Literature Review (SLR) to rigorously investigate the conceptualization and empirical relationship between Talent Management in the Digital Age, Sustainable Organizational Performance, and Organizational Competitiveness (Mawardi & Cahyadi, 2024). This approach justified by the need for comprehensive synthesis, identification of critical research gaps, and the formation of refined conceptual models. The SLR process in this study is based on five systematic steps: framing questions for review, identifying relevant works and literary works, assessing the quality of the studies found, summarizing the evidence that answers the research, and interpreting the findings.

1. Framing Questions for Surveys

In this step, the research question and related terms must be determined before the actual start of the literature review. This research seeks to clarify the mechanisms through which strategic talent management can be adapted and optimized. The core research questions that guide this SLR are:

- RQ1: How is Talent Management conceptualized and practiced in the Digital Era?
- RQ2: What is the relationship between Talent Management and Sustainable Organizational Performance (SOPs) and Organizational Competitiveness (OC)?
- RQ3: How does Digitalization affect the effectiveness of Talent Management implementation?
- RQ4: What are the key trends and shortcomings identified in the current Talent Management in the Digital Age research?
- RQ5: How is the Conceptual Model synthesized to map the relationship between TM, SOP, and OC?

2. Identify relevant works and literary works

The main data source for this SLR is the ScienceDirect database, chosen for its broad coverage of peer-reviewed journals in the fields of Business, Management and Technology. The systematic search process follows a funnel approach to maximize relevance and quality.

3. *Assess the quality of the studies found*

In this step, the initial results are refined by applying strict filters to ensure contemporary relevance and academic rigor. The quality standards applied are:

Year of Publication: Focuses on a specific year (2020-2024) to capture leading-edge digital research (year details are not explicitly mentioned in the source, but the focus is on contemporary relevance).

Type of Article: Research Articles.

Fields of Study: Business, Management, and Accounting.

This screening yielded a total of 171 articles. Furthermore, the final selection criteria are carried out through screening of title details and abstracts based on direct relevance to Talent

Management (TM) practices, the impact of digitalization, SOPs, and OC. Finally, 16 articles were selected for in-depth analysis, which represented the definitive corpus of data for the review.

4. *Summarizing the evidence that answers the research*

In this step, the evidence found related to the research question is collected and summarized to prepare it for the fifth step, which is data analysis or interpretation of findings.

5. *Interpret findings*

In this final step, the results of the previous steps are analyzed to conclude how Talent Management operates and the strategies that can be used to drive Sustainable Performance and Organizational Competitiveness. Analytical strategies follow a structured path, which includes:

Conceptual Synthesis: Develop an integrated definition of digital TM by identifying core principles and common practices.

Consistent Pattern Analysis: Conduct cross-comparative analysis to identify consistent patterns, such as the mediating effects of intermediate variables (e.g., core competencies, strategic agility) and the moderation role of contingency factors (e.g., ethical dilemmas, organizational strategy).

Critical Evaluation and Gap Identification: Using a critical lens to identify and categorize repetitive limitations and unresolved debates, which form the basis for Research Gaps.

Model Building: Using the synthesized results to build a final conceptual model that visually represents an integrated theoretical framework.

To ensure the accuracy and reliability of SLRs, the following measures are implemented: transparency, thematic completeness, and critical analysis.

3. Results and discussion

Based on 16 article sources that were determined to meet the criteria, the results of the study are in Table 1.

Table 1. The following table summarizes the key elements of each reviewed study:

Not.	Title	Author Name	Year	Method	Findings
1	A technology-driven framework to grow lean 4.0 human resources and prevent major resignations: Improved talent management	Salvadorinho, J., Ferreira, C., & Teixeira, L.	2024	Development of a Conceptual Framework	Propose a technology-based framework for MT, centered on the Protean Career Attitude (PCA) as the key to talent retention and preventing <i>Great Resignation</i> in Industry 4.0.
2	The impact of digital transformation on	Montero Guerra, J. M., Danvila-del-	2023	Empirical Survey (314	Digital transformation is significantly

	talent management	Valle, I., & Méndez-Suárez, M.		Spanish companies)	impacting the MT process, especially in talent attraction and retention. Companies need to invest differently in digital attract and retain strategies.
3	Talent Management in the Digital Age: Adapting Recruitment and Retention Practices for a Changing Workforce	Mahmudah, S.	2024	Literature Review	Digital transformation is revolutionizing recruitment and retention through AI and data analytics. Underscores challenges such as algorithmic bias and the need for adaptation of MT practices.
4	Examining the Role of AI-Augmented HRM for Sustainable Performance: Key Determinants for Digital Culture and Organizational Strategy	Mullah, M.A., Rana, M., Amen, MB, et al.	2024	Empirical Studies	AI-Augmented HRM has a crucial role in Sustainable Performance. Its effectiveness is determined by a strong Digital Culture and Organizational Strategy.
5	The Impact of Implementing Talent Management Practices on Sustainable Organizational Performance	Al Ain, R., & Atan, T.	2020	Empirical Survey (306 UAE managers)	Talent Management practices (such as acquisition, development, and retention) have a positive and significant impact on the Sustainable Performance of the Organization.
6	Optimizing Sustainable Performance: Green Talent Management Strategy Focuses on Core Competencies	Shao, J., Ahmad, H., Butt, A. H., et al.	2024	Empirical Studies (SmartPLS, Pakistani SMEs)	Green Talent Management (GTM) directly advances Green Core Competencies (GCC) and enhances CSR commitments, which in turn strengthens the link between GTM and

					sustainable performance.
7	Competitiveness Through the Development of Strategic Talent Management and Agile Management Ecosystem	Rožman, M., Tominc, P., & Štrukelj, T.	2023	Empirical Studies (SEM, 532 managers)	The development of the Strategic Talent Management Ecosystem positively influences the development of the Strategic Agile Management Ecosystem, and both are important prerequisites for improving the Competitiveness of the Organization.
8	Analytical capabilities and organizational competitiveness: Uncovering the impact of management control systems and environmental uncertainty	Laguir, I., Gupta, S., Bose, I., et al.	2022	Empirical Studies	Analytics capabilities (key components of digitalization) affect competitiveness, with the important role of management control systems and environmental uncertainty moderation.
9	Generative AI applications and future organizational performance: The mediating role of exploratory and exploitative innovation and the role of moderation of ethical dilemmas and environmental dynamism	Singh, K., Chatterjee, S., & Mariani, M.	2024	Empirical Studies	Generative AI improves the future performance of organizations, mediated by exploratory and exploitative innovations, and moderated by ethical dilemmas. MT must manage AI ethical risks.
10	The intellectual structure of human resource management and digitalization research: Bibliometric mapping analysis	Contreras, F., Jauregui, K., & Tier, S.	2024	Bibliometric Analysis	Found a dramatic increase in HRM digitalization research since 2015. Confirming that Digital Transformation is a central topic and identifying future trends.

11	National talent innovation ecosystem and competitiveness: A country-based comparison using fsQCA	Huang, Y., Li, K., & Li, P.	2023	fsQCA & NCA (33 countries)	Efficiency of <i>E-government</i> (government digital support) is a necessary condition for the high competitiveness of national talents, highlighting the role of the ecosystem (government, university, industry).
12	Exploring the effects of digital transformation on the Company's innovation performance	Li, S., Gao, L., Han, C., et al.	2023	Empirical Studies	Digital transformation directly improves the company's innovation performance, which is a key component of sustainable performance and competitiveness.
13	Integrative Digital Transformation and Organizational Competitiveness (OC): A Proposal for a Transition Strategy to the Aeronautical Industry 4.0 (TSAI) based on the Knowledge Management (KM) approach in the Moroccan ecosystem environment.	Ettaibi, M., & Mokhtari, B.	2021	Conceptual Framework	Propose a transition strategy to Industry 4.0 based on the Knowledge Management (KM) Ecosystem to encourage innovation and Organizational Competitiveness through digitalization.
14	Analysis of the adoption of new technologies for risk management in the era of digital manufacturing	Rodríguez-Espíndola, O., Chowdhury, S., Dey, P.K., et al.	2022	Empirical Studies (SEM)	Combining RBV and TAM; shows that the intention to adopt I4.0 technology is influenced by institutional factors and resources, influencing risk management.
15	The future of digital work: Challenges for sustainable human	Dabić, M., Maley, J. F.,	2023	Literature Review	Emphasizing the need for Sustainable HRM and the development of

	resource management	Schwartz, J., & Poček, J.			work capabilities that are in line with future job challenges due to digitalization.
16	The future of work: How innovation and digitalization are reshaping the workplace	Kraus, S., Ferraris, A., & Bertello, A.	2023	Literature Review	Highlights how digitalization is transforming the workplace (e.g., remote work, AI integration) and urges organizations to focus on skill <i>development</i> and digital culture.

A systematic review of the selected literature (n=16) resulted in a comprehensive mapping of the academic landscape, which was compiled based on five predetermined research questions.

Table 2. The following table summarizes the Research Question (RQ1-RQ5):

Research Questions	Summary of Key Findings	Supporting Themes (Consensus & Synthesis)
RQ1: In the Digital Age: Concepts & Practices	It must move from traditional practices to strategic functions that emphasize agility, independence, and digital competence, often supported by HRM strengthened by artificial intelligence (AI).	The core conceptual shift focuses on the development of an independent and goal-oriented individual to meet the demands of Industry 4.0
RQ2: Relationship of TM to SOP and OC	This relationship is indirect and highly dependent on the ability of intermediaries (mediators). TM positively encourages core competencies, which in turn affects innovation performance.	There are contradictions regarding the direct impact of Talent Attraction and Retention; Some studies have found that the immediate impact is not significant, especially in small companies in developing countries.
RQ 3: The Effect of Digitalization on the Effectiveness of TM	Digitalization is a significant positive driver for TM and innovation, but its effectiveness depends on non-technical factors and internal controls. Organizational Strategy is a stronger predictor for	Effectiveness is influenced by the Ethical Dilemma (which negatively impacts exploitative innovation) and is achieved primarily through the Management Control System (MCS), rather than directly.

	successful adoption of digital HRM in emerging economies compared to Digital Culture.	
RQ 4: Research Trends and Shortcomings	Key gaps include the dominance of cross-sectional data, over-reliance on RBV and TAM, as well as a lack of representation of human factors (e.g., psychology, culture) and studies from developing countries.	The future agenda demands longitudinal studies, the integration of AI ethics and Digital Leadership models, as well as a broader exploration of Natural Resource Based View (NRBV).
RQ 5: Synthesis of Conceptual Models	The model should integrate dynamic capabilities where TM drives SOP/OC (DV) through a mediator (e.g., GCC/AI-HRM) under a specific moderator (OS/Ethics).	The framework should explicitly take into account the context of developing countries and the strong role of the Organization's Strategy on Digital Culture in the early adoption of AI-HRM.

3.1.Digital Foundation TM as a Driver of Digital Transformation Innovation

Digital Transformation (DT) does not merely serve as a backdrop, but has been confirmed as a key driver of innovation and talent management (TM). Corporate digitalisation and the level of regional digital industry innovation have been proven to significantly spur corporate innovation. More specifically, the adoption of technologies such as Generative AI (GenAI) has a positive influence on exploratory and exploitative innovation. In addition, the level of digital transformation maturity is an important prerequisite for organisational resilience. The adoption of Industry 4.0 technologies, influenced by factors such as market pressure and regulatory support, has also proven crucial for successful risk management. (Rodríguez-Espíndola et al., 2022)

3.2.Human Needs: Beyond Techology

The key finding of this review is the affirmation of the critical yet often overlooked role of human-oriented non-technical capabilities. There is a significant gap in the existing e-HRM literature, evident in the lack of attention to human and behavioural factors, reflected in the dominance of Business/Economics articles (59%) over Psychology (8.3%) (Contreras et al., 2024) . Talent Management must actively encourage the development of independent and goal-oriented individuals, in line with the Harada Method approach. Furthermore, the successful establishment of a digital culture is highly dependent on a group-oriented organisational culture. In the context of sustainability, investment in Green Talent Management (GTM) practices effectively promotes Green Core Competencies (GCC). The positive relationship between GTM and sustainable performance is reinforced by a strong commitment to Corporate Social Responsibility (CSR).

3.3.Control, Mediation, and Conditionality Mechanisms.

The relationship between technological inputs (e.g., digital TM, analytics) and strategic outcomes such as Sustainable Organisational Performance (SOP) or Organisational Competitiveness (OC) is generally indirect and depends on internal and external control mechanisms. For example, Analytical Capability (AC) does not directly affect competitiveness,

but rather its impact is mediated exclusively through the use of Management Control Systems (MCS), particularly Interactive, Diagnostic, and Assurance Systems (Laguir et al., 2022). Furthermore, the effectiveness of technologies such as GenAI is significantly and negatively moderated by ethical dilemmas when applied to exploitative innovations. Key findings in developing countries reveal a contradiction where Organisational Strategy (OS) has a significant positive influence on AI-supported HRM and SOP, while Digital Culture (DC) shows insignificant effects. This suggests that in resource-constrained environments, top-down strategic urgency takes precedence over organic cultural alignment in the early adoption phase. External factors such as Regulatory Support and E-Government Efficiency are also important prerequisites for enhancing technology adoption and national talent competitiveness. (Huang et al., 2023)

3.4. Defined Research Gaps (Agenda for Future Research)

The systematic review identifies persistent research gaps to guide future efforts, specifically focusing on methodological and contextual limitations. Methodologically, there's an over-reliance on cross-sectional designs, which restricts causal inference; future research should focus on longitudinal studies (like time-series QCA) and case-based research to accurately capture complex evolutionary dynamics and mediation effects. Contextually, the current body of work is overly focused on developed countries, necessitating comparable studies in developing countries to test the generalizability of organizational models, particularly concerning the role of cultural variables in different contexts.

4. Conclusion

This research, through the *Systematic Literature Review* (SLR) approach, successfully analyzed the multidimensional relationship between Talent Management (TM) and Sustainable Performance (SOP) as well as Organizational Competitiveness (OC) in the digital era. The findings suggest that Digital Transformation (TD) has transformed TM from an administrative function to a vital strategic pillar, although its effectiveness relies heavily on navigating non-technical capabilities and specific contexts.

In summary, TM's success in the face of digital volatility requires Strategic Leadership that dares to invest in talent and capabilities upfront, while ensuring that technology implementation is strengthened by ethical and managerial controls.

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BUILDING GENERATION Z INTERPERSONAL RELATIONSHIPS IN THE DIGITAL AGE THROUGH ADAPTIVE ORGANIZATIONAL CULTURE.

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Abstract

Purpose This study aims to analyze the crucial role of adaptive organizational culture as a strategic framework to bridge the gap and strengthen Generation Z's interpersonal relationships in the digital workplace, considering their digital native characteristics and challenges in face-to-face communication. *Methodology* The method employed is a Conceptual Review based on the synthesis of eight (8) relevant academic literature on Gen Z characteristics, employee relationships in the digital era, and organizational culture. This approach identifies patterns and factors to build an integrated framework. *Findings* The results indicate that Gen Z's social interaction is positively influenced by a supportive work environment, flexible hours, and effective use of technology. While Gen Z is digitally-savvy, they show a lack of face-to-face interpersonal skill. Digital Leadership significantly mediates job satisfaction, which is essential for improving their work performance and social interaction. *Suggestion* Organizations must proactively develop an adaptive culture and focused Human Resource Management (HRM) activities to mitigate the negative characteristics of Gen Z, particularly their interpersonal communication weaknesses.

Keywords: Adaptive Organizational Culture, Generation Z, Interpersonal Relationships, Digital Leadership, Digital Work Environment.

1. Introduction

Generation Z (Gen Z) has become a dominant force in the labor market. Each generation has its own unique needs, incentives, attitudes, and values (Employer Branding and Employee Value Proposition for Generation Z in the Digital Economy). Gen Z, which grew up with technology, is flexible, multitasking, and digitally literate, which can effectively enhance team collaboration (Profile, 2023).

The shift to the digital realm has transformed business communication into a more interactive and rapid process, creating new challenges in employee relations (Of & Science, 2022). Although Gen Z excels in the digital realm and intrapersonal relationships, they show significant weaknesses, such as underdeveloped interpersonal skills and face-to-face communication (Komalasari et al., 2022).

The limitation of previous research in explicitly linking Gen Z's interpersonal weaknesses with structured organizational culture strategies in the digital age is a research gap (Of & Science, 2022). The novelty of this article is that it proposes and verifies a conceptual framework that positions Adaptive Organizational Culture supported by Digital Leadership as a strategic solution for improving Gen Z's interpersonal relationships.

The objectives of this study are to: (1). Identify factors that influence Gen Z's social interactions in the workplace, and (2). Analyze the role of organizational cultural adaptation in strengthening Gen Z's interpersonal relationships in the digital age.

2. Methodology

This article uses the Conceptual Review method or systematic literature review of managerial issues and organizational behavior. This qualitative approach focuses on in-depth analysis and synthesis of findings from published academic literature.

Population and Sample: The data used consists of eight (8) relevant scientific documents uploaded by users, focusing on:

1. Characteristics of Gen Z (Komalasari et al., 2022).
2. Challenges in Employee Relations in the Digital Age (Of & Science, 2022).
3. Organizational Culture, Digital Leadership, and Adaptability (Koreen et al., 2025).

Design and Analysis Techniques: Research design is a critical synthesis of literature, in which findings from each source are analyzed, clustered by theme, and synthesized to construct a coherent argument. Analysis techniques involve cross-comparing claims and evidence to develop a conceptual framework that offers solutions to the problems raised.

3. Result and Discussions

Gen Z social interaction in the workplace is greatly influenced by workplace culture, support from coworkers, and the use of technology in communication (Anggiani & Fatonah, 2025). Although Gen Z has digital and intrapersonal strengths, they need help developing interpersonal skills (Komalasari et al., 2022).

To facilitate healthy social interaction, organizations must adapt their work environments to Gen Z preferences (Anggiani & Fatonah, 2025). An adaptive culture is characterized by:

- a. **Support and Facilities:** Job satisfaction that includes a supportive environment and adequate facilities positively influences social relationships (Anggiani & Fatonah, 2025).
- b. **Flexibility:** Flexible working hours and attention to work-life balance have a positive impact on employee social relationships (Anggiani & Fatonah, 2025)

Digital leadership plays an important role. Studies show that effective digital leadership has a significant positive influence on Gen Z's work performance, with job satisfaction as a mediating variable (Anggiani & Fatonah, 2025). Leaders must also demonstrate interpersonal and intrapersonal leadership competencies to foster overall organizational adaptability (Koreen et al., 2025). In other words, an effective adaptive culture is a blend of structure (flexibility) and leadership soft skills (interpersonal competency) that are appropriate for the digital age.

4. Conclusion

This article concludes that the key to building strong interpersonal relationships for Generation Z in the digital age is through the implementation of an Adaptive Organizational Culture supported by effective Digital Leadership. This culture must prioritize work flexibility, a supportive environment, and ensure that the use of technology actually improves the quality of communication and team collaboration.

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**PENGARUH *CURRENT RATIO*, *DEBT TO EQUITY RATIO*, *TOTAL ASSET TURNOVER* DAN *NET PROFIT MARGIN* TERHADAP *RETURN ON ASSETS*
(Studi Pada Perusahaan Sub Sektor Telekomunikasi Yang Terdaftar Di Bursa Efek
Indonesia Tahun 2019 – 2023)**

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Abstract

This study aims to determine whether there is an influence of Current Ratio (CR), Debt to Equity Ratio (DER), Total Asset Turnover (TATO), and Net Profit Margin (NPM) on Return on Assets (ROA) in telecommunication sub-sector companies listed on the Indonesia Stock Exchange (IDX) for the period 2019–2023. The sample in this study consists of 8 companies selected using the purposive sampling technique. With a 5-year observation period, the total data used in this study amounts to 40 observations. The analytical method employed is descriptive statistics, using multiple linear regression analysis with the assistance of SPSS 22 software. The results of this study partially indicate that the Current Ratio has a positive and significant effect on Return on Assets, Debt to Equity Ratio has a positive and significant effect on Return on Assets, Total Asset Turnover has a positive and significant effect on Return on Assets, and Net Profit Margin has a positive and significant effect on Return on Assets. Meanwhile, simultaneously, Current Ratio, Debt to Equity Ratio, Total Asset Turnover, and Net Profit Margin have a positive and significant effect on Return on Assets.

Keywords: *Current Ratio, Debt to Equity Ratio, Total Asset Turnover, Net Profit Margin.*

1. PENDAHULUAN

Perkembangan teknologi informasi dan komunikasi (TIK) telah menunjukkan perkembangan yang pesat dalam beberapa tahun terakhir. Pengembangan teknologi informasi dan komunikasi ini memberikan dampak yang sangat besar bagi Indonesia. Tidak hanya orang dewasa yang mengenal teknologi informasi dan komunikasi yang canggih pada saat ini, tetapi juga pertumbuhan anak zaman sekarang diiringi dengan penggunaan teknologi. Didorong oleh fakta bahwa teknologi informasi dan komunikasi diperlukan untuk mempermudah keberlangsungan dalam kehidupan dan kegiatan sehari – hari, termasuk dalam sebuah bisnis. Dengan hal tersebut masyarakat tentu akan lebih bergantung pada teknologi.

Adopsi penggunaan teknologi informasi dan komunikasi (TIK) oleh Masyarakat di Indonesia menunjukkan penggunaan telepon seluler terus mengalami peningkatan seiring dengan pertumbuhan populasi setiap tahunnya hingga mencapai 67,88% pada tahun 2022. Peningkatan kepemilikan akses komputer dan internet rumah tangga, yang mencapai 18,04% untuk kepemilikan komputer dan 86,54% untuk rumah tangga dengan kepemilikan akses internet, hal tersebut sejalan dengan pertumbuhan penggunaan teknologi dan jaringan internet yang ada di Indonesia. (bps.go.id:2022)

Menurut hasil *survey* yang dilakukan, tingkat pengguna jaringan internet yang tinggi menjadikan Indonesia menduduki peringkat keempat pemakai internet terbanyak di dunia, di bawah Tiongkok, India dan Amerika Serikat. Indonesia berada pada peringkat ke-4. Hal ini menunjukkan betapa signifikannya peran internet dalam kehidupan masyarakat Indonesia. (APJII)

Peringkat penggunaan internet di Indonesia pun cukup menonjol di kaca dunia yang berarti Indonesia berhasil membuktikan bahwa sebagai salah satu negara berkembang juga

tidak akan tertinggal oleh arus perkembangan teknologi yang terjadi. Dengan hampir semua aktivitas yang dilakukan oleh masyarakat Indonesia menggunakan teknologi ini, penggunaan layanan internet publik pun pasti akan meningkat seiring dengan berjalannya waktu.

Pertumbuhan penggunaan internet di Indonesia pun menunjukkan peningkatan sebesar 13,04% dalam waktu 5 tahun terakhir, berdasarkan gender, kontribusi dari penggunaan internet Indonesia ini banyak bersumber dari laki-laki 50,7% dan perempuan 49,1%. Angka pertumbuhan penggunaan internet yang cukup besar ini tentunya ditunjukkan karena adanya pandemi COVID-19 yang telah memberikan dampak besar bagi kehidupan masyarakat. Pandemi dinyatakan terjadi pada tahun 2020 di Indonesia, mulai dari pemberlakuan kebijakan Pembatasan Sosial Berskala Besar (PSBB) hingga Pemberlakuan Pembatasan Kegiatan Masyarakat (PPKM) yang ditetapkan oleh Presiden.

Peningkatan yang signifikan ditunjukkan dengan adanya pengalihan aktivitas masyarakat yang semulanya dilaksanakan secara offline menjadi online. Pada tahun 2021 – 2023 pertumbuhan yang terjadi tidak terlalu signifikan dikarenakan kondisi sudah mulai normal kembali seperti pada tahun sebelum terjadinya pandemi. Pertumbuhan yang terjadi ini harus ditempa dengan adanya pengetahuan tentang kegiatan yang terjadi di lingkungan digital dalam pembatasan yang positif hingga tidak mengalami penurunan kualitas dalam pemanfaatan jaringan internet yang tersedia. Menurut hasil penelitian yang dilakukan oleh Asosiasi Penyelenggaraan Jasa Internet Indonesia (APJII).

Saat ini Perusahaan telekomunikasi adalah salah satu sub sektor yang mengalami pertumbuhan yang pesat sejak pemerintah mengizinkan swasta untuk menyediakan jaringan dan layanan telekomunikasi juga. Sejak saat itu penawaran layanan dari telekomunikasi terus bermunculan, hal ini memaksa telekomunikasi untuk bersaing ketat untuk kinerja yang lebih baik. Menurut Pasal 10(1) UU Telekomunikasi No. 36 Tahun 1999, bisnis telekomunikasi di Indonesia bukan lagi monopoli melainkan persaingan bebas. Peraturan ini mengawali perubahan yang sangat mendasar dalam struktur telekomunikasi di Indonesia. Perusahaan mengelola input produksi menjadi output yang memenuhi kebutuhan masyarakat dengan harapan output atau produk jasa telekomunikasi akan menjadi kunci keberhasilan pertumbuhan ekonomi karena memperpendek jarak dan memperlancar arus pertukaran informasi. dengan berkembangnya alat komunikasi saat ini tentunya dapat menghemat biaya penggunaan bagi konsumen.

Saham Perusahaan yang menyediakan layanan teknologi informasi dan komunikasi serta mengoperasikan jaringan telekomunikasi dikenal luas sebagai saham telekomunikasi. Layanan internet dan layanan dukungan telekomunikasi lainnya termasuk dalam golongan barang atau jasa yang disediakan oleh perusahaan telekomunikasi. Saham sektor telekomunikasi ini dianggap memiliki masa depan yang menjanjikan karena kemajuan teknologi yang sangat cepat, peningkatan jumlah pengguna telepon seluler dan pengguna internet di Indonesia. Terdapat beberapa saham telekomunikasi yang terdaftar di Bursa Efek Indonesia (BEI), diantaranya PT Bali towerindo sentra Tbk, PT XL Axiata Tbk, PT Indosat Tbk, PT Telkom Tbk, PT Smartfren Tbk dan PT Tower Bersama Infrastruktur Tbk. Pemilihan saham biasanya digunakan untuk mendapatkan return di masa mendatang.

Berdasarkan latar belakang diatas maka penulis memutuskan akan melakukan penelitian lanjutan untuk memastikan konsistensi hasil penelitian dalam mengidentifikasi pengaruhnya. Dari alasan tersebutlah yang mendorong penulis menggunakan judul **“Pengaruh *Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin* Terhadap Return on Assets Pada Perusahaan Sub Sektor Telekomunikasi yang Terdaftar di Bursa Efek Indonesia Tahun 2019 – 2023”**.

2. TINJAUAN PUSTAKA

2.1 Teori sinyal (*Signalling Theory*)

Menurut Putri & Damayanthi (2013), Teori sinyal merupakan sinyal yang diberikan kepada pihak yang memiliki informasi maupun pihak yang mengirimkan informasi, dimana pihak tersebut berupaya untuk memberikan sebagian informasi yang relevan dari Perusahaan. Menurut Brigham & Houston (2014), teori sinyal menjelaskan bahwa tindakan yang diambil oleh manajemen perusahaan dapat memberikan isyarat atau sinyal kepada investor mengenai pandangan manajemen terhadap prospek perusahaan.

2.2 Variabel Penelitian

Menurut James C. Van Horne dalam Kasmir (2018:104), rasio keuangan adalah indeks yang mengaitkan dua angka akuntansi yang diperoleh dengan membagi satu angka dengan yang lainnya. Untuk menilai kinerja keuangan perusahaan menggunakan rasio-rasio keuangan, diperlukan beberapa rasio tertentu. Fahmi (2011:133) menyatakan bahwa perbandingan rasio perlu dilakukan untuk menginterpretasikan hasil perhitungan tersebut. Terdapat dua metode yang dapat digunakan untuk melakukan perbandingan rasio keuangan.

2.3. Rasio Lancar (*Current Ratio*)

Current Ratio atau rasio lancar merupakan salah satu jenis rasio likuiditas yang digunakan untuk menilai kemampuan perusahaan dalam memenuhi kewajiban jangka pendeknya yang segera jatuh tempo dengan menggunakan total aset lancar yang dimiliki. Menurut Kasmir (2014), *Current Ratio* adalah rasio yang mengukur sejauh mana perusahaan mampu melunasi utang jangka pendek yang segera jatuh tempo saat ditagih. Dengan kata lain, rasio ini menunjukkan seberapa besar aset lancar yang tersedia untuk menutupi kewajiban jangka pendek yang akan segera jatuh tempo. *Current Ratio* juga dapat diartikan sebagai ukuran tingkat keamanan (*margin of safety*) perusahaan.

2.4 Rasio Hutang (*Debt to Equity Ratio*)

Menurut Syamsuddin dalam Mareta, Topowijono, & Zahroh (2013), *Debt to Equity Ratio* menggambarkan hubungan antara jumlah pinjaman dari kreditur dan modal sendiri yang dimiliki oleh pemilik perusahaan

2.5 Total Asset Turnover

Menurut Kasmir (2017), Total asset turnover merupakan rasio yang digunakan untuk mengukur perputaran semua aktiva yang dimiliki perusahaan dan mengukur berapa jumlah penjualan yang diperoleh dari setiap rupiah aktiva.

2.6 Net Profit Margin

Menurut Kasmir (2018), *Net Profit Margin* mengukur margin laba dari penjualan dengan membandingkan laba bersih setelah pajak dengan penjualan bersih.

2.7 Return on Assets

Return on Assets ialah salah satu perbandingan yang menampilkan profitabilitas suatu entitas. Besarnya laba yang diperoleh perusahaan dengan menggunakan asetnya. Menurut Rachmawati (2012), salah satu rasio profitabilitas adalah *Return on Assets*, yang digunakan untuk menilai kemampuan suatu perusahaan untuk menghasilkan laba secara keseluruhan.

2.8 Hipotesis Penelitian

Hipotesis adalah pernyataan sementara yang diajukan sebagai jawaban terhadap rumusan masalah penelitian, yang biasanya disusun dalam bentuk pertanyaan. Disebut sementara karena hipotesis ini belum didukung oleh fakta empiris, melainkan masih didasarkan pada teori yang relevan. Fakta empiris yang mendukung hipotesis akan diperoleh melalui proses pengumpulan data. Hipotesis dapat dipandang sebagai solusi sementara untuk rumusan masalah penelitian. Dengan demikian, penulis dapat memberikan hipotesis sebagai berikut :

H1: Diduga *Current Ratio* memiliki pengaruh terhadap *Return on Assets*.

H2: Diduga *Debt to Equity Ratio* memiliki pengaruh terhadap *Return on Assets*.

H3: Diduga Total Asset Turnover memiliki pengaruh terhadap *Return on Assets*.

H4: Diduga *Net Profit Margin* memiliki pengaruh terhadap *Return on Assets*.

H5: Diduga *Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin* secara simultan berpengaruh terhadap *Return on Assets*.

3. METODOLOGI PENELITIAN

3.1 Jenis, Objek dan Subjek Penelitian

Penelitian ini menggunakan angka dalam analisisnya, yang membuatnya termasuk dalam kategori penelitian deskriptif yang menggunakan pendekatan kuantitatif. Penelitian ini dilakukan oleh penulis dengan menggunakan 5 variabel yang akan di evaluasi sebagai subjek penelitian, dimana objeknya adalah *Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover*, *Net Profit Margin* dan *Return on Assets*. Masing – masing variabel tersebut adalah variabel X dan Variabel Y. Sedangkan subjek dari penelitian ini adalah perusahaan – perusahaan sub sektor Telekomunikasi yang terdaftar pada Bursa Efek Indonesia (BEI) pada tahun 2019-2023.

3.2 Metode Penelitian

Metode penelitian adalah kumpulan langkah-langkah yang digunakan untuk mengumpulkan, menganalisis, dan menginterpretasikan data untuk mencapai tujuan penelitian. Metode penelitian berfungsi sebagai panduan sistematis bagi peneliti untuk memastikan bahwa penelitian dilakukan dengan cara yang terstruktur, terukur, dan dapat diandalkan. Dengan menggunakan metode penelitian maka akan diketahui hubungan yang signifikan antara variabel yang diteliti sehingga menghasilkan Kesimpulan yang akan memperjelas Gambaran mengenai objek yang diteliti.

3.3 Unit Analisis, Populasi, Teknik Penarikan Sampel

Dalam penelitian ini, unit analisis yang akan digunakan adalah perusahaan di sub sektor Telekomunikasi yang terdaftar di Bursa Efek Indonesia untuk periode tahun 2019 - 2023. Populasi merupakan jumlah keseluruhan dari individu yang karakteristiknya akan diteliti dan satuan – satuan tersebut dinamakan unit analisis dan dapat berupa orang, institusi, serta benda. Dalam penelitian ini, penulis akan menggunakan sampel yang beroperasi di sub sektor telekomunikasi dan terdaftar di Bursa Efek Indonesia. Metode yang diterapkan adalah purposive sampling, yaitu teknik pemilihan sampel berdasarkan kriteria / karakteristik tertentu yang ditetapkan untuk menentukan populasi yang relevan.

3.4 Jenis, Sumber dan Metode Pengumpulan Data

Data sekunder adalah informasi yang digunakan sebagai referensi dalam penelitian, diperoleh secara tidak langsung melalui media dan dimiliki oleh pihak lain. Sumber data untuk penelitian ini diperoleh secara tidak langsung melalui situs web masing-masing perusahaan serta situs Bursa Efek Indonesia, yang berupa annual report yang di publikasikan setiap akhir tahun. Dalam penelitian ini, metode pengumpulan data yang digunakan meliputi studi dokumentasi dan studi kepustakaan.

4. HASIL DAN PEMBAHASAN

4.1 Hasil Penelitian

1. Analisis Linear Berganda

Tabel 1
Hasil Analisis Regresi

Sumber :
Data diolah
SPSS Versi 22

Dari

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-43.482	11.254		-3.864	.000
Current_Ratio	.068	.030	.172	2.237	.032
Debt_to_Equity_Ratio	.005	.001	1.390	7.311	.000
Total_Asset_Turnover	.091	.037	.183	2.451	.019
Net_Profit_Margin	.113	.011	1.985	10.223	.000

persamaan regresi diatas maka dapat dijelaskan sebagai berikut :

- a. Nilai konstanta sebesar -43,482 artinya menunjukkan bahwa apabila variabel independent yakni *Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin* bernilai 0 (nol). Maka nilai variabel dependen yakni *Return on Asset* sebesar – 43,482. Hal ini menjelaskan bahwa apabila setiap variabel independent dalam penelitian ini bernilai 0 (nol), maka penurunan variabel dependen tersebut disebabkan oleh faktor – faktor lain yang ada diluar dari penelitian ini.
- b. Koefisien *Current Ratio* sebesar 0,068 artinya setiap variabel *Current Ratio* meningkat 1 maka dapat di prediksi *Return on Asset* akan meningkat sebesar 0,068 dengan anggapan bahwa vaiabel lain yaitu *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin* dianggap tidak ada, adanya hubungan yang positif ini berarti bahwa antara *Current Ratio* dengan *Return on Asset* menunjukkan hubungan yang sejalan.
- c. Koefisien *Debt to Equity Ratio* sebesar 0,005 artinya setiap variabel *Debt to Equity Ratio* meningkat 1 maka dapat di prediksi *Return on Asset* akan meningkat sebesar 0,005 dengan anggapan bahwa vaiabel lain yaitu *Current Ratio*, *Total Asset Turnover* dan *Net Profit Margin* dianggap tidak ada, adanya hubungan yang positif ini berarti bahwa antara *Debt to Equity Ratio* dengan *Return on Asset* menunjukkan hubungan yang sejalan.
- d. Koefisien *Total Asset Turnover* sebesar 0,091 artinya setiap variabel *Total Asset Turnover* meningkat 1 maka dapat di prediksi *Return on Asset* akan meningkat sebesar 0,091 dengan anggapan bahwa vaiabel lain yaitu *Current Ratio*, *Debt to Equity Ratio* dan *Net Profit Margin* dianggap tidak ada, adanya hubungan yang positif ini berarti bahwa antara *Total Asset Turnover* dengan *Return on Asset* menunjukkan hubungan yang sejalan.
- e. Koefisien *Net Profit Margin* sebesar 0,113 artinya setiap variabel *Net Profit Margin* meningkat 1 maka dapat di prediksi *Return on Asset* akan meningkat sebesar 0,113 dengan anggapan bahwa vaiabel lain yaitu *Current Ratio*, *Debt to Equity Ratio* dan *Total Asset Turnover* dianggap tidak ada, adanya hubungan yang positif ini berarti bahwa antara *Net Profit Margin* dengan *Return on Asset* menunjukkan hubungan yang sejalan.

2. Uji Koefisien Determinasi (R^2)

Tabel 2
Hasil Uji Koefisien Determinasi

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.946 ^a	.895	.883	26.96806

Sumber : Data diolah SPSS Versi 22

Berdasarkan tabel data diatas dapat kita ketahui bahwa nilai *R Square* (R^2) adalah 0,895. Hal ini berarti bahwa 89,5 % variabel *Return on Asset* dapat dijelaskan oleh variabel independennya yaitu *Current Ratio* (X1), *Debt to Equity Ratio* (X2), *Total Asset Turnover* (X3) dan *Net Profit Margin* (X4), sehingga sisanya sebesar 10,5 % dapat dijelaskan oleh faktor – faktor lain diluar model yang dianalisis. Sedangkan nilai *Adjusted R Square* sebesar 0,883, nilai tersebut dapat diartikan bahwa variabel *Current Ratio* (X1), *Debt to Equity Ratio* (X2), *Total Asset Turnover* (X3) dan *Net Profit Margin* (X4) mampu mempengaruhi atau menjelaskan *Return on Asset* secara simultan (bersama – sama) sebesar 83,3 %, sehingga sisanya 16,7 % dijelaskan oleh faktor – faktor lain diluar dari model yang dianalisis.

3. Uji Signifikansi (Uji T)

Tabel 3
Hasil Uji Parsial (Uji T)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-43.482	11.254		-3.864	.000
<i>Current_Ratio</i>	.068	.030	.172	2.237	.032
<i>Debt_to_Equity_Ratio</i>	.005	.001	1.390	7.311	.000
<i>Total_Asset_Turnover</i>	.091	.037	.183	2.451	.019
<i>Net_Profit_Margin</i>	.113	.011	1.985	10.223	.000

Sumber : Data diolah SPSS Versi 22

Berdasarkan hasil uji t pada tabel diatas, pengaruh variabel independent secara parsial terhadap variabel dependen yaitu :

- a. Jika dilihat dari nilai signifikan pada variabel *Current Ratio* yang memiliki pengaruh terhadap variabel *Return on Asset*, karena nilai signifikannya adalah 0,032 yang artinya lebih kecil dari 0,05. Hal ini dapat disimpulkan bahwa *Current Ratio* berpengaruh positif terhadap *Return on Asset*. H1 Diterima
- b. Variabel *Debt to Equity Ratio* memiliki nilai t hitung sebesar 7,311 maka nilai ini lebih besar daripada t tabel (t tabel untuk sampel 40 diperoleh sebesar 2,423) dan nilai signifikansi 0,000 maka lebih kecil dari 0,05 ($0,000 < 0,05$) hal ini dapat disimpulkan bahwa *Debt to Equity Ratio* berpengaruh positif terhadap *Return on Asset*. H2 Diterima

- c. Variabel *Total Asset Turnover* memiliki nilai t hitung sebesar 2,451 maka nilai ini lebih besar daripada t tabel (t tabel untuk sampel 40 diperoleh sebesar 2,423) dan nilai signifikansi 0,019 maka lebih kecil dari 0,05 ($0,019 < 0,05$) hal ini dapat disimpulkan bahwa *Total Asset Turnover* berpengaruh positif terhadap *Return on Asset*. H3 Diterima
- d. Variabel *Net Profit Margin* memiliki nilai t hitung sebesar 10,223 maka nilai ini lebih besar daripada t tabel (t tabel untuk sampel 40 diperoleh sebesar 2,423) dan nilai signifikansi 0,000 maka lebih kecil dari 0,05 ($0,000 < 0,05$) hal ini dapat disimpulkan bahwa *Net Profit Margin* berpengaruh positif terhadap *Return on Asset*. H4 Diterima

4. Uji Signifikan Simultan (Uji F)

Tabel 4
Hasil Uji Simultan (Uji F)

Sumber : Data diolah SPSS Versi 22	Model	<i>Sum of Squares</i>	df	<i>Mean Square</i>	F	Sig.
	1 Regression	217498.106	4	54374.526	74.765	.000 ^b
	Residual	25454.669	35	727.276		
	Total	242952.775	39			

Berdasarkan hasil uji f pada table diatas menunjukkan bahwa nilai f hitung sebesar 74,765 dan nilai signifikan sebesar 0,000. Hasil tersebut juga sesuai dengan hasil perbandingan f hitung dan f tabel. Diketahui f hitung lebih besar daripada f tabel ($74,765 > 2,449$), maka dapat disimpulkan bahwa variabel independent *Current Ratio*(CR), *Debt to Equity Ratio* (DER), *Total Asset Turnover* (TATO) dan *Net Profit Margin* (NPM) dalam model penelitian ini secara simultan berpengaruh terhadap variabel dependennya yaitu *Return on Asset*. Hasil dari penelitian ini mendukung hipotesis H5 Diterima.

4.2 Pembahasan Hasil Penelitian

Penelitian ini bertujuan untuk menganalisis pengaruh *Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin* terhadap *Return on Asset* pada Perusahaan sub sektor Telekomunikasi yang terdaftar di Bursa Efek Indonesia (BEI) tahun 2019 – 2023. Hasil analisis, baik secara parsial maupun simultan, menunjukkan bagaimana masing-masing variabel independen mempengaruhi variabel dependen.

4.2.1 Pengaruh *Current Ratio* Terhadap *Return on Asset*

Hasil dari uji hipotesis yang telah dilakukan menunjukkan variabel *Current Ratio* yang berfungsi sebagai X1 memiliki pengaruh terhadap *Return on Asset* dikarenakan memiliki tingkat signifikansi 0,032 maka lebih kecil dari 0,05 ($0,032 < 0,05$) hal ini dapat disimpulkan bahwa *Current Ratio* berpengaruh positif terhadap *Return on Asset*. H1 Diterima. Hasil penelitian ini mengindikasikan bahwa besar kecilnya *Current Ratio* mempengaruhi *Return on Asset*.

4.2.2 Pengaruh *Debt to Equity Ratio* Terhadap *Return on Asset*

Hasil dari uji hipotesis yang telah dilakukan menunjukkan variabel *Debt to Equity Ratio* yang berfungsi sebagai X2 memiliki nilai t hitung sebesar 7,311, maka nilai ini lebih besar daripada t tabel (tabel untuk sampel 40 diperoleh

sebesar 2,423) dan nilai signifikansi 0,000 maka lebih kecil dari 0,05 ($0,000 < 0,05$) hal ini dapat disimpulkan bahwa *Debt to Equity Ratio* berpengaruh positif terhadap *Return on Asset*. H2 Diterima

4.2.3 Pengaruh *Total Asset Turnover* Terhadap *Return on Asset*

Hasil dari uji hipotesis yang telah dilakukan menunjukkan variabel *Total Asset Turnover* yang berfungsi sebagai X3 memiliki nilai t hitung sebesar 2,451, maka nilai ini lebih besar daripada t tabel (tabel untuk sampel 40 diperoleh sebesar 2,423) dan nilai signifikansi 0,019 maka lebih kecil dari 0,05 ($0,019 < 0,05$) hal ini dapat disimpulkan bahwa *Total Asset Turnover* berpengaruh positif terhadap *Return on Asset*. H3 Diterima

4.2.4 Pengaruh *Net Profit Margin* Terhadap *Return on Asset*

Hasil dari uji hipotesis yang telah dilakukan menunjukkan variabel *Net Profit Margin* yang berfungsi sebagai X4 memiliki nilai t hitung sebesar 10,223, maka nilai ini lebih besar daripada t tabel (tabel untuk sampel 40 diperoleh sebesar 2,423) dan nilai signifikansi 0,000 maka lebih kecil dari 0,05 ($0,000 < 0,05$) hal ini dapat disimpulkan bahwa *Net Profit Margin* berpengaruh positif terhadap *Return on Asset*. H4 Diterima

4.2.5 Pengaruh *Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin* Terhadap *Return on Asset*

Dari hasil pengujian hipotesis yang telah dilakukan menunjukkan bahwa nilai f hitung sebesar 74,765 dan nilai signifikannya sebesar 0,000. Hasil tersebut juga sesuai dengan hasil perbandingan f hitung dan f tabel. Diketahui f hitung sebesar 74,765 dan f tabel 2,449 sehingga nilai f hitung lebih besar daripada f tabel ($74,765 > 2,449$), maka dapat disimpulkan bahwa variabel independent (*Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin*) dalam model penelitian ini secara simultan berpengaruh terhadap variabel dependen (*Return on Asset*). Hasil ini mendukung hipotesis H5 Diterima.

5. KESIMPULAN DAN SARAN

5.1 Kesimpulan

Berdasarkan hasil analisis mengenai pengaruh *Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin* terhadap *Return on Asset* pada Perusahaan sub sektor Telekomunikasi yang terdaftar di Bursa Efek Indonesia (BEI) pada tahun 2019 – 2023 yang telah dibahas pada sebelumnya, dapat disimpulkan dari masing – masing pengaruh variabel independent terhadap variabel dependen sebagai berikut :

1. Secara parsial *Current Ratio* memiliki pengaruh positif terhadap *Return on Asset*. Hal ini ditunjukkan dengan koefisien regresi sebesar 0,068 dan nilai t hitung sebesar 2,237 dengan signifikansi 0,032 yang dimana nilai ini lebih kecil dibandingkan dengan tingkat signifikansi yang diharapkan sehingga H1 diterima. *Current Ratio* digunakan untuk memprediksi *Return on Asset* pada Perusahaan sub sektor Telekomunikasi yang terdaftar di Bursa Efek Indonesia (BEI) pada tahun 2019 – 2023. *Current Ratio* berperan dalam pengambilan keputusan manajemen dalam mengelola likuiditas perusahaan, yang dapat mempengaruhi profitabilitas serta kebijakan perusahaan dalam penggunaan sumber dana.
2. Secara parsial *Debt to Equity Ratio* memiliki pengaruh positif terhadap *Return on Asset*. Hal ini ditunjukkan dengan koefisien regresi sebesar 0,005 dan nilai t hitung sebesar 7,311 dengan signifikansi 0,000 yang dimana nilai ini lebih kecil dibandingkan dengan tingkat signifikansi yang diharapkan sehingga H2 diterima. *Debt to Equity Ratio* digunakan untuk memprediksi *Return on Asset* pada Perusahaan sub sektor Telekomunikasi yang terdaftar di Bursa Efek Indonesia (BEI) pada tahun

2019 – 2023. *Debt to Equity Ratio* berperan dalam pengambilan Keputusan manajemen terkait struktur permodalan Perusahaan, yang dapat mempengaruhi tingkat profitabilitas serta kebijakan penggunaan sumber dana.

3. Secara parsial *Total Asset Turnover* memiliki pengaruh positif terhadap *Return on Asset*. Hal ini ditunjukkan dengan koefisien regresi sebesar 0,091 dan t hitung sebesar 2,451 dengan signifikansi 0,019 yang dimana nilai ini lebih kecil dibandingkan dengan tingkat signifikansi yang diharapkan sehingga H3 diterima. *Total Asset Turnover* digunakan untuk memprediksi *Return on Asset* pada Perusahaan sub sektor Telekomunikasi yang terdaftar di Bursa Efek Indonesia (BEI) pada tahun 2019 – 2023. *Total Asset Turnover* berperan dalam pengambilan keputusan manajemen terkait efisiensi penggunaan aset dalam menghasilkan penjualan, yang dapat memengaruhi profitabilitas serta strategi operasional perusahaan.
4. Secara parsial *Net Profit Margin* memiliki pengaruh positif terhadap *Return on Asset*. Hal ini ditunjukkan dengan koefisien regresi sebesar 0,113 dan t hitung sebesar 10,223 dengan signifikansi 0,000 yang dimana nilai ini lebih kecil dibandingkan dengan tingkat signifikansi yang diharapkan sehingga H4 diterima. *Net Profit Margin* digunakan untuk memprediksi *Return on Asset* pada Perusahaan sub sektor Telekomunikasi yang terdaftar di Bursa Efek Indonesia (BEI) pada tahun 2019 – 2023. *Net Profit Margin* berperan dalam pengambilan keputusan manajemen terkait efisiensi laba bersih terhadap pendapatan, yang dapat memengaruhi profitabilitas serta strategi keuangan perusahaan.
5. Secara simultan *Current Ratio*, *Debt to Equity Ratio*, *Total Asset Turnover* dan *Net Profit Margin* berpengaruh secara simultan terhadap *Return on Asset*. Hal ini ditunjukkan oleh nilai f hitung sebesar 74,765 dengan signifikansi sebesar 0,000 yang dimana nilai ini lebih kecil dibandingkan dengan tingkat signifikansi yang diharapkan yaitu 0,05 sehingga H5 diterima.

5.2 Saran

Berdasarkan analisis dan pembahasan hasil pengujian hipotesis yang sudah dilakukan maka, adapun saran yang dapat penulis sampaikan sebagai berikut :

1. Investor

Bagi investor disarankan untuk memperhatikan faktor internal perusahaan sebelum mengambil keputusan investasi di sektor telekomunikasi. Salah satu aspek penting yang harus dikaji adalah rasio likuiditas, seperti *Current Ratio (CR)*, yang menggambarkan kemampuan perusahaan dalam memenuhi kewajiban jangka pendeknya. Selain itu, rasio profitabilitas, khususnya *Net Profit Margin (NPM)*, juga menjadi indikator kunci dalam menilai efektivitas perusahaan dalam menghasilkan laba bersih. Berdasarkan hasil penelitian ini, perusahaan dengan tingkat *Current Ratio* yang stabil serta *Net Profit Margin* yang tinggi umumnya memiliki kinerja keuangan yang lebih baik, sehingga lebih menarik bagi investor. Selain itu, struktur modal yang diukur melalui *Debt to Equity Ratio (DER)* serta efisiensi aset yang tercermin dalam *Total Asset Turnover (TATO)* juga berperan penting. Perusahaan dengan *DER* yang terkendali dan *TATO* yang tinggi menunjukkan potensi keuntungan investasi yang lebih baik. Dengan mempertimbangkan faktor-faktor tersebut, investor dapat memilih perusahaan dengan fundamental keuangan yang kuat untuk memaksimalkan return dan mengurangi risiko investasi.

2. Penelitian selanjutnya

Bagi peneliti selanjutnya disarankan untuk menambahkan variabel – variabel yang berbeda dan periode penelitian yang berbeda dari penelitian ini atau dapat dikombinasikan dengan salah satu rasio lainnya. Penelitian selanjutnya juga dapat

dilakukan dengan menggunakan sektor yang berbeda agar mendapatkan perbandingan hasil dengan penelitian ini.

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PENGARUH KUALITAS LAYANAN DAN KEPUASAN TERHADAP LOYALITAS NASABAH

(Studi Kasus pada Pengguna Aplikasi *Livin' by Mandiri*)

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Abstract

This study aims to analyze the influence of Service Quality and Customer Satisfaction on Customer Loyalty among users of the *livin' by Mandiri* application in Bogor City/Regency. Hypothesis testing was conducted using partial least squares-structural equation modeling (PLS-SEM) with the help of SmartPLS software. The sample used consists of respondents who are users of the application. The results show that service quality has a positive and significant effect on customer loyalty, with a coefficient value of 0.384, t-statistic of 3.375, and p-value of 0.001. This indicates that the higher the service quality, which includes reliability, responsiveness, assurance, empathy, and tangibles, the higher the customer loyalty will be. Furthermore, customer satisfaction also has a positive and significant effect on customer loyalty, with a coefficient value of 0.471, t-statistic of 3.459, and p-value of 0.001. This means that the higher the customer satisfaction, which includes the alignment of experience with expectations, service expectation fulfillment, intention to repurchase, willingness to recommend, and ease of using the application, the higher the customer loyalty will be. This study provides important contributions to understanding the factors that influence customer loyalty in the digital banking sector.

Keywords: Service Quality, Customer Satisfaction, Customer Loyalty

1. PENDAHULUAN

Kemajuan dalam teknologi informasi dan komunikasi membawa masyarakat ke era digital, yaitu suatu masa di mana teknologi menjadi elemen penting dalam berbagai aspek kehidupan. Dalam era ini, penyebaran dan akses informasi berlangsung secara cepat dan luas melalui perangkat digital seperti komputer, smartphone, dan tablet. Perubahan ini mendorong transformasi signifikan dalam cara manusia bekerja, berkomunikasi, serta berinteraksi dengan lingkungannya. Era digital juga memberikan berbagai peluang strategis, khususnya dalam sektor bisnis, pendidikan, dan sosial. Namun demikian, kemajuan tersebut turut menghadirkan tantangan yang perlu diperhatikan dan diatasi secara bijak.

Meskipun digitalisasi membawa banyak kemudahan dan peluang, dunia bisnis tetap dihadapkan pada tantangan signifikan. Salah satu tantangan terbesar adalah tingginya tingkat persaingan antar pelaku usaha dalam ekonomi digital. Perusahaan yang tidak mampu menyesuaikan diri secara cepat dengan perkembangan teknologi berisiko tertinggal dalam persaingan pasar. Selain itu, masih adanya kesenjangan dalam pemahaman dan penerapan transformasi digital di kalangan pelaku bisnis menjadi hambatan dalam mengoptimalkan manfaat teknologi tersebut. Menyikapi kondisi ini dan memanfaatkan

potensi besar yang dimiliki bangsa, berbagai pihak mulai mengambil langkah strategis untuk mendorong proses digitalisasi.



Gambar 1. Perkembangan DPK Bank Umum
Sumber: (Statistik Perbankan Indonesia, 2025)

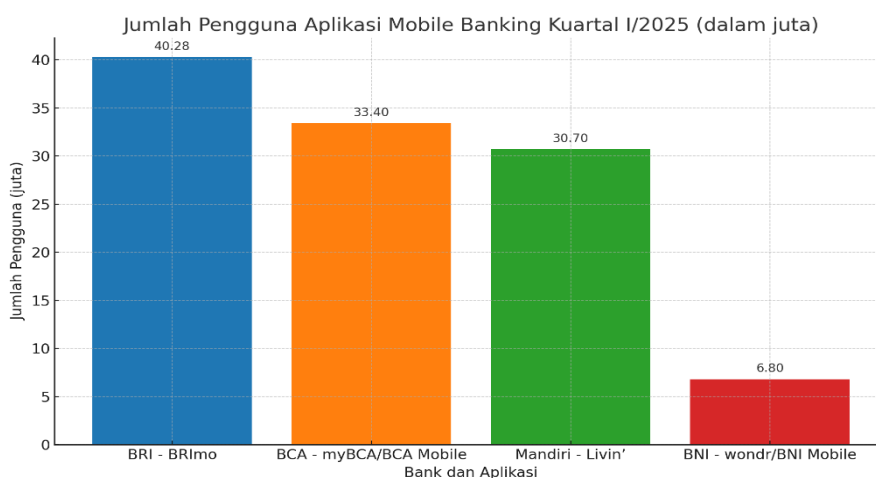


Gambar 1. Komposisi DPK Bank Umum
Sumber: (Statistik Perbankan Indonesia, 2025)

Pertumbuhan pesat pengguna *digital banking* di Indonesia mencerminkan tingginya minat masyarakat terhadap pemanfaatan teknologi dalam meningkatkan efisiensi ekonomi. Perubahan perilaku konsumen, terutama dalam mengakses informasi melalui media sosial dan platform digital, turut mendorong efektivitas strategi pemasaran berbasis teknologi. *Digital banking* menawarkan keunggulan utama berupa kemudahan akses layanan keuangan secara *real-time* melalui perangkat digital, yang sangat sesuai dengan kebutuhan masyarakat modern yang memiliki mobilitas tinggi (Rifazka Arki, 2024). Fenomena ini didukung oleh data yang menunjukkan bahwa digitalisasi sektor perbankan berkontribusi signifikan terhadap efisiensi operasional, terutama melalui pengurangan kebutuhan infrastruktur fisik serta fleksibilitas dalam penawaran produk keuangan yang lebih kompetitif. Beberapa bank digital, seperti amar bank, krom *digital* bank, dan *neo* bank, menetapkan tingkat suku bunga deposito yang melebihi rata-rata pasar, melebihi tingkat penjaminan oleh lembaga penjamin simpanan (LPS), meskipun hal ini juga mengandung potensi risiko yang perlu diantisipasi. Menanggapi perkembangan ini, otoritas jasa keuangan (OJK) telah mengambil langkah strategis melalui kebijakan yang menekankan peningkatan transparansi produk dan edukasi keuangan guna menjaga stabilitas sistem keuangan dan melindungi konsumen. Di sisi lain, prospek *digital banking* semakin

menjanjikan melalui integrasi teknologi mutakhir seperti kecerdasan buatan dan *big data* yang memungkinkan penyediaan layanan keuangan yang lebih personal, efisien, dan inklusif (*Livin' by Mandiri* 2022).

Sebagai respons terhadap dinamika tersebut, transformasi digital menjadi elemen kunci dalam strategi perbankan modern. Salah satu implementasi nyata dari transformasi *digital* ini adalah kehadiran aplikasi layanan perbankan *digital* seperti *livin' by mandiri*, yang bertujuan untuk membuat transaksi keuangan lebih mudah, cepat, dan menyenangkan bagi pelanggan. Namun, seiring dengan meningkatnya penggunaan layanan digital, bank dituntut untuk memastikan kualitas layanan yang prima. Dalam dunia *digital*, kualitas layanan tidak hanya diukur dari kecepatan akses dan kelengkapan fitur, tetapi juga dari tingkat kepuasan pengguna secara keseluruhan, yang pada akhirnya berpengaruh pada loyalitas nasabah terhadap layanan tersebut.



Gambar 2. Jumlah Pengguna Aplikasi *Mobile Banking* Kuartal I/ 2025

Sumber: Fajarihza, (2025)

Dalam era digital yang semakin kompetitif, loyalitas nasabah menjadi tantangan utama bagi penyedia layanan perbankan digital. Nasabah kini memiliki banyak pilihan aplikasi perbankan digital yang menawarkan berbagai fitur menarik. Oleh karena itu, mempertahankan loyalitas mereka tidak cukup hanya dengan menghadirkan teknologi yang canggih, tetapi juga menuntut kualitas layanan yang konsisten dan memberikan kepuasan secara menyeluruh. Loyalitas bukan sekadar nasabah yang terus menggunakan aplikasi, tetapi juga mencakup kesediaan mereka untuk merekomendasikan aplikasi tersebut, tidak mudah berpindah ke aplikasi kompetitor, dan tetap percaya meskipun ada gangguan layanan sesekali.

Pemilihan judul penelitian “Pengaruh Kualitas Layanan dan Kepuasan terhadap Loyalitas Nasabah” didasarkan pada urgensi untuk menjawab tantangan dalam mempertahankan loyalitas nasabah di tengah meningkatnya persaingan antar penyedia layanan perbankan digital. Aplikasi *livin' by mandiri* ditetapkan sebagai objek kajian mengingat posisinya yang strategis dalam industri perbankan digital nasional, dengan jumlah pengguna yang mencapai 30,7 juta pada kuartal pertama tahun 2025 serta tingkat pertumbuhan tahunan sebesar 26%. Meskipun belum menempati posisi teratas dalam hal jumlah pengguna, tren pertumbuhan transaksi dan peningkatan nilai transaksi menunjukkan prospek yang signifikan untuk diteliti secara lebih mendalam.

Oleh karena itu, penelitian ini bertujuan untuk menganalisis secara empiris pengaruh kualitas layanan dan kepuasan pengguna terhadap loyalitas nasabah dalam konteks penggunaan aplikasi *livin' by mandiri*. Hasil dari penelitian ini diharapkan dapat memberikan kontribusi praktis bagi pengembangan strategi layanan digital yang lebih responsif terhadap kebutuhan

pengguna, sekaligus memperkaya khazanah keilmuan dalam bidang manajemen pelayanan jasa di era digital.

2. TINJAUAN PUSTAKA

2.1 *Theory Of Planned Behavior (TPB)*

TPB merupakan metode analisis yang dikembangkan untuk memahami perilaku yang berada dalam kendali kemauan seseorang (*volitional control*). Teori ini berlandaskan pada asumsi bahwa tidak semua perilaku sepenuhnya dapat dikendalikan oleh individu. Oleh karena itu, Ajzen menambahkan *perceived behavioral control* atau kontrol perilaku yang dipersepsikan guna menjelaskan tindakan-tindakan yang berada di luar kendali penuh individu. Secara umum, perilaku termasuk ke dalam ranah kepribadian dan psikologi sosial, dan TPB secara jelas mengakui hal tersebut (Ikbali *et al.*, 2018).

2.2 *Kualitas Layanan*

Kualitas pelayanan dapat diartikan sebagai tindakan yang menghadirkan perubahan sesuai kebutuhan kalangan nasabah, jadi mereka melakukan penilaian tertentu kepada pelayanan yang diberikan. Selain itu, juga menjadi ukuran sejauh mana layanan tersebut mampu memenuhi harapan nasabah. Kualitas pelayanan mencerminkan usaha dalam memenuhi kebutuhan dan keinginan nasabah yaitu melalui cara penyampaian yang tepat dan cermat, sehingga dapat sesuai dengan ekspektasi mereka (Jeany & Siagian, 2020).

2.3 *Kepuasan Nasabah*

Kepuasan nasabah bisa diartikan dalam bentuk perasaan bahagia atau penyesalan yang timbul sesudah mereka menilai apakah suatu produk atau layanan sesuai dengan harapan. Jika yang mereka terima sesuai atau bahkan di atas dari ekspektasi akan memberikan rasa kepuasan. Jadi ini adalah hasil yang diperoleh dari perbandingan antara persepsi mereka terhadap kinerja produk dengan ekspektasi awalnya. Dengan kata lain, kepuasan muncul apabila produk atau layanan yang digunakan mampu memenuhi bahkan melampaui harapan konsumen, sedangkan ketidakpuasan terjadi ketika hasilnya tidak sesuai dengan yang diinginkan (Jeany & Siagian, 2020).

2.4 *Loyalitas Nasabah*

Loyalitas juga dipahami sebagai suatu proses yang pada akhirnya dipengaruhi kepuasan dan kualitas yang dirasakan pelanggan, di mana kepuasan tersebut akan membentuk loyalitas serta keinginan pelanggan untuk tetap setia menggunakan produk atau jasa tersebut secara terus menerus (Satria & Astarini, 2023).

2.5 *Hipotesis Penelitian*

Hipotesis 1: diduga kualitas pelayanan berpengaruh positif dan signifikan terhadap loyalitas nasabah.

Hipotesis 2: diduga kepuasan nasabah berpengaruh positif dan signifikan terhadap loyalitas nasabah.

3. METODOLOGI PENELITIAN

3.1 *Jenis, Objek dan Subjek Penelitian*

Penelitian ini menggunakan pendekatan jenis kuantitatif. Objek Penelitian Dalam penelitian ini, objek yang dikaji mencakup dua variabel independen, yaitu kualitas layanan dan kepuasan nasabah, serta satu variabel dependen, yaitu loyalitas nasabah. Subjek Penelitian. Subjek dalam penelitian ini adalah nasabah Bank Mandiri yang merupakan pengguna aktif aplikasi *livin' by mandiri* dan berdomisili di wilayah Kota dan Kabupaten Bogor. Metode Penelitian

3.2 Unit Analisis, Populasi, dan Teknik Pengambilan Sampel

Dalam penelitian ini, unit analisis yang digunakan adalah nasabah pengguna aplikasi *livin' by* mandiri di wilayah Bogor. Mereka dipilih karena memiliki pengalaman langsung dalam menggunakan layanan *digital banking*, sehingga dapat memberikan penilaian terhadap kualitas layanan, kepuasan yang dirasakan, serta loyalitas terhadap aplikasi *livin' by* mandiri. Populasi dalam penelitian ini adalah nasabah bank mandiri di wilayah Bogor yang telah menggunakan aplikasi *livin' by* mandiri selama enam bulan terakhir (Siahaan, 2024). Penelitian ini menggunakan teknik *purposive sampling*. Jumlah sampel yang seharusnya digunakan adalah 96 responden. Namun, untuk kepentingan efisiensi dan kemudahan dalam pengolahan data, jumlah tersebut kemudian dibulatkan menjadi 100 responden.

3.3 Jenis, Sumber, dan Metode Pengumpulan Data

Data primer dalam penelitian ini diperoleh melalui penyebaran angket atau kuesioner yang dibagikan secara daring menggunakan platform Google Form kepada responden yang telah ditentukan berdasarkan kriteria sampel. Dengan menggunakan skala *likert*, peneliti dapat mengukur seberapa besar pengaruh kualitas layanan terhadap kepuasan, serta bagaimana kepuasan tersebut berdampak pada loyalitas nasabah. Data yang diperoleh kemudian diolah dan dianalisis untuk menjawab rumusan masalah dan menguji hubungan antar variabel dalam penelitian ini. Dalam penelitian ini, data dikumpulkan melalui dua metode utama, yaitu studi pustaka dan studi lapangan

HASIL PENELITIAN DAN PEMBAHASAN

Hasil Penelitian

Hasil Analisis Pengujian Data

1. Measurement Model (Outer Model)

a. Convergent Validity

Tabel 1. Hasil *Loading Factor*

	X ₁ .	X ₂ .	Y	Keterangan
X _{1.1}	0.767			Valid
X _{1.2}	0.777			Valid
X _{1.3}	0.866			Valid
X _{1.4}	0.847			Valid
X _{1.5}	0.723			Valid
X _{1.6}	0.707			Valid
X _{1.7}	0.785			Valid
X _{2.1}		0.734		Valid
X _{2.2}		0.724		Valid
X _{2.3}		0.807		Valid
X _{2.4}		0.776		Valid
X _{2.5}		0.728		Valid
X _{2.6}		0.741		Valid
X _{2.7}		0.802		Valid
Y ₁			0.794	Valid
Y ₂			0.752	Valid
Y ₃			0.711	Valid
Y ₄			0.723	Valid
Y ₅			0.736	Valid

Y ₆			0.829	Valid
Y ₇			0.798	Valid

Berdasarkan hasil pengujian pada tabel 1, seluruh indikator dalam penelitian ini memiliki nilai *loading factor* di atas 0,5, bahkan sebagian besar melebihi 0,7, sehingga dapat disimpulkan bahwa indikator-indikator tersebut telah memenuhi kriteria validitas konvergen, yang berarti bahwa setiap indikator telah mampu mengukur konstraknya secara akurat dan konsisten.

Tabel 2. Hasil Average Variance Extracted

	<i>Average variance extracted (AVE)</i>	Keterangan
X ₁ .	0.614	Valid
X ₂ .	0.577	Valid
Y	0.584	Valid

Selain *loading factor*, validitas konvergen juga dinilai melalui nilai *average variance extracted (AVE)*. Berdasarkan hasil pengolahan data pada tabel 4.10, semua variabel memiliki nilai AVE > 0,5, sehingga dapat disimpulkan bahwa konstruk memiliki kemampuan yang cukup dalam menjelaskan indikator-indikatornya. Dengan demikian, baik dari sisi *loading factor* maupun AVE, seluruh konstruk dalam model telah memenuhi syarat validitas konvergen dan dapat digunakan pada tahap analisis struktural berikutnya.

b. Reliabilitas

Tabel 3 Hasil *Cronbach's Alpha* dan *Composite Reliability*

	<i>Cronbach's alpha</i>	<i>Composite reliability (rho a)</i>	<i>Composite reliability (rho c)</i>	Keterangan
X ₂ .	0.877	0.880	0.905	Valid
Y	0.881	0.883	0.908	Valid
X ₁ .	0.894	0.899	0.917	Valid

Berdasarkan hasil pengujian pada tabel diatas , menunjukkan bahwa seluruh konstruk memiliki nilai *composite reliability (CR)* di atas 0,7 serta nilai *cronbach's alpha* di atas 0,6. Nilai-nilai tersebut menandakan bahwa indikator yang digunakan dalam masing-masing variabel memiliki konsistensi internal yang tinggi. Dengan demikian, seluruh instrumen dalam penelitian ini terbukti reliabel dan layak digunakan untuk mengukur variabel yang bersangkutan.

c. Discriminant Validity

Tabel 3 *Cross loading*

	X ₁ .	X ₂ .	Y
X _{1.1}	0.767	0.638	0.638
X _{1.2}	0.777	0.694	0.632
X _{1.3}	0.866	0.810	0.692
X _{1.4}	0.847	0.763	0.636
X _{1.5}	0.723	0.604	0.552
X _{1.6}	0.707	0.592	0.540

X _{1.7}	0.785	0.717	0.677
X _{2.1}	0.657	0.734	0.623
X _{2.2}	0.616	0.724	0.530
X _{2.3}	0.723	0.807	0.617
X _{2.4}	0.673	0.776	0.651
X _{2.5}	0.647	0.728	0.601
X _{2.6}	0.612	0.741	0.593
X _{2.7}	0.755	0.802	0.677
Y ₁	0.740	0.689	0.794
Y ₂	0.599	0.652	0.752
Y ₃	0.610	0.647	0.711
Y ₄	0.626	0.623	0.723
Y ₅	0.516	0.552	0.736
Y ₆	0.578	0.568	0.829
Y ₇	0.570	0.572	0.798

Berdasarkan hasil pengujian pada Tabel diatas, seluruh indikator dalam penelitian ini memiliki nilai *outer loading* tertinggi pada konstruk yang relevan, jika dibandingkan dengan nilai *loading*-nya terhadap konstruk lain. Dengan demikian, dapat disimpulkan bahwa seluruh indikator telah memenuhi kriteria validitas diskriminan melalui pendekatan *cross loading*, dan setiap konstruk dalam model dapat dibedakan secara jelas satu sama lain.

Inner Model

1. R-square

Tabel 4. Hasil R-Square

	R-square	R-square adjusted
Y	0.689	0.684

Berdasarkan hasil pengujian pada Tabel diatas nilai R-Square sebesar 0,689 menunjukkan bahwa variabel independen (X₁ dan X₂) mampu menjelaskan sebesar 68,9% variasi yang terjadi pada variabel dependen (Y). Berdasarkan kriteria, nilai ini termasuk dalam kategori kuat (> 0,67), sehingga model memiliki kemampuan prediktif yang baik.

2. F-square

Tabel 5. Hasil F-Square

	X ₁ .	X ₂ .	Y
X ₁ .			0.104
X ₂ .			0.157
Y			

Berdasarkan hasil pengujian pada Tabel diatas , diperoleh hasil bahwa variabel X₁ memiliki nilai f² sebesar 0,104 yang tergolong dalam kategori efek kecil, sedangkan variabel X₂ memiliki nilai f² sebesar 0,157, yang berada pada kategori efek sedang. Hal ini mengindikasikan bahwa variabel X₂ memberikan kontribusi yang relatif lebih besar dibandingkan variabel X₁ dalam memengaruhi variabel Y.

3. *Goodness of Fit*

GoF dihitung dengan rumus sebagai berikut :

$$GoF = \sqrt{AVE \text{ rata - rata } \times R^2}$$

$$GoF = \sqrt{0.592 \times 0.689}$$

$$GoF = \sqrt{0.407}$$

$$GoF = 0.637$$

Berdasarkan hasil perhitungan di atas, diperoleh nilai *GoF* sebesar 0,637, yang berada di atas angka 0,25. Hal ini menunjukkan bahwa model memiliki tingkat kecocokan yang tinggi secara keseluruhan. Dengan demikian, model yang dibangun dalam penelitian ini dapat dikatakan valid dan layak digunakan untuk menjelaskan hubungan antar variabel dalam model.

4. *Multikoleniaritas*

Tabel 6. Hasil VIF

	VIF
X ₁ . -> Y	4.548
X ₂ . -> Y	4.548

Berdasarkan hasil pengujian pada Tabel diatas, menunjukkan bahwa nilai *variance inflation factor* (VIF) untuk kedua variabel independen adalah sebesar 4,548, yang masih berada di bawah ambang batas 5. Dengan demikian, dapat disimpulkan bahwa tidak terdapat gejala *multikolinearitas* dalam model, sehingga hubungan antar variabel dalam model ini tidak mengalami distorsi akibat korelasi tinggi antar variabel independen.

Hasil Analisis Hubungan Variabel dan Pengujian Hipotesis

Tabel 7. Hasil *Path Coefficients*

	<i>Original sample (O)</i>	<i>Sample mean (M)</i>	<i>Standard deviation (STDEV)</i>	<i>T statistics (O/STDEV)</i>	<i>P values</i>
X ₂ . -> Y	0.471	0.468	0.136	3.459	0.001
X ₁ . -> Y	0.384	0.388	0.131	2.933	0.003

1. Berdasarkan hasil pengujian pada Tabel diatas, menunjukan X₁ memiliki pengaruh positif dan signifikan terhadap Y. Nilai koefisien jalur sebesar 0,384 mengindikasikan bahwa setiap peningkatan X₁ akan diikuti oleh peningkatan pada Y. Nilai *T-statistic* yang diperoleh sebesar 2,933 lebih besar dari nilai kritis 1,96 untuk tingkat signifikansi 5%, dan *p-value* sebesar 0,003 berada di bawah 0,05. Temuan ini mengonfirmasi bahwa hipotesis yang menyatakan kualitas layanan (X₁) berpengaruh signifikan terhadap loyalitas (Y) dapat diterima.

2. Berdasarkan hasil pengujian pada Tabel diatas, X_2 juga memiliki pengaruh positif dan signifikan terhadap Y. Nilai koefisien jalur sebesar 0,471 menunjukkan bahwa kenaikan pada X_2 akan diikuti oleh kenaikan pada Y. Nilai *T-statistic* sebesar 3,459 yang melebihi batas kritis 1,96 dan *p-value* sebesar 0,001 yang lebih kecil dari 0,05 memperkuat kesimpulan bahwa pengaruh X_2 terhadap Y signifikan secara statistik. Dengan demikian, hipotesis yang menyatakan kepuasan (X_2) berpengaruh signifikan terhadap loyalitas (Y) dapat diterima.

Pembahasan Hasil Penelitian

Pengaruh Kualitas Layanan terhadap Loyalitas Nasabah Pengguna Aplikasi *Livin' by Mandiri*

Berdasarkan hasil pengujian hipotesis, variabel Kualitas Layanan (X_1) memiliki nilai koefisien sebesar 0,384, *t-statistic* sebesar 2.933, dan *p-value* sebesar 0,001. Nilai *t-statistic* yang melebihi batas kritis 1,64 serta *p-value* yang lebih kecil dari 0,05 menunjukkan bahwa kualitas layanan berpengaruh positif dan signifikan terhadap loyalitas nasabah pengguna aplikasi *livin' by mandiri* di Kota/Kabupaten Bogor.

Pengaruh Kepuasan terhadap Loyalitas Nasabah Pengguna Aplikasi *Livin' by Mandiri*

Berdasarkan hasil pengujian hipotesis, variabel Kepuasan Nasabah (X_2) memiliki nilai koefisien sebesar 0,471, *t-statistic* sebesar 3,459, dan *p-value* sebesar 0,001. Nilai *t-statistic* yang melebihi batas kritis 1,64 serta *p-value* yang lebih kecil dari 0,05 menunjukkan bahwa kepuasan nasabah berpengaruh positif dan signifikan terhadap loyalitas nasabah pengguna aplikasi *livin' by mandiri* di Kota/Kabupaten Bogor.

5. KESIMPULAN DAN SARAN

5.1 Kesimpulan

Penelitian ini menganalisis pengaruh variabel Kualitas Layanan (X_1) dan Kepuasan Nasabah (X_2) terhadap Loyalitas Nasabah (Y). Pengujian hipotesis dilakukan dengan menggunakan perangkat lunak *SmartPLS* melalui metode *partial least squares-structural equation modeling* (PLS-SEM). Sampel yang digunakan dalam penelitian ini terdiri dari responden pengguna aplikasi *livin' by mandiri* di Kota/Kabupaten Bogor. Berdasarkan hasil penelitian yang dilakukan, dapat disimpulkan bahwa:

1. Hasil pengujian menunjukkan bahwa kualitas layanan (X_2) memiliki pengaruh positif dan signifikan terhadap loyalitas nasabah pengguna aplikasi *livin' by mandiri* di Kota/Kabupaten Bogor, dengan nilai koefisien sebesar 0,384, *t-statistic* sebesar 3,375, dan *p-value* sebesar 0,001. Hal ini berarti semakin tinggi kualitas layanan yang diberikan meliputi aspek keandalan (*reliability*), daya tanggap (*responsiveness*), jaminan (*assurance*), empati (*empathy*), dan bukti fisik (*tangible*) maka semakin tinggi pula tingkat loyalitas nasabah.
2. Hasil pengujian menunjukkan bahwa kepuasan nasabah (X_2) memiliki pengaruh positif dan signifikan terhadap loyalitas, dengan nilai koefisien sebesar 0,471, *t-statistic* sebesar 3,459, dan *p-value* sebesar 0,001. Artinya, semakin tinggi tingkat kepuasan yang dirasakan nasabah yang mencakup kepuasan keseluruhan, kesesuaian pengalaman dengan harapan, pemenuhan ekspektasi layanan, niat menggunakan kembali, kesediaan

merekomendasikan, minimnya ketidakpuasan, dan kemudahan penggunaan aplikasi maka semakin tinggi pula tingkat loyalitasnya.

5.2 Saran

1. Bagi Bank
 - a. Bank Mandiri perlu memastikan aplikasi *livin' by* mandiri selalu dalam kondisi optimal untuk menjaga pengalaman positif nasabah.
 - b. Merespon cepat terhadap keluhan dan pertanyaan nasabah akan memperkuat persepsi positif terhadap kualitas layanan.
 - c. Meningkatkan kemudahan penggunaan aplikasi akan memperkuat kepuasan yang berujung pada loyalitas.
2. Bagi peneliti selanjutnya
 - a. Penelitian selanjutnya dapat memperluas wilayah penelitian dan melibatkan responden dari berbagai daerah untuk memperoleh hasil yang lebih representatif.
 - b. Menambahkan variabel lain seperti kepercayaan (*trust*), citra merek (*brand image*), dan persepsi nilai (*perceived value*) untuk mendapatkan gambaran yang lebih komprehensif.
 - c. Menggunakan metode penelitian campuran (*mixed methods*) agar hasil kuantitatif dapat diperkuat dengan data kualitatif.

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AI-DRIVEN MARKETING AND THE CHANGING ROLE OF MARKETERS: A SYSTEMATIC LITERATURE REVIEW OF COMPETENCY GAPS AND ORGANIZATIONAL TRANSFORMATION

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Abstract

This study aims to synthesize fragmented literature on digital transformation in management and marketing, focusing on Artificial Intelligence (AI) and new strategies such as the Metaverse, B2B subscription models, and Growth Hacking. Using a systematic literature review (SLR) methodology on 14 research articles, thematic analysis was used to identify consensus, tensions, and research gaps. The findings reveal consensus on three themes: (1) AI as the core architect of process and business model transformation, (2) the adoption of new digital strategies, and (3) the critical need for new human and organizational capabilities, such as AI Literacy and Individual Ambidexterity. This review identified key conceptual tensions between technological automation versus human-centricity, and between exploration (learning) versus exploitation (commercialization) in the adoption of new technologies. The most significant research gap is the literature's heavy focus on managerial perspectives, neglecting the experiences of customers and end users. This study provides a coherent framework for a fragmented field and directs future research to prioritize the understudied user perspective and conduct quantitative validation of new conceptual models.

Keywords: *AI-based marketing, Organizational transformation, The role of marketers, Competency gap, Systematic literature review, Adaptive culture, Digital marketing strategy.*

1. Introduction

Widespread internet access, the convenience of digital services, and the emergence of various e-commerce platforms make online transactions increasingly desirable as they are considered practical, fast, and efficient; indeed, internet users utilize the web not only to communicate but also to conduct transactions (Andriani et al., 2022). This change requires businesses to adapt by strengthening Digital Marketing strategies to reach consumers amidst physical interaction limitations, as digitalization empowers customers and compels business owners to rethink how to win the market (Jannah, 2021).

Consumers who were previously accustomed to shopping in person are now shifting to online purchasing defined as the transaction process occurring between sellers and buyers on websites because it is considered safer, faster, and more efficient (Wantara & Suryanto, 2023).

Artificial Intelligence (AI) has become the core architect of business transformation, fundamentally changing operations, innovation, and customer engagement. The literature points to AI as a key driver of Business Model Innovation (BMI), Dynamic Capabilities, and the evolution of CRM, enabling new digital strategies such as the Metaverse and Growth Hacking (GH). However, success does not depend solely on technology; there is a strong consensus that AI adoption must be balanced with the development of advanced organizational and human capabilities, such as "AI literacy" and "individual ambidexterity." This competency

gap is crucial because human capabilities such as critical judgment and empathy remain competitive advantages.

Although this human-technology interface is important, existing research remains highly fragmented. Most of the literature focuses too much on technological aspects, new strategies, or macro theories (such as Dynamic Capabilities and RBV), while neglecting micro mechanisms on how practical competencies are built and individual role adaptation. In particular, the literature largely ignores the perspectives of employees and end users, necessitating a systematic synthesis. Therefore, this paper conducts a Systematic Literature Review (SLR) on AI-based marketing to (1) map AI-driven organizational transformations, (2) identify emerging competency gaps, and (3) build a comprehensive understanding of the changing role of marketers. Such research is crucial as it provides insight into indirect influence mechanisms, serving as a basis for businesses to design digital marketing strategies that play a strategic role in product success and reaching consumers (As & Fatmariyah, 2023).

2. Methodology

This study uses a qualitative approach through a Systematic Literature Review (SLR) to synthesize findings from various academic sources. The data collection process involved systematically searching and identifying literature in academic journal databases. The data analysis technique used was a narrative and thematic synthesis of the collected literature, focusing on categorizing key findings related to AI applications in marketing, changes in the role of marketers, organizational impacts, and existing challenges and Social Media Marketing (SMM), which serves as a vital factor in attracting consumer attention and building interaction through various social media platforms (Rahmawati & Aguilika, 2024).

Trust can be understood as a psychological state reflecting an individual's willingness to accept vulnerability based on positive expectations; notably, the higher the customer satisfaction with the service experience, the more they feel they can trust the organization (Wantara, 2015). Trust can be understood as a psychological state reflecting an individual's willingness to accept vulnerability based on positive expectations; notably, the higher the customer satisfaction with the service experience, the more they feel they can trust the organization (Wantara et al., 2023).

In the context of modern business, companies operating online generally utilize various digital strategies to achieve competitive advantage and maintain good performance (Jannah & Pranjoto, 2023), such as Search Engine Optimization (SEO). The purpose of the SLR is to identify existing research patterns, analyze cause-and-effect relationships, and highlight significant gaps in the literature that justify the proposed new research direction. This approach ensures that the proposed research idea is based on an in-depth analysis of existing knowledge.

3. Sample and Data Collection

The data collection method for this systematic literature review involved a search strategy and a rigorous article selection process.

3.1 Literature search strategy

A comprehensive literature search was conducted in the ScienceDirect database, beginning with a search using a combination of terms such as “Artificial Intelligence,” “Marketing,” and “Competency,” which yielded 84 articles. The selection process began by filtering the publication year between 2024 and 2025, which reduced the number to 50 articles. Next, an article type filter was applied to include only “Review Articles” and “Research Articles,” leaving 41 articles. A topic area filter was then used to select the field of “Business,

Management, and Accounting,” leaving 30 articles. Finally, an “Open Access” filter was applied to ensure the availability of publications, resulting in 15 final articles for the study.

3.2 Article selection process

After passing through the filters, the 15 articles were manually screened for eligibility, which involved a full-text relevance review by the researchers to ensure alignment with the specific research questions. Articles were kept if they specifically discussed the impact of AI on marketers' roles, the required skills and competencies, or the subsequent organizational transformation. Articles that did not substantially address these specific competency gaps or organizational changes were excluded. Through this selection process, one article was excluded, resulting in a final sample of 14 articles identified as the most appropriate and relevant for inclusion in this systematic literature review.

3.3. Data analysis

A thematic analysis was used to synthesize data from the 14 selected articles, focusing on key issues, theoretical foundations, findings, and research gaps regarding AI's impact on the marketing profession. This synthesis specifically examines how organizational transformation explains the interrelationship between AI adoption, the changing role of marketers, and resulting competency gaps. The analysis also investigates how new requirements, such as AI Literacy and individual ambidexterity, are identified as critical factors for success. The results of this synthesis are intended to answer the research questions and provide a comprehensive summary of the field's current understanding.

4. Results and discussion

Based on the 14 articles identified, the results of the study are presented in Table

Table 1. Research on digital transformation in marketing and business management, with a strong emphasis on AI adoption, new digital strategies, and capability development.

Author (year)	Title	Methodology & Sample	Key findings
(Lam et al., 2024)	A multi-criteria intelligence aid approach to selecting strategic key opinion leaders in digital business management	Mixed-method design (Fuzzy BWM & Fuzzy TOPSIS). Case study of agency D.M. & client T.C. in Hong Kong.	Produces an effective framework (iMcKAF) for selecting B2B Key Opinion Leaders (KOLs). The Fuzzy BWM method in this framework has been proven to be more reliable than the traditional Fuzzy AHP method.
(Rostamzadeh et al., 2024)	Providing an innovative model for social customer relationship management:	Qualitative (Meta-synthesis / Systematic literature review) of 31 studies (2010-2024).	Developing a new model for SCRM (Social Customer Relationship Management) and discovering a significant gap in research: 87% of research focuses on

	Meta synthesis approach		companies, and only 13% focuses on customers.
(Di Paolo et al., 2025)	Brand strategy in the metaverse: Insights from companies venturing into virtual environments	Qualitative (Multiple case study). 16 semi-structured interviews with senior managers at large international firms (Italian focus).	Companies that focus on learning (exploration) in the metaverse are more successful in the long term, and this requires internal champions.
(Rogge et al., 2025)	AI meets IA: A typology of generative-AI-supported work through individual ambidexterity	Conceptual paper based on an interdisciplinary literature review (WoS) and empirical examples.	This conceptual paper proposes a typology of four GenAI-supported jobs (Design, Data Analysis, Customer Service, Content Generation). The key finding is that <i>individual ambidexterity</i> (IA) enables employees to navigate the competing demands of GenAI, which can enhance both exploration and exploitation but also creates tensions (bias, ethics).
(Benlian & Pinski, 2025)	The AI literacy development canvas: Assessing and building AI literacy in organizations	Conceptual paper developing a framework based on literature review, corporate insights, and illustrated with case studies.	This research developed two practical tools: the <i>AI Literacy Assessment Matrix</i> (for evaluation) and the <i>AI Literacy Development Canvas</i> (for strategic planning). The findings confirm that AI literacy needs vary significantly and must be tailored by organizational level (executives, middle managers, and non-IT staff).
(Kowalkowski & Ulaga, 2024)	Subscription offers in business-to-business markets: Conceptualization, taxonomy, and	Two-stage exploratory qualitative design (Workshops with 23 managers & In-depth	This qualitative research produced a 2x2 taxonomy classifying B2B subscriptions into four types (<i>Stepping Stones</i> , <i>Interactive</i>

	framework for growth	interviews with 27 executives).	<i>Scripts, Intelligent Automation, Intertwined Journeys</i>). The findings confirm that transitioning to subscriptions requires a significant organizational overhaul in offering development, revenue models, and customer engagement (e.g., Customer Success Management roles).
(Bargoni et al., 2024)	Growth hacking: A critical review to clarify its meaning and guide its practical application	Qualitative (Mixed-method); Critical literature review, 10 interviews with GH practitioners, and a secondary case study (IKEA).	This study challenges common myths, finding that <i>growth hacking</i> (GH) is not just a marketing strategy for tech startups, but a cross-functional, data-driven experimentation methodology. The findings identify a "second wave" of GH evolution, focusing on internal process improvement and experimentation across the value chain.
(Aiolfi & Luceri, 2024)	See you on the Metaverse: A bibliometric expedition through the Metaverse landscape	Quantitative bibliometric analysis of 284 articles from the Web of Science (WoS).	This bibliometric analysis maps the Metaverse research landscape, identifying six major thematic clusters (e.g., Technology, Experience, Marketing). Findings show publications surged post-2021 and that thematic focus has evolved from 'Second Life' to 'Metaverse', 'Engagement', and 'Brand' as primary motor themes in 2024.
(Oliveira et al., 2025)	Sales digitization and sales process optimisation for	Qualitative (Constructivist/Inductive); 27 in-depth interviews	This qualitative study found that <i>Sales Enablement Platforms</i>

	firm performance: Evidence from European firms	(CEOs/directors) & 3 case studies in Europe.	(SEPs) adoption supports greater collaboration and performance in medium-sized firms. Findings identified four dominant pathways (digital skills, marketing ownership, strategic implications, value creation) linking SEPs to performance, stressing that successful implementation demands continuous organizational adaptation.
(Jorzik et al., 2024)	AI-driven business model innovation: A systematic review and research agenda	Qualitative (Systematic Literature Review - SLR) of 180 articles.	This systematic literature review found that research on AI-driven BMI is fragmented and often focuses on the technology itself rather than the management of BMI. As a synthesis, the study develops a typology of four research perspectives (e.g., <i>Focused BMI</i> , <i>Transformative BMI</i>) based on AI centrality and BMI emergence.
(Scuotto et al., 2025)	Growth hacking: Leveraging hyper-scalability, hyper-specialization, and human-centric strategies for competitive advantage	Qualitative (Inductive); 20 semi-structured interviews with growth-oriented entrepreneurs (SMEs) in the UK.	Interviews with entrepreneurs identified three primary <i>growth hacking</i> strategies used by SMEs: <i>Hyper-scalability</i> (digital tool efficiency), <i>Hyperspecialization</i> (niche solutions), and <i>Human-based competitive advantage</i> . The findings highlight the importance of balancing digital adoption with human interaction for competitive advantage.

(Roy et al., 2025)	AI-capable relationship marketing: Shaping the future of customer relationships	Qualitative (Gioia methodology); 67 semi-structured interviews with managers in India.	This research develops a comprehensive framework showing how <i>AI-enabled Dynamic Capabilities</i> (Sensing, Seizing, Transforming) influence <i>AI-enabled Relationship Marketing</i> (Establishing, Developing, Maintaining). The findings also identified key facilitators (Human Oversight, AI Knowledge) and barriers (AI Noise, Ethical Concerns, Data Quality) to AI adoption.
(Ledro et al., 2025)	Artificial intelligence in customer relationship management: A systematic framework for a successful integration	Qualitative (Exploratory/Inductive, Gioia); Multiple case study (25 interviews with experts, providers, & firms).	This multiple case study produced a 4-phase (13-step) framework for AI-CRM integration, finding the process is iterative, not linear. Key findings highlight that fundamental aspects for success—often overlooked—include <i>ethics by design</i> , customer data centralization, AI model retraining, and continuous user involvement.
(de Almeida et al., 2025)	Child viewers' engagement with social media influencers: Exercising socialisation-driven agency	Multimodal qualitative design (<i>Mosaic Approach</i>); 29 children (7-10) & 26 parents in the UK (drawings, focus groups, interviews).	Using a <i>Mosaic Approach</i> , this study found that children's engagement with child influencers (driven by relatable content) contributes to forming 'socialisation-driven agency'. The findings suggest children express this agency through 'creative translation', adapting learned skills (e.g., cooking, gaming)

(Source: Processed data, 2025)

4.1 Key Challenges and Research Gaps in Digital Transformation

This systematic analysis confirms that Artificial Intelligence (AI) now serves as the core architect of modern business transformation, fundamentally reshaping business models (Jorzik et al., 2024), customer relationships, and Dynamic Capabilities. Concurrently, new digital strategies such as the Metaverse (Aiolfi & Luceri, 2024), and Growth Hacking (GH) are being conceptualized. The success of these technologies depends on the simultaneous development of human capabilities, including AI Literacy (Benlian & Pinski, 2025), Individual Ambidexterity, and specialized digital skills (Oliveira et al., 2025).

Two main tensions have been identified: First, between technological automation and human-centricity, where efficiency (Rogge et al., 2025)) must be balanced with “human-based competitive advantage” and “Human Oversight”. Second, the tension between exploration (learning) and exploitation (commercialization) (Di Paolo et al., 2025). The main implication is a striking research gap: the literature is heavily dominated by managerial perspectives (Roy et al., 2025). The main implication is that there is a striking research gap: the literature is heavily dominated by managerial perspectives (Kowalkowski & Ulaga, 2024), ignoring the perspectives of customers and end users. Furthermore, the dominance of qualitative and cross-sectional studies (Jorzik et al., 2024) indicates an urgent need for quantitative validation (Ledro et al., 2025) and longitudinal research designs.

4.2 Identifying Research Gaps (Future Agenda)

A synthesis of the limitations and research suggestions in the 14 articles reveals a clear future research agenda, categorized using the TCCM (Theory, Context, Construct, Methodology) framework.

1. **Theoretical Gap:** Existing studies rely heavily on macro-level theories such as Dynamic Capabilities and RBV, but fail to explore micro-level mechanisms or socio-technical theories that explain how these capabilities are built in everyday human-technology interactions. Furthermore, although ethical issues and bias are mentioned as obstacles, there is a lack of critical theory application to explicitly deconstruct the “dark side,” power dynamics, and regulatory challenges of adopting this technology.
2. **Contextual Gap:** Contextually, empirical data is heavily concentrated in developed countries, particularly Europe, the United Kingdom, and Italy, with explicit calls for cross-cultural studies. In addition, new frameworks are often developed with a focus on large companies, while the needs and resource constraints of small and medium-sized enterprises (SMEs) are largely neglected.
3. **Construct/Variable Gap:** The most significant construct gap is the widespread neglect of the customer and end-user perspective. Studies on SCRM, AI-RM, B2B Subscriptions, and AI-CRM integration explicitly acknowledge their heavy focus on the managerial perspective. There is an urgent need to research how customers and frontline employees experience the adoption of this technology. Furthermore, many studies stop at the proof-of-concept stage, and there is a lack of studies linking the adoption of these frameworks to long-term performance metrics and ROI.
4. **Methodological Gap:** Methodologically, this field is dominated by qualitative research

(interviews, case studies), conceptual studies, and literature reviews (SLR, bibliometrics). Nearly every study (e.g.,) calls for large-scale quantitative validation to test proposed frameworks and typologies. Furthermore, technology adoption is a process, yet nearly all empirical studies are cross-sectional. There is a strong need for longitudinal research designs to track the evolution of strategies and the impact of interventions over time.

4.3. Perspective and Methodology Gaps in Digital Transformation Research

This systematic analysis confirms that Artificial Intelligence (AI) now serves as the core architect of modern business transformation, fundamentally reshaping business models (Jorzik et al., 2024) and customer relationships. AI enables the development of new Dynamic Capabilities for “sensing, seizing, and transforming” (Roy et al., 2025). Beyond AI, new digital strategies such as the Metaverse, B2B subscriptions, and Growth Hacking (GH) (Bargoni et al., 2024) are being conceptualized. The main consensus is that the success of technology depends on the simultaneous development of human capabilities. This raises a central tension between automation and human-centricity. On the one hand, technologies such as GenAI, SEPs, and hyper-scalability are praised for their efficiency (Scuotto et al., 2025). On the other hand, findings emphasize that “human-based competitive advantage” and “Human Oversight” are key facilitators, with psychological outcomes being more highlighted in SCRM (Rostamzadeh et al., 2024). The second tension centers on the balance between exploration (long-term learning) and exploitation (short-term commercialization).

The most significant implication of this review is the identification of a striking research gap. First, the literature is heavily dominated by managerial perspectives, with studies on AI-RM (Roy et al., 2025), B2B subscriptions, SCRM, and AI-CRM integration explicitly acknowledge the neglect of the customer or end-user perspective. There is an urgent need to investigate how customers and frontline employees (Oliveira et al., 2025) experience these digital initiatives. Second, this field is dominated by qualitative, conceptual, and cross-sectional research. Nearly every study calls for large-scale quantitative validation (Rogge et al., 2025) and longitudinal research designs to track the evolution of strategies and behavioral impacts over time.

5. Conclusion

This systematic literature review synthesizes the fragmented research landscape on AI-based marketing, focusing on its impact on the role of marketers, competency gaps, and organizational transformation. Analysis of 14 articles reveals that Artificial Intelligence (AI) is now the core architect of business transformation, enabling new Dynamic Capabilities in Relationship Marketing (RM) and driving the adoption of new digital strategies such as Metaverse branding, B2B subscription models, and cross-functional Growth Hacking (GH). The findings confirm that the role of marketers (RQ1) is evolving into that of strategic integrators, and this transformation is creating significant competency gaps (RQ2) where success depends on new human capabilities. These capabilities include systematic “AI literacy,” “individual ambidexterity” for GenAI, and “human-based competitive advantage” that emphasizes critical judgment and empathy. Organizational transformation (RQ3) occurs as companies navigate two core tensions: (1) Automation vs. Human Centricity and (2) Exploration vs. Exploitation. The main contribution of this study is to synthesize these findings into a coherent socio-technical framework. This review also reveals significant research gaps, including the dominance of qualitative and conceptual studies, an almost exclusive focus on managerial perspectives, and

a scarcity of cross-sectional studies. Therefore, future research should prioritize large-scale quantitative validation, longitudinal studies, and critical perspectives of customers and employees.

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THE ROLE OF DIGITAL MARKETING AND GREEN INNOVATION IN ENHANCING SUSTAINABLE BUSINESS PERFORMANCE: A SYSTEMATIC LITERATURE REVIEW OF EVIDENCE FROM SMES IN INDONESIA

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Abstract

This study investigates the role of digital marketing and green innovation in enhancing sustainable business performance among small and medium-sized enterprises (SMEs) in Indonesia. Using a Systematic Literature Review (SLR) guided by the PRISMA framework, the research synthesizes findings from twenty peer-reviewed studies published between 2015 and 2025. The analysis integrates thematic and bibliometric approaches using VOSviewer to identify key concepts and emerging research patterns. The results indicate that digital marketing positively contributes to SMEs' sustainable performance by improving innovation, operational efficiency, and market competitiveness (Mangifera et al., 2025). Furthermore, green innovation functions as a mediating factor that transforms digital capabilities into environmentally responsible outcomes (Wulandari & Wardani, 2024). The integration of digital strategies and eco-innovation strengthens SMEs' resilience, aligning business growth with environmental and social values (Alraja et al., 2022a). Theoretically, this study extends sustainability and marketing literature by explaining how digital and environmental resources jointly drive long-term competitiveness. Practically, it offers strategic insights for SME leaders and policymakers to design integrated digital-green initiatives that accelerate the achievement of Sustainable Development Goals (SDGs) in developing economies.

Keywords: *Digital marketing, Green innovation, Sustainable business performance, Systematic literature review, SMEs, Indonesia*

1. Introduction

In recent times, there has been a substantial shift in business operations across various sectors, driven by a heightened focus on environmental issues and swift progress in digital technology. Small and Medium Enterprises (SMEs) are very important for fueling the economic progress of Indonesia, however, they have many difficulties because of scarce resources, deficient technological skills, and unpredictable market conditions (Mangifera et al., 2025). To maintain a competitive edge and long-term viability, SMEs should be capable of combining digital changes with ecologically sound business plans (Wulandari & Wardani, 2024). In this context, the combined effect of digital marketing and ecological innovation is becoming more and more crucial as a strategic way to attain lasting business results (Jannah & Pranjoto, 2025).

Digital marketing empowers SMEs to access wider markets, engage openly with their customer base, and leverage data-driven insights to inform decision-making and foster product

enhancements (Munandar et al., 2025). It serves as an economical and adaptable instrument for promoting products and establishing brand recognition in fiercely competitive markets. Research indicates that a strong entrepreneurial drive along with technological flexibility are significant elements that impact how well SMEs perform in digital spaces (Mangifera et al., 2025). Employing digital marketing channels like social media, company websites, and online retail also gives SMEs the means to clearly convey their dedication to sustainability, thus drawing in ecologically mindful consumers and financiers (Rahmawati & Aguilika, 2024).

Simultaneously, green innovation, including the creation of environmentally friendly products, efficient ecological processes, and environmentally conscious management strategies, has become a crucial part of maintaining a competitive edge in a sustainable manner. As noted (Worakittikul et al., 2025) environmentally friendly processes hold the greatest sway over circular economy methods when it comes to boosting SME projects and producing sustainable results. SMEs can use green innovation to cut down on waste, make the most of their resources, and develop sustainable, high-value products that are in line with both financial and ecological objectives. This viewpoint is consistent with the discoveries made by Wulandari and Wardani (2024), who emphasize that innovation and an entrepreneurial mindset are critical mediators in improving the financial and societal results of small businesses. Despite the increasing importance of going digital and being sustainable, there is still a shortage of real-world research looking at how digital marketing, green innovation, and long-term business success are related, particularly in the setting of Indonesian SMEs (Uula, n.d.). The majority of studies that are currently available look at these topics independently, failing to fully explain how digital marketing may encourage green innovation or how this type of innovation affects long-term performance. This deficiency emphasizes the necessity for additional research into how the implementation of digital marketing impacts innovation and business results that are oriented toward sustainability among Indonesian SMEs. (Febriyantoro, 2025)

This research endeavors to address the existing void in academic knowledge by scrutinizing how digital marketing and environmentally friendly innovation contribute to improved business sustainability. It concentrates on ascertaining if the use of digital marketing has an immediate impact on a company's sustainability, understanding the ways in which digital marketing promotes eco-friendly innovation, and evaluating if green innovation acts as an intermediary in the connection between digital marketing strategies and long-term business success (Jannah, 2021).

Stemming from the recognized research gap, the issues that this study will tackle are presented as the following inquiries:

1. Is there a substantial influence of implementing digital marketing on the level of sustainable business performance observed within Indonesian SMEs?
2. In what ways do digital marketing practices aid in the advancement of green innovation initiatives inside of small and medium-sized enterprises?
3. Does the presence of green innovation act as an intermediate factor that affects the link between employing digital marketing techniques and achieving sustainable business outcomes?

Correspondingly, the purposes that this research intends to achieve are:

1. To dissect the immediate consequences that digital marketing has on ensuring sustainable business performance for Indonesian SMEs.
2. To investigate how digital marketing impacts and shapes the introduction and growth of green innovation efforts.
3. To judge whether green innovation plays a mediating function in the dynamic between utilizing digital marketing tactics and accomplishing lasting sustainable business results.

Through these aims, this investigation anticipates delivering valuable additions to both academic knowledge and real-world applications. From an academic point of view, it improves the comprehension of environmentally focused digital business creation by associating the use of digital marketing with ecological advancements and the results they produce. From a hands-on perspective, it gives SME leaders and government officials helpful information for creating plans that encourage environmentally friendly innovation and digital changes as ways to achieve lasting competitive advantages within Indonesia's lively commercial sector (Sylvia et al., 2024).

The novelty of this study lies in its integrated framework that combines digital marketing and green innovation as dual strategic drivers for sustainable performance within SMEs. Previous research has typically examined these constructs separately, focusing on either environmental or technological dimensions. By synthesizing them within the Indonesian context, this paper contributes a holistic theoretical perspective that bridges sustainability, innovation capability, and digital transformation a relationship that remains underexplored in emerging economies (Polas & Raju, 2021).

2. Hypothesis development (quantitative) or mind mapping (qualitative)

2.1. The Relationship between Digital Marketing and Sustainable Business Performance

Digital marketing plays a significant role in shaping SMEs' sustainability by improving market access, communication efficiency, and customer engagement (Mangifera et al., 2025; Munandar et al., 2025). Through social media platforms and e-commerce channels, SMEs can promote environmentally responsible products, enhance transparency, and build eco-friendly brand identities (Chege & Wang, 2020; Udayana et al., 2024). From the Resource-Based View (RBV), digital capabilities are strategic assets that provide a source of sustainable competitive advantage (Barney, 1991). Empirical studies also confirm that digital marketing strengthens financial performance and long-term competitiveness (Amin et al., 2025; Setiawan et al., n.d.).

H1: Digital marketing has a positive and significant effect on sustainable business performance among SMEs.

2.2. The Relationship between Digital Marketing and Green Innovation

Digital marketing facilitates data-driven insights that enable the creation of innovative and

environmentally friendly products (Azita Azis et al., 2024). Studies show that digital platforms not only serve as communication tools but also as innovation enablers that accelerate the adoption of green practices (Sylvia et al., 2024; Worakittikul et al., 2025). By integrating digitalization with innovation strategies, SMEs can identify eco-conscious consumer trends and design sustainable offerings (Wulandari & Wardani, 2024; Avotra et al., 2022). The Dynamic Capabilities Theory (Teece et al., 1997) suggests that firms with adaptive digital capacities can reconfigure resources to generate green innovations effectively.

H2: Digital marketing has a positive and significant effect on green innovation.

2.3. The Relationship between Green Innovation and Sustainable Business Performance

Green innovation enhances SMEs' performance by reducing resource waste, improving operational efficiency, and aligning products with environmental standards (Worakittikul et al., 2025; Polas & Raju, 2021). Eco-friendly innovations lead to cost efficiency and improved brand reputation, resulting in better market performance (Porter & van der Linde, 1995; Alraja et al., 2022). Empirical research confirms that firms that prioritize green innovation achieve higher financial, environmental, and social outcomes (Prihastiwi et al., 2025; Amin et al., 2025).

H3: Green innovation has a positive and significant effect on sustainable business performance.

2.4. The Mediating Role of Green Innovation

Several studies indicate that green innovation mediates the relationship between digital marketing and sustainable business outcomes (Tobing & Nugroho, 2024a; Azita Azis et al., 2024). Digital marketing enhances SMEs' capability to capture market intelligence, which then informs eco-innovation strategies (Ginting & Rijal, n.d.; Wulandari & Wardani, 2024). This relationship aligns with the Dynamic Capabilities Theory, where digital and environmental competencies jointly foster adaptability and sustainability (Teece et al., 1997; Elkington, 1998).

H4: Green innovation mediates the relationship between digital marketing and sustainable business performance.

2.5. Research Model

Below is the conceptual model developed based on the hypotheses above.

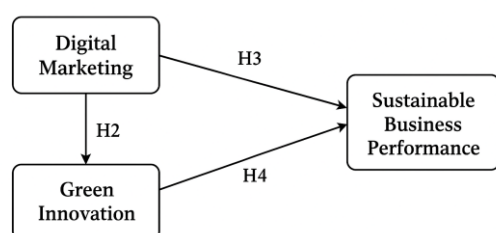


Figure 1. Research Model

Figure 1. Research Model

3. Methodology

This study employs a Systematic Literature Review (SLR) approach to identify, evaluate, and synthesize previous research related to the relationship among digital marketing, green innovation, and sustainable business performance. The SLR method enables a comprehensive understanding of the current body of knowledge by systematically collecting and analyzing existing studies in a transparent and replicable manner. The review process follows the guidelines of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), which consists of four main stages: identification, screening, eligibility, and inclusion (Alfarizi & Sari, 2024).

3.1. Data Sources and Search Strategy

The literature search was conducted across several major academic databases, including Scopus, ScienceDirect, Emerald Insight, Google Scholar, and SINTA. The search covered publications from 2015 to 2025 to ensure the inclusion of up-to-date studies. The keywords used in the search process were:

“digital marketing”, “green innovation”, “sustainable performance”, “sustainable business”, and “SMEs.”

Boolean operators (*AND*, *OR*) were applied to refine the search queries, for instance:

(“digital marketing” AND “green innovation”) OR (“sustainable performance” AND “SMEs”).

3.2. Inclusion and Exclusion Criteria

To ensure the quality and relevance of the reviewed studies, specific inclusion and exclusion criteria were established as follows:

Criteria	Inclusion	Exclusion
Type of document	Peer reviewed journal articles , conference proceedings, and review paper	Books , reports , theses , or non peer reviewed articles
Publication period	2015 – 2025	Before 2015
Language	English or Indonesian	Other languages
Topik relevance	Studies examining the relationship between digital marketing , green innovation , and sustainable business performance	Studies unrelated to the core variables

Accessibility	Full text articles available for download	Abstract – only or inaccessible documents

3.3. Article Selection Process

The initial search yielded 150 scientific articles. After the title and abstract screening, **75** articles were identified as relevant. Subsequently, a full-text review was conducted, and the inclusion–exclusion criteria were applied, resulting in 20 final articles used for synthesis.

The article selection process can be summarized as follows:

Stage	Number of articles	Description
Identification	150	Articles retrieved from five databases
Screening	75	Articles matched the research topik
Eligibility	30	Articles met methodological requirements
Included in review	20	Final articles used for synthesis

3.4. Data Analysis Technique

The data were analyzed using descriptive and thematic synthesis. Each selected article was reviewed based on its research objectives, methods, main findings, and conceptual relationships among the three key constructs: digital marketing, green innovation, and sustainable business performance (Tobing & Santyo Nugroho, 2024a). To complement the qualitative synthesis, a bibliometric mapping was performed using VOSviewer software, which visualized the co-occurrence of keywords and identified research trends and thematic clusters within the reviewed studies.

3.5. Validity and Replicability

To ensure the reliability and validity of this review, all steps of data collection, screening, and analysis were conducted systematically and transparently. Each article was evaluated based on its methodological rigor and relevance to the research objectives. This approach allows other researchers to replicate the review process under similar contexts or extend it in future studies (Tobing & Santyo Nugroho, 2024b).

4. Results and discussion

Author(s) & Year	Focus of Study	Methodology	Key Findings	Contribution
Chege & Wang (2020)	Digital transformation and SME sustainability	Quantitative	Digitalization mediates innovation and performance	Introduced digital–innovation link in SMEs
Wulandari & Wardani (2024)	Green innovation and sustainable competitiveness	SLR	Green innovation improves efficiency and brand image	Integrated environmental strategy
Mangifera et al. (2025)	Digital marketing and performance in MSMEs	Survey	Social media enhances brand visibility	Strengthened customer relationship via digital channels

Table 1. Summary of Key Reviewed Studies

4.1. Overview of Reviewed Studies

The systematic literature review, conducted under the PRISMA framework, identified and analyzed twenty peer-reviewed articles published between 2015 and 2025. These studies, sourced from Scopus, ScienceDirect, Emerald Insight, Google Scholar, and SINTA databases, collectively discuss the interplay between digital marketing, green innovation, and sustainable performance within small and medium-sized enterprises (SMEs).

The bibliometric mapping using VOSviewer highlighted three dominant clusters: (1) Digital Marketing and Technological Capabilities, (2) Green Innovation and Eco-Management Practices, and (3) Sustainable Performance and Competitiveness. This thematic pattern demonstrates that current research increasingly recognizes the intersection between digital transformation and sustainability in the SME context.(Ardhiyansyah & Juniansyah, 2024)

4.2. Digital Marketing as a Strategic Enabler of Sustainability

The reviewed studies consistently indicate that digital marketing acts as a key enabler of sustainable business practices. According to Mangifera et al. (2025) and Munandar et al. (2024), digital tools enhance SMEs' outreach, enable interactive communication with customers, and strengthen transparency in promoting sustainability values. From the Resource-Based View (RBV) perspective (Barney, 1991), digital marketing capabilities constitute strategic assets that are valuable, rare, and difficult to imitate—allowing firms to sustain long-term competitive advantages.(Ginting & Rijal, n.d.)

By utilizing digital channels such as social media and online marketplaces, SMEs can communicate their environmental commitments and appeal to consumers who value eco-conscious behavior. However, Chege and Wang (2020) and Singh and Misra (2021) note that

many SMEs still focus on short-term financial goals rather than embedding sustainability into their digital strategies. This underscores the importance of digital–sustainability alignment, ensuring that online marketing initiatives support broader environmental and ethical objectives.(Zhang et al., 2024)

4.3. Green Innovation as a Catalyst for Sustainable Transformation

Green innovation emerges as a central mechanism driving sustainable transformation. Studies by Worakittikul et al. (2025) and Wulandari and Wardani (2024) highlight that environmentally friendly innovations—such as renewable materials, energy-efficient production, and eco-centric product design—positively influence both financial and social performance indicators. In line with Porter and van der Linde’s (1995) innovation hypothesis, eco-innovation helps firms achieve cost savings while differentiating their products in competitive markets. Within Indonesian SMEs, however, adoption remains limited due to technological gaps, funding constraints, and inadequate institutional support (Ghisellini et al., 2016; Prihastiwati et al., 2025). Therefore, green innovation should not be viewed merely as an internal initiative but as part of a collaborative ecosystem that includes government incentives, inter-firm partnerships, and access to green technologies (Amin et al., 2025)

4.4. The Mediating Role of Green Innovation

Findings from the reviewed literature demonstrate that green innovation mediates the relationship between digital marketing and sustainable business performance. Digital platforms provide real-time insights and data analytics that help firms design eco-friendly products aligned with evolving consumer expectations (Azita Azis et al., 2024).

This mediating role aligns with the Dynamic Capabilities Theory (Teece et al., 1997), suggesting that SMEs continually adapt and reconfigure their digital and environmental resources to respond to changing market and ecological conditions. The synergy between digital marketing and green innovation enables SMEs to achieve the Triple Bottom Line enhancing economic performance while fulfilling environmental and social responsibilities (Udayana et al., 2024)

4.5. Integrating Digitalization and Sustainability in SMEs

Integrating digitalization with sustainability-oriented innovation forms a dual strategy for advancing SME competitiveness. Digital marketing facilitates market expansion, customer engagement, and resource efficiency, while green innovation drives long-term value creation and environmental stewardship (Marita et al., 2021). Together, they encourage SMEs to shift from profit-centered models toward sustainability-driven business strategies.

Nevertheless, several studies identify a policy–practice gap in Indonesia: government programs often prioritize digital transformation without adequately addressing environmental considerations, whereas sustainability initiatives rarely incorporate digital technology. As noted by Avotra et al. (2022) and Febriyantoro (2025), future policy frameworks should promote integrated digital–green development, ensuring that both technological and ecological transformations progress in tandem.(Sobar, n.d.)

4.6. Theoretical and Practical Implications

From a theoretical standpoint, this review extends the discussion on sustainable marketing by positioning digital marketing and green innovation as interdependent intangible resources that strengthen SMEs' sustainability capabilities. It integrates the Resource-Based View and Dynamic Capabilities Theory, offering a holistic explanation of how digital competencies are transformed into sustainable outcomes through innovation.(Setiawan et al., n.d.)

Practically, three key insights emerge:

1. **Capacity Development:** SME leaders should improve their digital and environmental competencies to effectively implement sustainable marketing.
2. **Cross-sector Collaboration:** Governments, academia, and industry players must collaborate to build ecosystems that support digital–green innovation.
3. **Strategic Reorientation:** SMEs need to transition from short-term sales-oriented marketing toward strategies that emphasize ethical branding and environmental accountability.

4.7. Critical Reflection and Future Research Directions

While the reviewed literature highlights the positive contributions of digital marketing and green innovation to sustainability, several systemic challenges persist. Many Indonesian SMEs face obstacles such as limited access to finance, inadequate digital infrastructure, and weak institutional support. Addressing these barriers requires ongoing capacity building and policy alignment (Bachtiar & Setiawan, 2023).

Future studies are encouraged to employ mixed-method or longitudinal approaches to capture the evolving dynamics between digitalization and sustainability. Furthermore, incorporating local cultural wisdom, such as Gotong Royong and Tri Hita Karana, may enrich understanding of how social values and community collaboration shape sustainable innovation within Indonesia's SME sector.(Noer et al., 2025)

5. Conclusion

This study provides a comprehensive synthesis of how digital marketing and green innovation collectively contribute to enhancing sustainable business performance, particularly within Indonesia's small and medium-sized enterprises (SMEs). Based on the analysis of twenty peer-reviewed studies published between 2015 and 2025, the findings indicate that digital marketing serves as a strategic enabler that supports sustainability-oriented initiatives by improving market access, operational efficiency, and stakeholder engagement. At the same time, green innovation acts as a crucial mediating factor that transforms digital capabilities into measurable sustainability outcomes through the development of eco-friendly products, efficient processes, and environmentally responsible business models (Uula, n.d.)

5.1. Research implications

From a theoretical perspective, this study contributes to the advancement of sustainability and marketing literature by integrating digital marketing and green innovation as interdependent dynamic capabilities that jointly influence sustainable business performance. The findings reinforce the Resource-Based View (RBV) (Barney, 1991) and the Dynamic Capabilities Theory (DCT) (Teece et al., 1997), demonstrating how intangible digital and environmental competencies can be reconfigured to achieve long-term competitiveness and resilience. This integrated framework supports the Triple Bottom Line approach balancing economic, environmental, and social dimensions of business performance (Alraja et al., 2022b)

Theoretically, the study extends prior work showing that digital transformation mediates the link between innovation and performance (Chege & Wang, 2020) and aligns with research highlighting that green innovation enhances SMEs' efficiency and sustainability outcomes (Wulandari & Wardani, 2024; Worakittikul et al., 2025). By synthesizing these perspectives, this study provides a holistic understanding of how Indonesian SMEs can leverage digital technologies to support environmentally responsible innovation (Mangifera et al., 2025).

From a practical standpoint, the study offers several implications. First, SME owners should strengthen their digital and green capabilities to achieve sustainability-driven innovation (Munandar et al., 2025). Second, policymakers should design integrated digital–green incentive programs to promote both technological and ecological transformation (Febriyantoro, 2025; Ginting & Rijal, n.d.). Third, enhanced collaboration between academia, government, and industry is crucial to building innovation ecosystems that accelerate SMEs' contribution to national sustainable development (Amin et al., 2025; Sylvia et al., 2024). These initiatives collectively support the transition toward an inclusive, resilient, and environmentally responsible SME sector in Indonesia.

5.2. Limitations of Research and Suggestions

Despite its valuable contributions, this study has several limitations. First, it focuses exclusively on literature related to Indonesian SMEs, which may limit the generalizability of findings to other countries or regions (Bachtiar & Setiawan, 2023). Second, the synthesis relies solely on secondary data from published studies, possibly excluding emerging industry practices or unpublished empirical work (Uula, n.d.-a).

Future research is encouraged to empirically validate the proposed conceptual model through quantitative or mixed-method approaches, particularly by examining the mediating role of green innovation (Tobing & Santyo Nugroho, 2024a; Azita Azis et al., 2024). Comparative analyses across different sectors or nations could reveal contextual differences in how digital marketing drives sustainability (Udayana et al., 2024; Ardhiyansyah & Juniansyah, 2024). Furthermore, incorporating local cultural frameworks such as *Gotong Royong* and *Tri Hita Karana* may enrich understanding of community-driven sustainability practices (Sylvia et al., 2024).

By addressing these limitations, future studies can enhance the robustness of theoretical

development and provide deeper insights into how digital transformation and green innovation jointly shape sustainable business performance among SMEs (Setiawan et al., n.d.; Sobar, n.d.).

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DIGITAL MARKETING AND COGNITIVE DECLINE (BRAIN ROT): A SYSTEMATIC LITERATURE REVIEW OF IMPULSIVE BEHAVIOR AND CONSUMER DECISION MAKING

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Abstract

The phenomenon of digital marketing has brought about major changes in consumer behavior, but it has also raised concerns about negative impacts such as decreased cognitive capacity and increased impulsive shopping behavior. This study uses the Systematic Literature Review (SLR) method with the PRISMA (Preferred Reporting Items for Systematic Reviews) approach and a rapid review of 10 major articles discussing the topics of impulsive buying, cognitive load, digital content use, and the phenomenon of brain rot in the context of e-commerce and the virtual world. The results show that digital marketing strategies such as time pressure, economic benefits, and entertainment content can increase consumers' emotional excitement, triggering impulsive purchases without rational consideration. Overexposure to low-quality digital content, as described in the concept of brain rot, is associated with cognitive fatigue and a decline in executive functions such as working memory and critical thinking skills. This decline in cognitive capacity is exacerbated by passive scrolling habits that encourage emotion-based decision-making and cognitive bias. Overall, this study concludes that digital marketing strategies have the potential to exploit consumers' cognitive vulnerabilities, leading to increased impulsive behavior and a decline in rational and careful decision-making abilities.

Keywords: *digital marketing, cognitive decline, brain rot, impulsive buying, making decision.*

1. Introduction

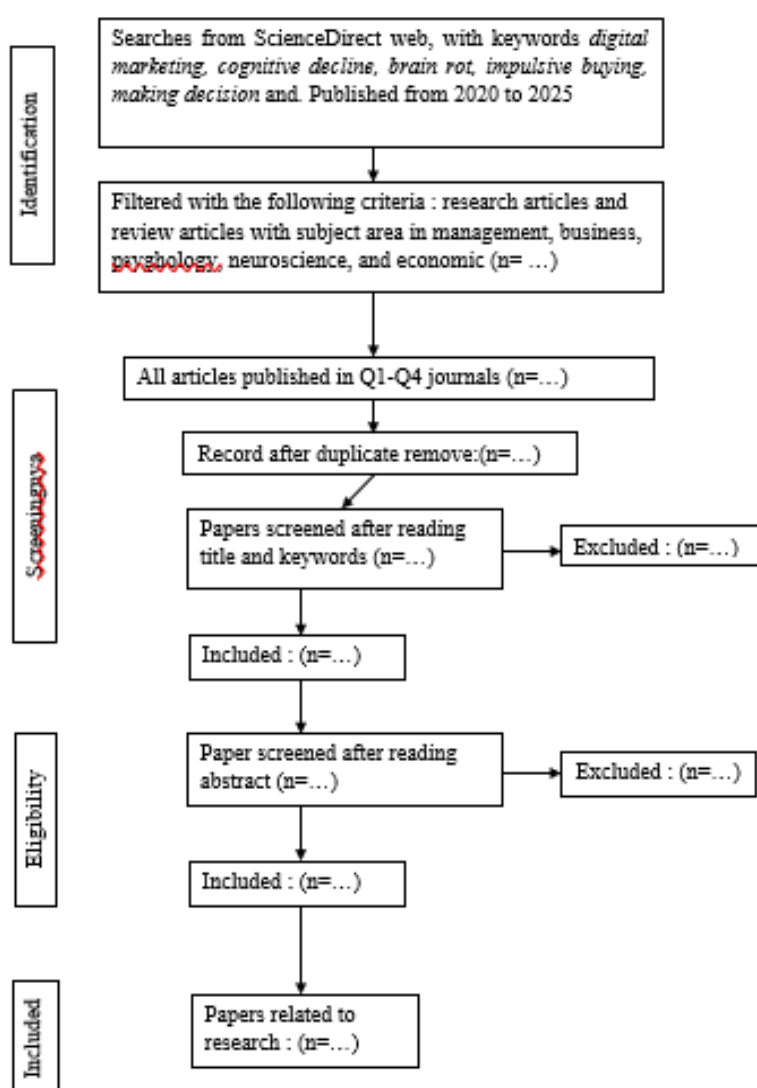
The digital era has been marked by widespread technology adoption and the emergence of digital marketing as a major force shaping consumer behavior (Zabelina et al., 2021). Platforms such as e-commerce, social media, and virtual worlds (such as the metaverse) have become the primary channels for brand communication and sales, increasing transaction accessibility (P & Dhalmahapatra, 2025). However, concerns are growing about the ethical and cognitive impact of manipulative marketing strategies, known as dark patterns (Narayanan et al., 2020; Rahmawati & Aguilika, 2024). This change in consumer behavior is particularly evident in the increase in impulsive buying, defined as unplanned purchases driven by strong emotions (Wang, 2022). In the digital context, this behavior is reinforced by features that create urgency, such as time pressure, scarcity, and promises of economic benefits, all of which are designed to trigger emotional arousal (Sun, 2023; Thuy et al., 2025).

On the other hand, there is debate about cognitive decline caused by continuous digital exposure (Tang et al., 2025). The term Brain Rot culturally refers to mental deterioration caused by excessive consumption of low-quality online content (Yousef et al., 2025). This condition is reported to cause cognitive overload and a decline in executive functions such as working memory and attention span (Ali, 2025; Tang et al., 2025). This study aims to bridge these two phenomena by exploring how digital marketing (DM) tactics exploit declining cognitive capacity to encourage impulsive buying and influence consumer decision making.

2. Methodology

A systematic literature review (SLR) was chosen as the research method in this study by reviewing specific topics that had been identified and classified in a structured manner, assessed, summarized, and selected using PRISMA (Preferred Reporting Items for Systematic Review) based on predetermined criteria. The data sources came from Scopus-indexed journals with the provisions of quarters 1–4, which became the primary data in this study, so that the information used had a traceable and academically recognized basis through valid and verified sources.

The review method used in this study involved searching for a combination of keywords: digital marketing, cognitive decline, brain rot, impulsive buying, and decision making. The stages of searching the literature were as follows:



Research using the SLR method is guided by research questions. Research questions are created so that the systematic review remains focused on the topic.

RQ 1	How do aggressive digital marketing tactics trigger consumers' emotional responses, leading to impulsive buying?

RQ 2	How significant is the relationship between cognitive decline due to digital content consumption and consumers' vulnerability to making quick and irrational purchasing decisions?
RQ 3	In the context of e-commerce and virtual environments, how do affective impulsive buying and rational consequences correlate?

3. Results and discussion

3.1. Research Results

The article search and selection process was carried out following the PRISMA flow. Literature searches were conducted using a combination of keywords within the publication years 2020 to 2025 and the criteria mentioned earlier. From this search, 2,776 articles were obtained. After screening based on the quartal range on Scopus, 2,085 articles indexed on Scopus from quartals 1-4 were obtained. Next, screening was carried out based on how many articles could be downloaded, and 521 articles were available. The articles were then filtered by title and keywords relevant to the topic, resulting in 52 relevant articles. The final process was to filter the articles based on their abstracts, resulting in 11 relevant articles that could be used for further analysis.

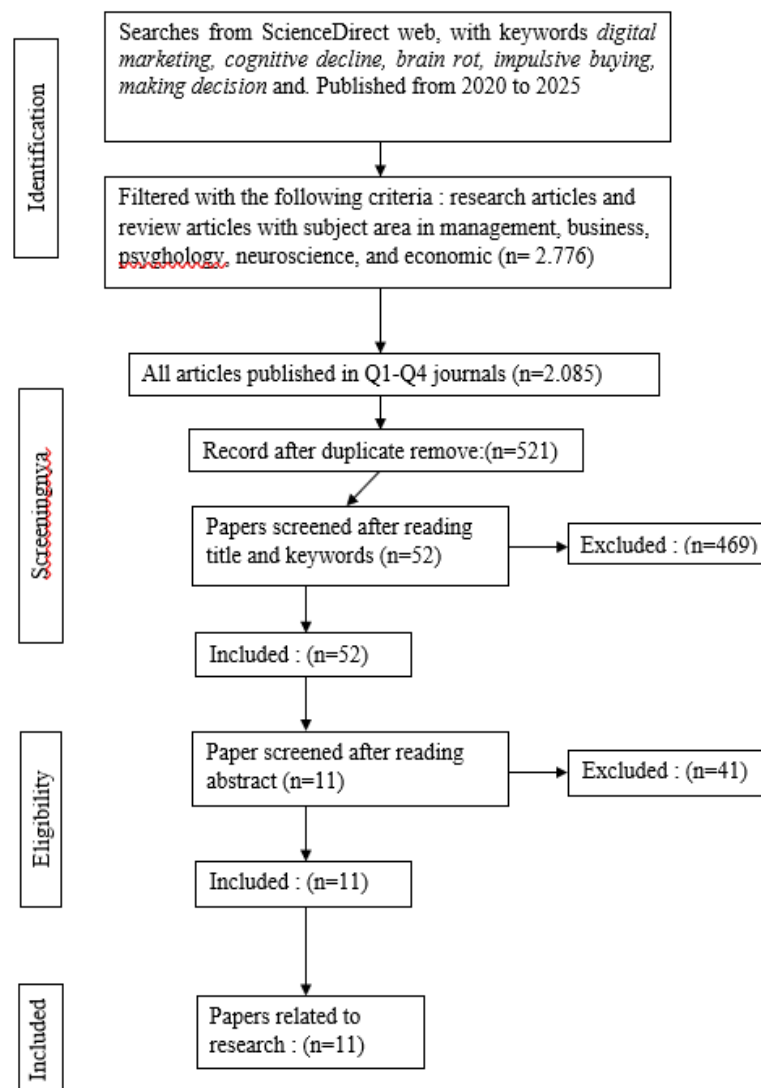


Figure.2 PRISMA Systematic Literature Review after screening

The final result is 11 relevant articles, which can be seen in the screening process results table to facilitate the review of the journals obtained.

Table 1: Year of Publication of Reviewed Articles

No.	Year of Publication	Number
1.	2020	1
2.	2021	0
3.	2022	1
4.	2023	3
5.	2024	2
6.	2025	4

From the table above, it can be concluded that this research has experienced a significant increase in the last 3 years, indicating that digital marketing issues and cognitive decline have become topics of study in contemporary research.

3.2. Discussion

3.2.1. Stimulus: Digital Marketing Tactics and Cognitive Exploitation

Digital marketing tactics serve as the primary stimulus designed to trigger unplanned purchases by increasing emotional arousal (Wang, 2022). The application of time pressure through flash sales has been shown to have a strong positive relationship with affective impulsive buying because it increases urgency and arousal (Sun, 2023; Thuy et al., 2025; Wantara, 2015). Economic benefits such as discounts also effectively trigger the brain's reward system, serving as a powerful emotional catalyst for impulsive purchases (Nanni & Ordanini, 2026). In addition, social influence and entertainment content on social media contribute to arousal, which effectively suppresses deliberate cognitive consideration (Shkeer et al., 2024; Thuy et al., 2025; Rahmawati & Aguilika, 2024). The most manipulative are dark patterns, which are interface practices designed to covertly guide users toward making decisions that are suboptimal for them (Narayanan et al., 2020).

3.2.2 Organism: Decline in Cognitive Capacity and the Role of Arousal

Excessive exposure to low-quality and fragmented digital content causes cognitive fatigue (Tang et al., 2025; Yousef et al., 2025). The phenomenon of brain rot is explicitly linked to a decline in working memory and a shortening of attention span, weakening executive function (Yousef et al., 2025). Behaviors such as doomscrolling further exacerbate cognitive depletion, substantially reducing self-control (Yousef et al., 2025). Neurophysiologically, research shows that cognitive load is actually higher during planned purchases than during impulsive purchases (Kakaria et al., 2023). These findings indicate that impulsive decisions may be chosen because they are a low-mental-cost pathway in states of cognitive fatigue (Kakaria et al., 2023). High arousal (triggered by marketing stimuli) further narrows cognitive focus, diverting consumers from rational evaluation to quick emotional responses (P & Dhalmahapatra, 2025).

3.2.3. Response: Impulsive Buying and Biased Decision Making

The end result of this interaction is behavior that prioritizes instant gratification and avoids careful thinking (Ali, 2025). Impulsive buying is heightened in digital environments, especially in the metaverse, where affective factors such as enjoyment and social interaction increase stickiness and the desire to buy (P & Dhalmahapatra, 2025). The consequences of this impulsive buying are significant unplanned expenditures and budget deviations, which are moderated by consumers' financial capacity (Thuy et al., 2025).

4. Conclusion

This literature review confirms the existence of a negative feedback loop whereby a decline in cognitive capacity induced by the digital environment creates psychological vulnerability that is then effectively exploited by digital marketing strategies to increase impulsive purchasing (Ali, 2025; Yousef et al., 2025; As & Fatmariyah, 2023). Digital marketing tactics succeed by triggering emotional arousal and providing response pathways that require minimal cognitive effort, which is highly appealing to consumers experiencing cognitive fatigue (Kakaria et al., 2023; Sun, 2023). Ethical implications demand regulatory action against dark patterns and other manipulative practices that undermine self-control and encourage unsustainable consumption (Narayanan et al., 2020; Wang, 2022; Jannah & Pranjoto, 2025). For future research, it is recommended to measure the impact of digital marketing on long-term cognitive development and develop digital literacy programs that promote careful decision making without increasing cognitive load (Ali, 2025; Tang et al., 2025; AS et al., 2025).

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THE EFFECT OF COMPETENCE, MOTIVATION, AND COMPENSATION ON TEACHER'S PERFORMANCE AT PAUD-QU INSTITUTIONS, PASAR KEMIS DISTRICT, TANGERANG THROUGH WORK PROFESSIONALISM AS A INTERVENING VARIABLE.

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Abstract

Purpose: This study aims to analyze the influence of competence, motivation, and compensation, on teacher's performance, both directly and through work professionalism.

Methodology: This study employed statistical analysis using descriptive and inferential approaches. Data were collected from 105 PAUDQU teacher respondents in Pasar Kemis District, Tangerang, through a questionnaire. Variables were tested using multivariate statistical methods to identify direct and indirect relationships between them. Findings: The results indicate that competence, motivation and compensation, have a positive effect on work professionalism. Competence has a positive effect on teacher's performance, while motivation and compensation have no effect. Work professionalism has also been shown to increase teacher's performance. Furthermore, only competence influences teacher's performance through work professionalism. Suggestion: PAUD-Qu institutions need to improve the competence, motivation, compensation, and professionalism of teachers through continuous training, awards, work environment support, a decent compensation system, and enforcement of discipline and ethics, so that teacher performance is increasingly optimal and has a real impact on student learning outcomes. And for future research could expand the variables or use different populations to strengthen the generalizability of the findings.

Keywords: Competence, Motivation, Compensation, Work Professionalism, Teacher's Performance.

1. Introduction

Developing high-quality human resources is a crucial and fundamental component in today's era of globalization. Schools, as formal educational institutions, play a crucial role in improving the quality of human resources, the nation's future generation. Learning activities are part of the educational service phase in human resource development, aimed at enhancing individual knowledge, skills, and attitudes to enable them to effectively carry out their duties and responsibilities. In educational services, high teacher competency is essential to achieving educational goals. Teacher competence and professionalism contribute to the delivery of excellent educational services.

Education hold a strategic role in improving the quality and dignity of a country. The level of progress and status of a country can be seen from educational success. The problem in this country is the low quality of education in schools. Education hold a fundamental role in improving the quality of human resources (Fazira et al., 2023). The state's efforts to support national progress is to educate the nation by providing Indonesia quality educational services. Quality education is inextricably linked to the quality of teachers, the driving force behind education. Indonesia currently faces the problem of low teacher quality, a complex set of issues (Walewangko et al., 2022).

There are several aspects that influence the development of teacher resources, namely: the need to improve teacher competency both through theoretical knowledge and practice, teacher professional development carried out independently or with the support of resources, teacher

ability in applying their professionalism through performance and carrying out teacher duties effectively (Muidah, 2018). Upon closer examination, it can be seen that the quality of teachers can be seen from their performance. Teacher performance is the result of a teacher's work related to the tasks assigned to them: educating, teaching, training, guiding, assessing, and evaluating students. Essentially, learning in early childhood education (PAUD) aims to introduce active learning through hands-on activities in small groups, individually, or in large groups. Teachers do not essentially take over children's ideas, requiring them to follow their own, but rather encourage them to become active learners with their own ideas and learning styles. This kind of support is crucial for fostering connections between children's existing experiences and knowledge and what they are currently learning (Dewi & Suryana, 2020).

Professional teachers are an categorical requirement for creating a quality education system and practice. Teachers at PAUD-Qu institutions are expected to possess professional competencies, including a minimum of a bachelor's degree in the Quran, a Quranic certificate, as well as pedagogical, personality, and social competencies. However, in practice, challenges remain in meeting these competency standards evenly across all PAUD-Qu institutions.

Research conducted by Yulia et al. (2021) concluded that competence can influence teacher performance improvement, while research by Yanita & Muslim (2023) concluded the opposite, stating that competence does not. Furthermore, research by Elkhori & Budianto (2024) stated that competence has a negative and insignificant effect on teacher performance. Furthermore, research by Lestari et al. (2024) concluded that motivation can influence teacher performance improvement, while Astuti & Raharjo (2023) concluded that the opposite was true, stating that motivation has a negative and insignificant effect on teacher performance improvement.

The research gap identified above has motivated researchers to address this gap by incorporating an intervening variable, namely work professionalism. An intervening variable is a variable that exists between the independent variable (free) and the dependent variable (bound), acting as an intermediary or mediator in the relationship between the two. This variable explains how or why the independent variable influences the dependent variable. Based on the background and research gap mentioned above, the author is interested in conducting a related study entitled "The

Influence of Competence, Motivation, and Competence on Teacher's Performance at Paud-Qu Institutions, Pasar Kemis District, Tangerang Through Work Professionalism as an Intervening Variable."

2. Hypothesis Development

2.1. Competence and Work Professionalism

Competence is an individual's ability to perform a job correctly and with excellence based on knowledge, skills, and attitudes (Edison et al., 2016: 17). This indicates that improving competency can improve performance evaluations (Zuhro, 2021: 80). Based on this theory and empirical evidence, this study proposes the following first hypothesis:

Ha1: Competence has a direct, positive impact on work professionalism.

2.2. Motivation and Work Professionalism

Work motivation can generate employees to work hard, thereby increasing their productivity and ultimately impacting the achievement of organizational goals. Research by Rusmeni (2023) explains that work motivation has a direct, positive effect on work professionalism. This theoretical support and previous research form the basis for the second hypothesis in this study:

Ha2: Motivation has a direct, positive effect on work professionalism.

2.3. Compensation and Work Professionalism

Compensation is attractive, stimulates work motivation, and thus enhances professionalism. Research by Abdilah et al. (2024) indicates that compensation influences teacher professionalism. This suggests that compensation can influence or contribute to the rise and fall of professionalism. Furthermore, the positive trend indicates that the greater the compensation, the greater the increase in professionalism. Based on this theory and empirical evidence, the third hypothesis proposed as follows:

Ha3: Compensation has a direct positive effect on work professionalism.

2.4. Competence and Teacher's Performance

If competence increases, employee performance will also increase. Conversely, if competence decreases, employee performance will also decrease. Research by Arifin et al. (2023) found that competence has a positive and significant effect on employee performance. Based on this theory and empirical evidence, the fourth hypothesis proposed as follows:

Ha4: Competence has a direct positive influence on teacher's performance.

2.5. Motivation and Teacher's Performance

Work motivation is a driving factor for employees to work within a company. Increased work motivation will also improve employee performance. Work motivation can encourage employees to work hard, thereby increasing productivity and ultimately impacting the achievement of company goals. Therefore, it can be concluded that work motivation has a positive effect on teacher performance (Hidayat et al., 2020). This theoretical support and previous research form the basis for the fifth hypothesis in this study:

Ha5: Motivation has a direct positive effect on teacher's performance.

2.6. Compensation and Teacher's Performance

Providing compensation commensurate with employee workload and supported by a conducive work environment will improve employee performance, as employees will feel motivated to perform better. Research by Kresmawan et al. (2021) concluded that compensation has a positive and significant effect on employee performance. This theoretical support and previous research form the basis for the sixth hypothesis in this study:

Ha6: Compensation has a direct positive impact on teacher's performance.

2.7. Work Professionalism and Teacher's Performance

The research conducted by (Hapizoh et al., 2020) tested the influence of work professionalism on teacher performance, which found that the higher the work professionalism value, the better the teacher's performance. Based on this theory and empirical evidence, the seventh hypothesis is proposed as follows:

Ha7: Work professionalism has a direct positive impact on teacher's performance.

2.8. Competence, Work Professionalism and Teacher's Performance

Based on the research results of Zuhro (2021), it can be seen that competence through work professionalism has a significant direct influence on employee performance. This theoretical support and previous research form the basis for the eighth hypothesis in this study:

Ha8: Competence indirectly has a positive influence on teacher's performance through work professionalism.

2.9. Motivation, Work Professionalism and Teacher's Performance

Professionalism is the match between bureaucratic competency and task requirements. A good match between these competencies and requirements is a prerequisite for establishing a

professional apparatus. Research by Robitoh et al. (2024) found that work professionalism significantly impacts teacher performance. This theoretical support and previous research form the basis for the ninth hypothesis in this study:

Ha9: Motivation indirectly has a positive impact on teacher's performance through work professionalism.

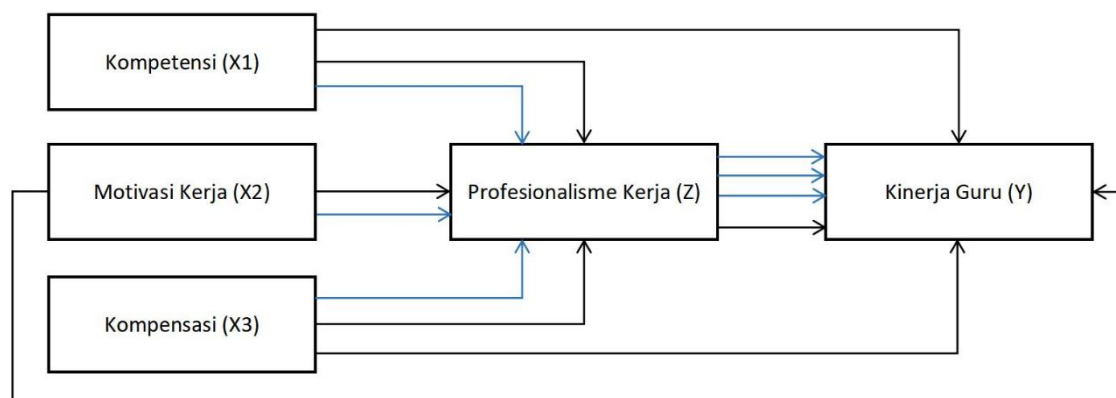
2.10. Compensation, Work Professionalism and Teacher's Performance

Compensation works to form employee attitudes and behavior toward the company. When employees are supported by the organization in meeting their needs, it will positively impact their performance contribution to the organization. The results of research by Firmansyah and Carli (2025) strengthen existing concepts regarding the relationship between compensation and employee performance and expand its application in the service sector. This study found that fair and relevant compensation plays a significant role in supporting employee performance. These findings provide practical benefits for hotel management to continuously evaluate and update compensation policies to suit employee needs. Furthermore, research by Robitoh et al. (2024) states that work professionalism has a significant effect on teacher's performance. Based on this theory and empirical evidence, the tenth hypothesis is proposed as follows:

Ha10: Compensation indirectly has a positive effect on teacher's performance through work professionalism.

3. Research Model

Based on the development of the above hypothesis, the proposed research model can be visualized as follows.



Legend:

→ : Direct influence

→ : Indirect influence

Figure 1. Research Model

4. Methodology

4.1. Sample and Data Collection

This methodology consists of sampling and data collection, measurement, and data analysis. The study population was 188 active teachers at the 26 PAUD-Qu schools Pasar Kemis District, Tangerang. The sample was determined using a non-probability sampling method. The sampling criteria for this study were that respondents were teachers actively teaching at the PAUD-Qu Institution in Pasar Kemis District, Tangerang. The research sample itself is a general description of the population that is capable of representing the population being observed. The determination of the number of respondents in this study was carried out using the method of Hair et al. (2010), namely: $N = \text{number of indicators} \times 5$; where $N = 21 \times 5 = 105$. From the calculation above, the sample size for the study was 105 respondents.

Data collection was carried out using a questionnaire containing a list of questions related to respondents' personal data as well as their views, experiences, attitudes, and perceptions regarding competence, motivation, compensation, work professionalism and teacher's performance. This questionnaire uses a modified Likert scale with 4 (four) answer choices, namely: Strongly Agree with a score of 4, Agree with a score of 3, Disagree with a score of 2, Strongly Disagree with a score of 1.

4.2. Measurement

4.2.1. Competence (X1)

The competence variable in this study adopted indicators from Minister of Education and Culture Regulation No. 137 (2014). The indicators measured included pedagogical competence (KM1), personality competence (KM2), social competence (KM3), and professional competence (KM4). Measurements were conducted using a fourth-point Likert scale.

4.2.2. Motivation (X2)

The motivation variable in this study adopted indicators from Hartatik (2019) and Abraham Maslow's Theory. The indicators measured included physiological needs (MO1), safety and security needs (MO2), social needs (MO3), esteem needs (MO4), and self actualization needs (MO5). Measurements were conducted using a fourth-point Likert scale.

4.2.3. Compensation (X3)

The compensation variable in this study adopted indicators from Afandi (2018). The indicators measured included wage and salary (KO1), incentive (KO2), allowance (KO3), and work facilities (KO4). Measurements were conducted using a fourth-point Likert scale.

4.2.4. Work Professionalism (Z)

The work professionalism variable in this study adopted indicators from Somantri (2021), which refers to Morrow and Goetz (1998). The indicators measured included dedication to the profession (PR1), work commitment (PR2), work ethic (PR3), and punctuality (PR4). Measurements were conducted using a fourth-point Likert scale.

4.2.5. Teacher's Performance (Y)

The teacher's performance variable in this study adopted indicators from Widyaningrum (2020), Muspawi (2021), Saputra and Mulyanti (2023). The indicators measured included learning planning (KG1), use of learning methods (KG2), evaluation of learning outcomes (KG3), initiative and creativity (KG4) which refer to employees' ability to take action and try new things while monitoring the risks that are the main causes. Measurements were conducted using a fourth-point Likert scale.

4.3. Data analysis

The analysis method in this study uses Structural Equation Modeling–Partial Least Squares (SEM-PLS). The entire analysis process is carried out with SmartPLS software version 4.0 which is able to estimate path coefficients, mediation effects, and relationships between variables more accurately. SmartPLS was chosen because it is more flexible, capable of handling small samples, complex models, and non-normal data, and is highly effective for research using latent variables and requiring robust structural relationship analysis.

The analysis includes outer model (reflective) test. This analysis aims to assess the influence between indicators and their construct scores, which indicate the level of validity of a statement item. There are three criteria used in data analysis techniques to assess the outer model: convergent validity, Average Variance Extracted (AVE), discriminant validity, composite reliability and Cronbach's Alpha. The next analysis is the inner model test. The inner model is a structural model that describes the influence or estimated strength between latent variables or constructs, based on theoretical substance. The inner model is a structural model for predicting the influence between latent variables (Nofritar & Mahmudin, 2025). Evaluation of the inner model can be seen from several analyses, including: testing R^2 , the significance of

path coefficients, model fit, predictive relevance (Q^2), and VAF test to calculation that shows how much the mediating variable absorbs the direct influence.

5. Results and Discussion

5.1. Research Result

5.1.1. Description of Research Object

This study involved 105 PAUD-Qu teachers in Pasar Kemis District, with the majority of respondents being female (91%). Most teachers had 1–5 years of teaching experience (51%). In terms of education, the majority (44 teachers) had a bachelor's degree, indicating a relatively high level of academic qualifications.

5.1.2. Inferential Analysis

Inferential analysis in this study was used to test the influence between variables formulated in the research model, namely the influence of competence, motivation, and compensation on the performance of PAUD-Qu teachers, with work professionalism as a mediating variable. Through this analysis, researchers can determine the significance and direction of the influence (positive or negative) between variables as well as the strength of the influence of each path formed in the model. In addition, this inferential analysis also aims to test the previously formulated research hypothesis. The following is the framework of this study presented in Figure 2.

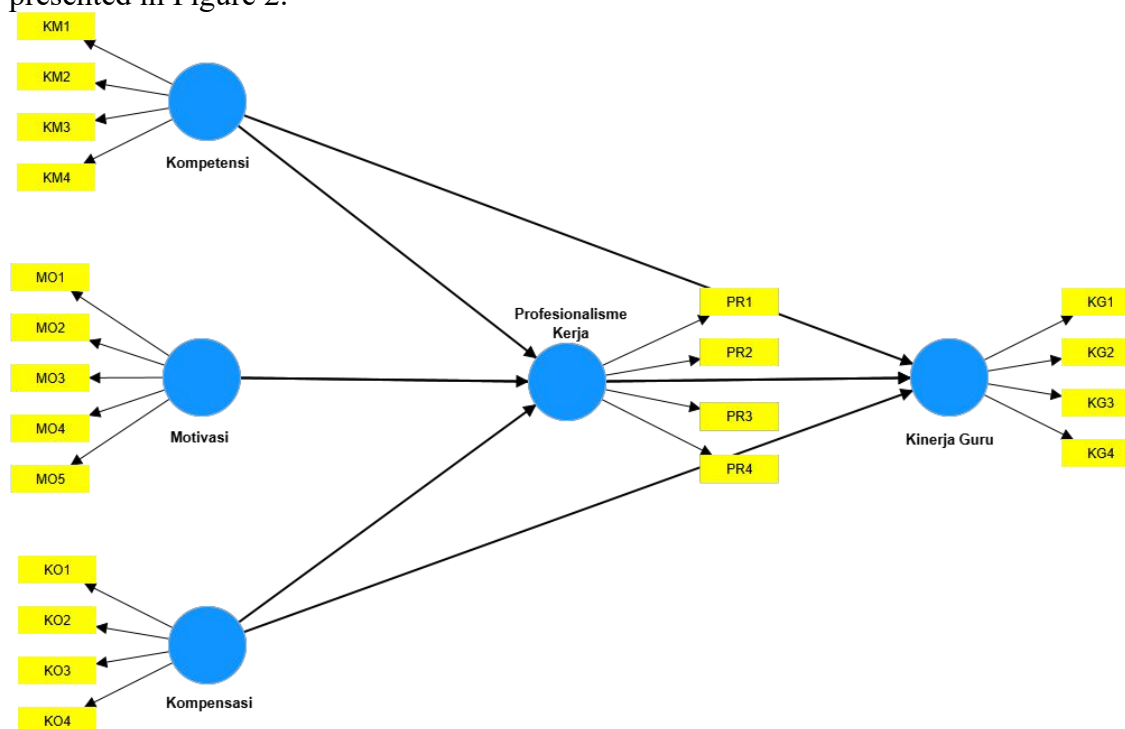


Figure 2. Research Model in SmartPLS 4.0

5.2. Outer Model Test

5.2.1. Result of Convergent Validity

Based on the test results, it can be observed that most measurement indicators have an Outer Loading > 0.70 , indicating that the convergent validity of several indicators is acceptable. However, another finding was that the KG4 indicator in the teacher's performance variable (Y) had an outer loading of 0.639.

This value is below the ideal threshold of 0.7, thus assessing the KG4 indicator's contribution to representing the Teacher Performance variable as relatively lower than other indicators. However, this value is still above the minimum acceptable limit of 0.60 (Hair et al., 2019), thus the indicator can be retained in the model. The researchers' decision to retain the KG4 indicator was also based on substantive considerations, as the statement item has strong

conceptual relevance in measuring the teacher's performance variable and supports the research's theoretical framework. Furthermore, removing the KG4 indicator has the potential to reduce the measurement scope (content validity) of the variable, so it was deemed more appropriate to retain it while ensuring that the overall reliability of the variable (Composite Reliability and AVE) still meets the criteria.²

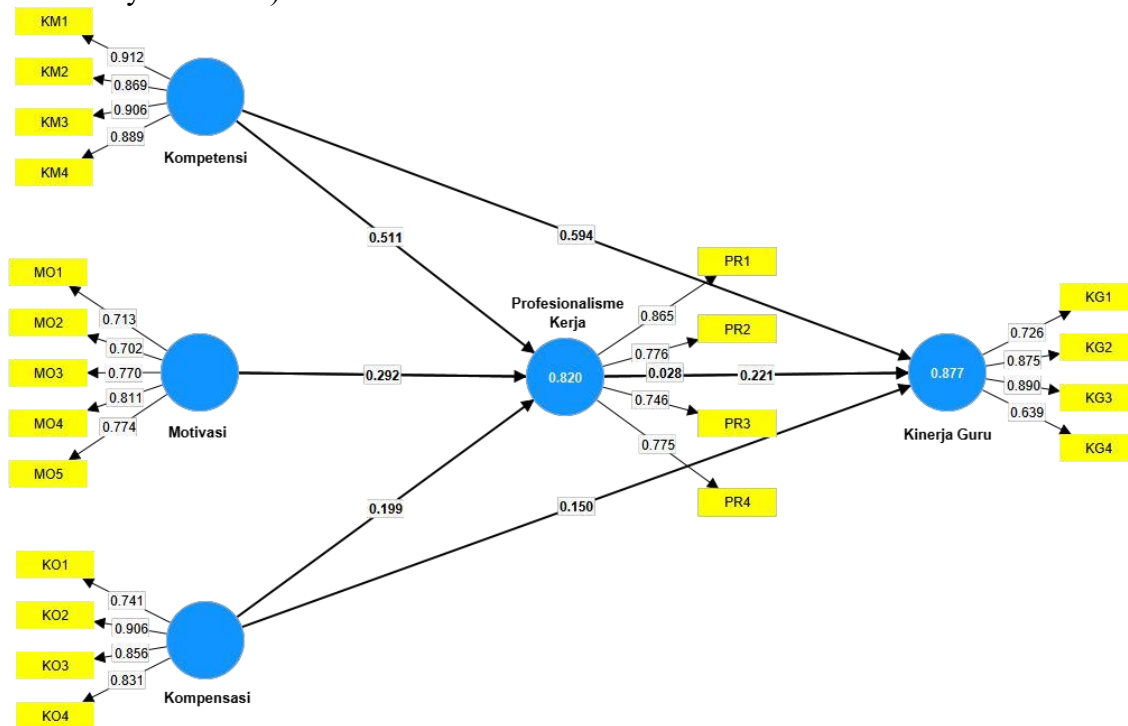


Figure 3. Result of Loading Factor

5.2.2. Result of Discriminant Validity

Table 1 shows the results of the Discriminant Validity Test, which includes cross-loading factors between indicators representing different variables in this study. This test aims to ensure that the indicators are adequate in distinguishing between different variables. The test results show that each indicator in the research variables has the highest cross-loading value compared to the cross-loading values of the other variable indicators. Therefore, it can be concluded that the indicators used in the study have good discriminant validity in the composition of each variable. This indicates that the discriminant validity of these indicators is acceptable.

Table 1. Discriminant Validity Test Results

	Competence	Motivation	Compensation	Work Professionalism	Teacher's Performance
KM1	0,912	0,632	0,695	0,852	0,823
KM2	0,869	0,634	0,710	0,733	0,846
KM3	0,906	0,588	0,685	0,763	0,839
KM4	0,889	0,577	0,661	0,730	0,777
MO1	0,490	0,713	0,529	0,592	0,499
MO2	0,420	0,702	0,391	0,514	0,473
MO3	0,484	0,770	0,435	0,534	0,512
MO4	0,566	0,811	0,542	0,603	0,562
MO5	0,590	0,774	0,540	0,646	0,583
KO1	0,625	0,537	0,741	0,701	0,645
KO2	0,677	0,554	0,906	0,698	0,713
KO3	0,634	0,531	0,856	0,626	0,643
KO4	0,628	0,546	0,831	0,572	0,657

	Competence	Motivation	Compensation	Work Professionalism	Teacher's Performance
PR1	0,907	0,632	0,699	0,865	0,830
PR2	0,645	0,732	0,621	0,776	0,648
PR3	0,529	0,524	0,570	0,746	0,614
PR4	0,588	0,537	0,571	0,775	0,639
KG1	0,585	0,561	0,522	0,686	0,726
KG2	0,885	0,601	0,715	0,778	0,875
KG3	0,846	0,634	0,742	0,764	0,890
KG4	0,504	0,381	0,499	0,488	0,639

Source: SmartPLS 4.0

5.2.3. Result of AVE, Cronbach's Alpha, and Composite Reliability

The recommended AVE value should be > 0.50 , which means that 50% or more of the indicator's variance can be explained (Amiruddien et al., 2021). Internal consistency reliability is demonstrated by composite reliability, a measure of a variable's reliability. According to Hair et al. (2019), the minimum value for composite reliability is 0.70. Furthermore, reliability testing with composite reliability can be strengthened by using Cronbach's Alpha. A variable can be declared reliable or meets Cronbach's Alpha if its Cronbach's Alpha value is > 0.7 . The AVE, Cronbach's Alpha and Composite Reliability results can be seen in Table 2 below.

Table 2. AVE, Cronbach's Alpha and Composite Reliability Test Results

Variable	AVE	Cronbah's Alpha	CR	Description
Competence(X1)	0,800	0,916	0,941	Valid & reliable
Motivation (X2)	0,570	0,811	0,869	Valid & reliable
Compensation (X3)	0,698	0,854	0,902	Valid & reliable
Work professionalism (Z)	0,627	0,802	0,870	Valid & reliable
Teacher's performance (Y)	0,623	0,794	0,867	Valid & reliable

Source: SmartPLS 4.0

Based on the results of the Average Variance Extracted (AVE), Cronbach's Alpha, and Composite Reliability (CR) measurements for all research variables, it can be concluded that all variables meet the criteria for good validity and reliability. The AVE value for each variable is above 0.50, indicating that the indicator is able to adequately explain the latent variable (valid). Furthermore, the Cronbach's Alpha and CR values for all variables are above 0.70, demonstrating the research instrument's reliability and consistency in measuring the constructs. Therefore, the instruments for the variables competence, motivation, compensation, work professionalism, and teacher's performance are deemed suitable for use in further analysis.

5.3. Inner Model Test

5.3.1. Result Coefficient of Determination (R^2 Test)

From the analysis results, the Work Professionalism (Z) variable shows an adjusted R-square value of 0.815. This means that 81.5% of changes in Work Professionalism are explained by the variables Competence (X1), Motivation (X2), and Compensation (X3). The remaining 18.5% is explained by other factors outside this study. Meanwhile, the Teacher's Performance (Y) variable has an adjusted R-square value of 0.873. This shows that 87.3% of changes in Teacher Performance are explained by the variables Competence (X1), Motivation (X2), Compensation (X3), and Work Professionalism (Z). The remaining 12.7% is explained by factors outside the model.

5.3.2. Result of Path Coefficient Test

Based on the results of the SmartPLS analysis, it can be concluded that Competence (X1),

Motivation (X2), and Compensation (X3) have a positive and significant effect on Work Professionalism (Z). Furthermore, Competence (X1) and Work Professionalism (Z) are proven to have a positive and significant effect on Teacher Performance (Y). However, Motivation (X2) and Compensation (X3), although having a positive effect, do not have a significant effect on Teacher Performance (Y). Thus, increasing competence and work professionalism are the most determining factors in improving teacher performance. The path coefficient results can be seen in Table 3 below.

Table 3. Path Coefficient Test Results

No	Relationship Variables	Between	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	P-Values
1	Competence → Teacher's Performance		0.594	0.597	0.098	0.000
2	Competence → Work Professionalism		0.511	0.509	0.072	0.000
3	Motivation → Teacher's Performance		0.028	0.030	0.052	0.598
4	Motivation → Work Professionalism		0.292	0.292	0.056	0.000
5	Compensation → Teacher's Performance		0.150	0.158	0.082	0.067
6	Compensation → Work Professionalism		0.199	0.200	0.073	0.006
7	Work Professionalism → Teacher's Performance		0.221	0.209	0.100	0.027

Source: SmartPLS 4.0

5.3.3. Result of Model Fit Test

Based on the Model Fit output, the results of this study show a SRMR of 0.084 for both the saturated model and the estimated model (below the 0.10 threshold), thus meeting the fit criteria. This indicates that the difference between the model and the actual data is relatively small, and the model is considered fit for further analysis.

5.3.4. Result of Predictive Relevance (Q^2 Test)

The analysis results in this study indicate that the Teacher Performance variable has a Q-square predictive value of 0.853, while the Work Professionalism variable has a Q-square predictive value of 0.806. Both values are well above the 0.35, so they can be categorized as having very strong predictive ability. Thus, the validity of the model as a basis for decision-making and formulation of strategies to improve teacher's performance through increasing competence, motivation, compensation, and work professionalism.

5.3.5. Result of the VAF Test

VAF (Variance Accounted For) merupakan perhitungan yang menunjukkan seberapa besar variabel mediasi dalam menyerap pengaruh langsung. Jika nilai VAF >80%, maka bisa dinyatakan sebagai full mediation. Jika nilai VAF diantara 20-80%, maka dinyatakan sebagai partial mediation, dan apabila nilai VAF <20%, maka variabel mediasi tersebut hampir tidak memediasi sama sekali (Hair et al., 2019).

Based on the results of the VAF calculation, it is known that Work Professionalism (Z) acts as a mediating variable in the relationship between Competence (X1), Motivation (X2), and Compensation (X3) on Teacher Performance (Y). Partial mediation occurs in the influence of Competence on Teacher Performance (VAF 55.2%) and Compensation on Teacher Performance (VAF 73.7%), while full mediation occurs in the influence of Motivation on Teacher Performance (VAF 94.8%). This means that work professionalism is proven to be a

determining factor that strengthens and even becomes the main link in improving teacher performance through increasing competence, motivation, and compensation received.

5.4. Discussion

This study aims to analyze the influence of Competence, Motivation, and Compensation on Teacher Performance at the Early Childhood Education (PAUD-Qu) Institution in Pasar Kemis District, with Work Professionalism as a mediating variable. The results indicate that all three independent variables have a positive relationship with both work professionalism and teacher performance, but the level of influence and different significance.

The first result indicates that competence has a positive and significant effect on work professionalism. This means that the higher a teacher's competency in pedagogical, professional, social, and personality aspects, the higher their level of professionalism in carrying out their duties. Competent teachers are better able to manage learning effectively and demonstrate a professional work attitude. The second result indicates that motivation has a positive and significant effect on work professionalism. Motivation, both intrinsic and extrinsic, encourages teachers to work with greater discipline, creativity, and responsibility. The higher a teacher's motivation, the greater their commitment to working according to professional standards.

The third result indicates that compensation has a positive and significant effect on work professionalism. Fair and appropriate compensation, whether in the form of salary, allowances, or non-financial rewards, increases teacher satisfaction and commitment, thus enhancing professionalism. Other findings indicate that competence has a positive and significant effect on teacher performance, meaning that good competence results in optimal teaching performance. However, motivation and compensation have a positive but insignificant direct effect on teacher performance, meaning neither is strong enough to improve performance without the support of other variables. Furthermore, work professionalism has a positive and significant effect on teacher performance, confirming that professional behaviors such as discipline, work ethic, and dedication significantly contribute to improved work outcomes.

In terms of the mediation mechanism, work professionalism was shown to partially mediate the effects of competence and compensation on teacher performance, while motivation was fully mediated through work professionalism. This indicates that professionalism is a crucial factor linking competence, motivation, and compensation to teacher performance. Overall, this study confirms that improving teacher performance requires strengthening competence, increasing appropriate compensation, and professional development as key success factors.

6. Conclusion

This study highlights that competence strongly improves teacher professionalism and performance, so institutions must prioritize training and development programs. Motivation also enhances professionalism, requiring supportive work conditions. Rehabilitative support affects professionalism but not performance directly. Professionalism proves essential as the key mediator linking competence and motivation to improved teacher performance.

6.1. Research implications

The findings show that rehabilitative support significantly affects professionalism but does not directly impact performance, indicating that teacher satisfaction remains a basic need and is not yet a strong performance driver. The study also confirms that work professionalism has a significant direct effect on teacher performance and acts as a key mediator between competence, motivation, and performance improvement. Thus, teacher performance depends not only on individual competence and motivation, but also strongly on professional attitudes in carrying out duties.

6.2. Limitations of Research and Suggestions

This study has limitations: it was conducted at a single institution with a limited number of respondents and used purposive sampling, making the findings difficult to generalize widely. The variables studied were also limited to competency and motivation, and the study was conducted over a short period of time, thus not reflecting other potentially influential factors. Future research should expand the research location, add variables such as leadership and work environment, and employ a mixed approach for more comprehensive results.

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ESG, CAPITAL STRUCTURE, AND FINANCIAL PERFORMANCE: EVIDENCE FROM INDONESIA & MALAYSIA ON THE MODERATING ROLE OF GENDER DIVERSITY

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Abstract

This study investigates the influence of Environmental, Social, and Governance performance and Capital Structure on company profitability (ROA), emphasizing the moderating effect of Gender Diversity. This research applies Panel Least Squares regression on a panel data set of 63 companies from 2019 to 2023, yielding 315 balanced observations. The model examines the direct impacts of ESG, Gender Diversity, and Structural Capital on ROA, along with the interaction effects of Gender Diversity with both ESG and Structural Capital. The results indicate that Gender Diversity and Structural Capital exert significant direct effects on ROA, with Gender Diversity exhibiting a negative correlation and Structural Capital demonstrating an evident negative correlation. Although ESG does not exert a substantial direct influence on profitability, the interaction between ESG and Gender Diversity is both favorable and statistically significant. This suggests that gender diversity serves as a beneficial moderator, amplifying the impact of ESG on ROA. Moreover, gender diversity seems to positively attenuate the adverse link between Structural Capital and ROA, with the interaction term being marginally significant. The results indicate that the advantages of ESG investments depend on the presence of gender-diverse leadership or workforce, providing a vital strategic tool for companies and policymakers.

Keywords: ESG, Gender Diversity, Capital Structure, Firm Performance, ROA, Moderating Analysis

1. Introduction

The era of sustainable development has transformed the global business landscape, including in Indonesia and Malaysia, which have long been partners in trade and investment. As active members of ASEAN, both countries are strengthening this cooperation thru joint policies and initiatives, supported by similar markets and increasingly aligned regulations. This commitment to sustainability is demonstrated by their participation in the ASEAN-Interconnected Sustainability Ecosystem (ASEAN-ISE), a cross-exchange initiative aimed at advancing regional sustainable development by implementing common ESG metrics. Sustainable commitment is not only reflected in regional cooperation, but also in the national policies of each country. The Indonesian government, thru the 2017 OJK regulation, encourages businesses to prioritize economic, social, and environmental aspects, which can be achieved by implementing ESG principles. In line with this, Malaysia will implement the National Sustainability Reporting Framework (NSRF) in 2025, which requires large and listed companies to comply with international sustainability reporting standards.

The Triple Bottom Line (3P: Profit, People, Planet) framework underscores the necessity of harmonizing profitability with social and environmental accountability in sustainable growth. Although profitability, assessed through metrics like Return on Assets (ROA), is the foremost objective for companies to endure and entice investors, the demand for social and environmental accountability is catalyzing business transformation through the adoption of Environmental, Social, and Governance (ESG) principles. Implementing ESG demonstrates a commitment to sustainability and functions as a crucial risk management strategy; by mitigating

operational and financial risks through environmentally sustainable practices and effective governance, companies can enhance resource and asset management efficiency, thereby directly bolstering overall financial performance and profitability.

The company's financial performance is demonstrably correlated with gender equality, as evidenced by a 2020 study from the International Labor Organization indicating that gender diversity can enhance profitability, productivity, and corporate reputation. Nonetheless, attaining worldwide gender equality encounters considerable obstacles—the World Economic Forum estimates it will require 131 years, while Indonesia and Malaysia remain positioned in the mid-range on the global gender gap index. Therefore, although gender diversity can substantially enhance financial performance through varied perspectives and innovation, this potential can be fully actualized only if structural barriers restricting women's access to senior positions are systematically dismantled.

Capital structure, defined as the arrangement of long-term finance through debt and equity, exhibits a significant reciprocal link with corporate profitability. Selecting an appropriate capital structure is essential for-profit maximization; conversely, established profitability levels facilitate external capital acquisition for companies, particularly public firms facing investor scrutiny, thereby impacting their capital structure choices. In Indonesia and Malaysia, the capital structure is dynamic, with optimal debt levels being considerably affected by firm-specific characteristics including profitability and asset tangibility.

The financial performance of the company is closely correlated with gender equality, as evidenced by a study conducted by the International Labor Organization (2020), which revealed that 66% of companies reported enhanced profitability, 53% noted an improved reputation, and 46% effectively addressed customer needs through the adoption of gender diversity (Sormin, Miharja, & Wisudanto, 2023). Cotter et al. (2001), as referenced by Kelly & Nuzulla (2024), indicate that women continue to encounter institutional obstacles in attaining board posts. The World Economic Forum (2023) research indicates that full gender equality is projected to require 131 years, with Indonesia positioned 87th and Malaysia 102nd in the Global Gender Gap Index (Naurah, 2024; Chern, 2024). Consequently, although gender diversity can enhance financial performance through varied viewpoints and creativity, this potential can be fully actualized only if institutional barriers to women's advancement at the highest levels are consistently dismantled. This study aims to examine the direct influence of ESG variables, Gender Diversity, and Capital Structure on financial performance using ROA, considering Gender Diversity as a moderating variable.

2. Literature Review

2.1. Theory

Legitimacy theory asserts that companies must align their operations with social values to gain acceptance from society, government, and other stakeholders (Putra & Kurniaty, 2024; Haryanti, 2022). As an implementation, ESG disclosure becomes a strategy to demonstrate sustainable commitment and gain public legitimacy (Ulum, 2017). This perspective is reinforced by Upper Echelon Theory (Wijaya & Dwijayanti, 2023), which states that diverse characteristics of top management, including gender diversity, can lead to broader considerations in decision-making and promote greater attention to ESG disclosure and governance quality. Agency Theory (Jensen & Meckling, 1976, as referenced in Pratama, 2024) examines the discord between management (the agent) and shareholders (the principal) arising from divergent interests and information asymmetry (Sutarman et al., 2022). This conflict can be mitigated through supervision systems, including managerial and institutional ownership (Shalini et al., 2020; Purba, 2021). Conversely, Pecking Order Theory (Myers & Majluf, 1984 in Purbasari et al., 2023) delineates the hierarchy of company financing preferences, first with retained earnings, followed by debt, and concluding with external equity (Dao & Le, 2023).

This sequence is intricately linked to information asymmetry and profitability, as firms exhibiting high profitability typically depend on internal financing (Yasir et al., 2024).

2.2. Hypothesis Development

Despite the growing focus on ESG practices by stakeholders (Alkaraan et al., 2023), empirical evidence concerning its effect on profitability remains contentious. According to agency theory (Vuong, 2022), committing resources to ESG is perceived as detrimental to shareholder profit maximization, as evidenced by research on agency costs and the potential for over-investment (Ruan & Liu, 2021; Jovietha et al., 2024). The study by Barnett and Salomon (in Jovietha et al., 2024) further substantiates that ESG does not consistently yield direct financial advantages and is frequently adopted for ethical reasons. The setting of ESG implementation in Indonesia and Malaysia illustrates a complex dynamic, wherein reporting mandates from the Financial Services Authority (OJK) and Bursa Malaysia have catalyzed ESG adoption, albeit with varying degrees of implementation depth. This condition establishes a reciprocal relationship between ESG and financial performance: it can enhance profitability through improved efficiency and reputation for organizations with advanced implementation, but may impose a cost burden on those in the nascent phases of adoption. The impact of ESG on financial performance is contingent upon the maturity of implementation, resource capability, and regulatory support specific to each organization.

H1: Environmental, Social, and Governance (ESG) has an impact on the financial performance.

The matter of gender diversity on boards of directors remains a significant subject of discourse, prompting inquiries regarding its effect on company profitability (Bagh et al., 2023). Certain research suggest that gender diversity may diminish communication efficacy and induce bias in decision-making, thereby impairing organizational performance (Jovietha et al., 2024). Conversely, substantial research exists that substantiates its beneficial effects. Eliya and Suprpto (2022) asserted that female directors typically exhibit a risk-averse, innovation-fostering, and participatory approach, alongside a profound comprehension of the business, in contrast to male directors who are predominantly results-driven and risk-seeking. This advanced capability can enhance financial performance (Sormin et al., 2023). Moreover, a democratically and structurally varied board composition is deemed effective in augmenting oversight and advisory roles, thereby significantly improving financial performance. This assertion has been confirmed by Ouni et al. (2020), who indicated that the beneficial effects of female representation are most pronounced at elevated levels of participation. Research from multiple nations, including Indonesia, as analyzed by Agustin and Deliana (2023), indicates a 75% link between gender diversity and financial performance. Organizations with an equitable gender distribution generally exhibit enhanced governance, inclusive decision-making processes, and strategies centered on innovation and prudent risk management, all of which lead to superior financial outcomes. In contrast, organizations with minimal female participation, prevalent in medium and small enterprises (SC Malaysia, 2023), might lose the advantages of the different perspectives and competencies that female executives contribute.

H2: Gender diversity has an impact on the financial performance

Capital structure, which reflects the level of debt used to finance a company's operations, is a balance between equity, which is the ownership rights of shareholders reflected in share capital and retained earnings (Wardoyo et al., 2022), and liabilities, where good fundamental conditions are generally characterized by a lower debt-to-equity ratio. In setting capital structure policy, companies must consider the trade-off between risk and return, where increasing debt will increase both risk and expected return, but will also burden the company with significant interest expense that can ultimately depress profitability. A debt-dominated

capital structure reflects reliance on external financing, which can indicate less healthy financial conditions and negatively impact profit generation. Therefore, the higher the proportion of debt, the lower the profitability, a finding consistent with Prabowo and Sutanto's (2019) research proving the negative influence of capital structure on profitability. This phenomenon is evident in companies in Indonesia and Malaysia, particularly in capital-intensive sectors like property and manufacturing, which tend to rely on large loans for expansion. However, in a volatile global economic climate with rising interest rates, this dependence burdens cash flow and net profit. Conversely, companies with self-financing or strong cash reserves tend to be more flexible and able to maintain profitability, highlighting the crucial importance of managing the right proportion between internal and external capital to enhance competitiveness and avoid profit erosion.

H3: The capital structure has an impact on the financial performance.

The correlation between gender diversity and corporate financial performance, in relation to Environmental, Social, and Governance (ESG) criteria, has attracted considerable interest, based on the premise that gender-diverse boards amplify the beneficial effects of ESG initiatives on financial results by incorporating a broader spectrum of perspectives that enhance decision-making and performance metrics. A key mechanism involves promoting improved governance and social responsibility, as boards exhibiting gender diversity are more inclined to address a wide array of stakeholder interests, thereby reinforcing Corporate Social Responsibility (CSR) initiatives that positively correlate with financial performance (Galbreath, 2016), while simultaneously indicating superior governance practices that appeal to ESG-focused investors (Alodat et al., 2025). Moreover, gender diversity in leadership correlates with enhanced strategic decisions regarding sustainability, as companies implement more environmentally responsible policies (Orazalin & Baydauletov, 2020; Kassinis et al., 2016). It also fosters corporate innovation by improving creativity and risk assessment aligned with sustainable practices, thereby augmenting investor confidence and market competitiveness (Kamarudin et al., 2022). The mediating role of sustainability disclosure clarifies this relationship, as gender diversity substantially affects such disclosure—a crucial indicator for responsible investors—which demonstrates a firm's dedication to transparent ESG practices, reinforces investor trust, and ultimately improves financial performance by aligning the company with stakeholder values (Alodat et al., 2023; Aceituno et al., 2013). Consequently, gender diversity serves as a vital catalyst that improves governance, fosters social responsibility, and stimulates innovation, thereby reinforcing the connection between ESG and financial performance and allowing organizations to fulfill ethical obligations while attaining concrete financial advantages.

H4: Gender diversity strengthens the positive impact of Environmental, Social, and Governance (ESG) on a company's financial performance.

The relationship between gender diversity in corporate leadership and its impact on capital structure decisions has become a notable research focus, with empirical findings indicating that gender-diverse boards enhance risk assessment and strategic decision-making, resulting in superior firm performance (Saha & Maji, 2022). Amin et al. (2022) assert that gender diversity influences the relationship between corporate governance and capital structure, according with agency theory's optimal contracting framework, by fostering more effective governance mechanisms that enhance financing decisions. Moreover, gender diversity significantly impacts sustainable financial strategies, as organizations with diverse leadership are more inclined to implement capital structures that align with long-term sustainability objectives. Additionally, female directors improve a firm's capital accessibility and may reduce debt costs by fostering positive market perceptions (Hidayat & Muniroh, 2021). The moderating

influence of gender diversity on capital structure decisions reveals complexities in board financing strategies and risk assessments (Zaid et al., 2020). This ultimately affirms that firms with diverse boards generally demonstrate superior decision-making concerning capital structure, mediating the connection between effective governance and enhanced financial performance through better capital access and alignment with sustainable practices.

H5: Gender diversity strengthens the positive impact of capital structure on a company's financial performance.

3. Material and Method

This research is a quantitative study examining the impact of ESG and capital structure, with gender diversity serving as a moderating variable. The research duration spanned five years, from 2019 to 2023. This study was performed in Indonesia and Malaysia, utilizing a sample of all non-financial firms listed on the Indonesia Stock Exchange and the Malaysia Stock Exchange. The sample selection employed a purposive sampling strategy, with criteria including: 1) possession of an ESG score, 2) absence of delisting throughout the observation period, and 3) availability of comprehensive financial data during the observation period. This study comprises a sample size of 63 companies, including 28 Indonesian firms and 35 Malaysian firms. The cumulative total of observational data over five years is 315 entries.

This study employs financial performance as the dependent variable, quantified by Return on Assets (ROA), calculated as EBIT divided by the entire book value of assets. The independent variables in this study comprise ESG, quantified by the total ESG score given by Refinitiv Eikon Thomson Reuters, and capital structure, assessed by the Debt-to-Asset Ratio (DAR), calculated as total debt divided by total assets. The final variable is Gender Diversity, functioning as both an independent and moderating variable. The gender diversity variable is quantified by calculating the ratio of female board members to the total number of board members.

3.1. Design Study & Data Analysis

This study utilizes secondary data. Data sources were acquired from Refinitiv Eikon, financial statements, and annual reports, accessed through the stock market website and the specific company websites. ESG score data and additional financial data were acquired using Refinitiv Eikon. If data was unavailable on Refinitiv Eikon, it was subsequently augmented using financial statements and annual reports published on each company's website.

3.2. Data Analysis

This study employed panel data analysis, selecting the optimal model by the Hausman test, Chow test, and Lagrange multiplier test. Testing was performed to determine a model among the panel least squares or common effect model, the fixed effect model, and the random effect model. The test findings indicated that the optimal model for hypothesis testing was the panel least squares or common effect model. Additionally, the panel least squares test integrated moderating regression analysis with the research model, as illustrated in Figure 1. Following the optimal model selection test, data analysis tests were performed to satisfy the BLUE assumptions, commencing with the multicollinearity test, the autocorrelation test, and the heteroskedasticity test. All executed tests have satisfied the assumption criteria.

$$ROA_{it} = \alpha + \beta_1 ESG_{it} + \beta_2 GENDIV_{it} + \beta_3 CAP_{it} + \beta_4 ESG * GENDIV_{it} + \beta_5 CAP * GENDIV_{it} + \varepsilon$$

Where:

ROA = Return on asset as financial performance at company *i* year *t*

ESG = ESG Score at company i year t

GENDIV = Gender Diversity at company i year t

CAP = Structure Capital at company i year t

ESG*GENDIV = Interaction variable between ESG and Gender Diversity as moderating variable

CAP*GENDIV = Interaction variable between Capital Structure and Gender Diversity as moderating variable

4. Result

4.1. Statistic Descriptive

The descriptive statistics presented in Table 1 for 315 companies reveal noteworthy diversity. The ROA variable, indicating of financial performance, reveals that several of the companies in the sample incurred losses, reflected by a negative ROA value of -15%. Conversely, certain corporations exhibited a ROA of 78%, signifying an exceptionally high degree of asset management efficiency. The average Return on Assets (ROA) figure remained 9.96%, indicating that the companies in this study typically generated a profit of nearly 10% of their total assets. The ESG variable exhibits an average value of 55.98%, signifying that the companies in the sample possess a preliminary foundation or commitment to ESG practices. Companies do not entirely disregard environmental, social, and governance issues, however this score is often deemed ordinary or even inadequate by numerous benchmarks. Companies in the sample exhibit considerable potential for enhancement in nearly all ESG dimensions.

Table 1. Statistic Descriptive

	ROA	ESG	GENDIV	CAP
Mean	0.10	55.98	18.73	0.30
Median	0.07	57.83	20.00	0.27
Maximum	0.78	91.60	57.14	0.84
Minimum	-0.15	13.18	0.00	0.01
Std. Dev.	0.11	16.64	13.71	0.19
Skewness	2.63	-0.27	0.11	0.40
Kurtosis	13.40	2.48	2.19	2.41
Jarque-Bera	1785.17	7.55	9.20	12.80
Probability	0.00	0.02	0.01	0.00
Sum	31.36	17634.68	5900.14	93.80
Sum Sq. Dev.	4.09	86974.31	59031.43	11.22
Observations	315	315	315	315

For the GENDIV variable, representing Gender Diversity, the minimum value is 0, indicating companies with no female representation on the board of directors at all. The maximum value of 57.14% shows that some companies have a majority of female members. The average gender diversity value of 18.73% indicates that female representation on boards of directors is still limited, being less than 1/5 of the total board members. This reflects that gender equality in corporate leadership structures in Indonesia and Malaysia remains a challenge and has not become a primary concern in corporate governance. And for the variable CAP, which represents capital structure, the average value is 0.30, or about 30% of the company's assets are funded by debt. This indicates that most companies fund their business activities more thru

equity than debt. This suggests that companies tend to apply the principle of prudence (conservative capital structure), in accordance with the pecking order theory, where internal financing is prioritized.

4.2. Panel Least Square – Moderating Regression Analysis

This research employs panel data analysis utilizing moderating regression, as shown in Table 2. The findings from the partial tests suggest that Hypothesis 1, asserting that the ESG variable does not influence financial performance, is corroborated by a P-Value of 0.5582, which is above 0.05. In Hypothesis 2, the Gender Diversity variable exerts a substantial negative impact on financial performance, evidenced by a coefficient of -0.0045 and a P-Value of 0.0146, which is less than 0.05. The findings for Hypothesis 3 on the direct impact of capital structure on financial performance indicate a substantial negative effect on financial performance (ROA). The coefficient is -0.2249, and the P-value is 0.0000, which is less than 0.01. The Gender Diversity moderation variable in Hypothesis 4 demonstrates its capacity to enhance the impact of ESG on corporate financial performance. This is demonstrated by a coefficient value of 0.0001 and a P-value of 0.0314, which is less than 0.05. Hypothesis 5 demonstrates favorable outcomes on the moderating effect of Gender Diversity, which enhances the impact of capital structure on financial performance.

Table 2. Panel Least Square – Moderating Regression Analysis

Dependent Variable: ROA		
Variable Independent	Coefficient	P-Value
C (Constanta)	0.1422	0.0007*
ESG	0.0004	0.5582
GENDIV	-0.0045	0.0146**
CAP	-0.2249	0.0000*
ESG*GENDIV	0.0001	0.0314**
CAP*GENDIV	0.0038	0.0808***
R-squared		0.1438
Adjusted R-squared		0.1300
F-statistic		10.3807
Prob(F-statistic)		0.0000*
*significant at the 1% level (one-tailed), ** significant at the level of 5% (one-tailed), *** significant at the level of 10%.		

The least squares panel model's simultaneous test results also demonstrate a significant effect, as shown by a Prob F-Stat value of $0.000 < 0.01$. This means that the independent variables, such as the interaction variables, might have an effect on the dependent variable. This means that the independent variables in the model can explain 13% of the variation in the dependent variable, while the other 87% is explained by other variables.

5. Discussion

The results of the panel test using moderating regression analysis are shown in Table 2. Hypothesis 1, which directly examines the influence of ESG on ROA, shows insignificant results, with a P-Value of $0.5582 > 0.05$. Therefore, the test results for Hypothesis 1 are rejected. This indicates that ESG does not directly affect a company's financial performance. A rising argument exists over the effect of Environmental, Social, and Governance (ESG) elements on corporate performance, with several research indicating that ESG ratings do not consistently

exert a substantial impact on financial performance outcomes. While ESG is frequently advocated as a crucial element for enhancing performance, there are assertions that investment in ESG efforts does not consistently lead to enhanced shareholder value or measurable earnings growth. An examination of the correlation between corporate social responsibility (CSR) and investment efficiency indicated that CSR disclosure may mitigate knowledge asymmetry among stakeholders, hence enhancing investment efficiency (Zhong & Gao, 2017). Research conducted by Lu and Gong indicates that although a socially responsible corporate culture can enhance investment efficiency, this effect varies significantly across different industries and specific company contexts, suggesting that ESG does not exert a uniform influence on overall financial performance (Lu & Gong, 2024). Additionally, even if companies comply with ESG principles, there is a possibility that they would not see equivalent beneficial outcomes in their financial performance. Research suggests that certain companies exhibiting excellent ESG performance may experience a reduction in profitability and operational efficiency, indicating that the results of ESG initiatives do not consistently meet long-term expectations (Zhong & Gao, 2017). Moreover, certain considerations suggest that the expenses associated with adhering to ESG guidelines may surpass the anticipated advantages (Shobhwani & Lodha, 2023; Shahrin et al., 2023). Dedication to environmental and social responsibility may incur indirect costs that do not directly influence cost structure or profitability in the short term. Consequently, companies may encounter difficulties in sustaining competitiveness, particularly in intensely competitive industries.

In hypothesis 2, the results of testing the direct influence of gender diversity on financial performance showed a negative effect, with a p-value of $0.0146 < 0.05$. A study examining the influence of gender diversity on corporate boards and its effect on company performance, specifically as indicated by Return on Assets (ROA), presents arguments that gender diversity might negatively impact company performance. This analysis can be addressed through Upper Echelons Theory, which asserts that the demographic and cognitive characteristics of senior executives might affect decision-making processes and company achievements. Adams and Ferreira assert that the inclusion of women on boards of directors frequently fails to provide the anticipated beneficial outcomes. The study by Adams & Ferreira (2009) revealed that gender diversity adversely affects corporate performance in firms with robust shareholder rights. This suggests that women in senior roles inside a corporation do not inherently contribute to improved financial performance. The premise that the effort to fulfill quotas or motivation lacking considerable skill may render their efforts suboptimal. Kılıç & Kuzey (2016) suggest that, according to Upper Echelons Theory, the impact of gender diversity belongs not only to the numbers but also to the qualitative aspects of experience, competence, and cognitive approaches contributed by each board member. Variations in viewpoints and approaches among board members with similar backgrounds can obstruct innovation and optimal strategic choices. Within the context of corporate culture, the presence of women on the board does not invariably ensure optimal performance. The influence of social dynamics and differences between anticipated benefits of gender diversity can frequently result in confusion or an identity crisis during critical decision-making, ultimately detrimentally affecting the company's return on assets (ROA). Abdullahi's research indicates that gender diversity on boards of directors does not consistently lead to a substantial effect on ROA, implying that diversity alone does not inherently enhance financial performance, and that numerous other factors are more pertinent in assessing a company's financial outcomes (Abdullahi, 2021).

Hypothesis 3 indicates that capital structure has a significantly negative impact on financial performance, evidenced by a p-value of 0.000, which is less than 0.01. This research suggests that the leverage ratio, defined as the ratio of debt to total assets, is a determinant of profitability. This research suggests that an increased debt-derived capital structure correlates with diminished financial performance of the company. The Pecking Order Theory indicates that

firms typically prioritize internal funding sources, such as retained earnings, prior to pursuing external financing (Nguyen et al., 2021). When a corporation begins to depend on debt, it frequently indicates that internal financing is inadequate or that the company is experiencing cash flow constraints. Over time, substantial debt accumulation can result in interest obligations and default risk, adversely affecting profitability. Moreover, a company that is not too dependent on loan funding generally exhibits profitability. In contrast, firms that utilize substantial loans generally exhibit low profitability (Yasir et al., 2024). This result signifies that effective management of capital structure is crucial in influencing a company's financial performance. The findings of this study align with prior research, including those of Pasaribu and Ovami (2021), which indicated that capital structure has a partly negative impact on profitability. Research findings indicate that capital structure adversely affects financial performance (ROA) (Herbowo et al., 2024). This indicates that increased reliance on debt financing will diminish a company's financial performance (ROA).

The role of gender diversity as a moderating variable in strengthening the influence of ESG on financial performance in hypothesis 4, in this study, was proven to have a significant positive effect with a P-Value of $0.0314 < 0.05$. The presence of gender diversity on the board of directors and senior management can significantly enhance the influence of Environmental, Social, and Governance (ESG) aspects on a company's financial performance. According to Upper Echelons Theory, the inclusion of diverse board members, especially women, enhances inclusive and proactive decision-making that advances ESG initiatives. Gender diversity on the board can enhance environmental innovation, a crucial element of ESG success. Female board members frequently exhibit a greater emphasis on social and environmental concerns, resulting in more inventive and responsible decision-making. Huang et al. (2024) state that female CEOs can enhance a company's ESG performance by increasing green innovation capabilities and assuming more social responsibility. In this context, gender diversity can enhance organizations' impetus to implement superior ESG policies, resulting in enhanced performance in environmental, social, and governance dimensions. This substantiates the idea that boards enriched with varied viewpoints enhance understanding of ESG significance, hence positively influencing financial performance. Byron and Post (2016) analysis indicates the positive impact of female board members on corporate social performance, which may subsequently affect financial performance. The presence of women in leadership roles fosters a more inclusive business culture, enhances corporate ethics, and advances strong social responsibility. Moreover, research conducted by Issa and Bensalem (2022) demonstrates that gender diversity is crucial, as is the capacity of individual women to incorporate ESG topics into company strategy. Women generally exhibit greater transparency and take into account diverse stakeholders, potentially resulting in more effective execution of ESG principles. Integrating gender diversity with ESG activities enables organizations to improve performance and bolster their market competitiveness. This illustrates the beneficial correlation between gender diversity and the enhancement of ESG initiatives, which afterwards contributes to improved financial performance (Liao et al., 2018).

In hypothesis 5, the contribution of gender diversity as a moderating variable significantly enhances the impact of capital structure on financial performance, evidenced by a P-Value of 0.0808, which is less than 0.10. The presence of gender diversity in the board of directors and top management team can enhance the correlation between capital structure and corporate financial performance. This can be elucidated through the lens of Upper Echelons Theory and the notion of strategic engagement in corporate governance. The theory posits that gender diversity in senior management can influence company decision-making, encompassing financial performance (Zhang, 2020). More gender diversity among executives can bring more points of view and solutions to managing capital structure. Zhang's research shows that having people of different genders can change how people solve problems, invest, and manage risk, all

of which can have an impact on financial success (Zhang, 2020). With people of all genders on staff can help a company make better judgments about its capital structure. Sofiati and Mita (2024) discovered that having a mix of genders on a board of directors can help the company do better by using its intellectual capital more effectively in making strategic decisions. This diversification lets businesses look into different ways to get money, both through equity and debt, and it helps them think about things in new and different ways. Gender diversity on the board can enhance firm value by optimizing capital structure (Nguyen et al., 2023). The proper capital structure is crucial as it enhances capital efficiency, thereby fostering improved growth and financial performance.

6. Conclusion, Implication, and Recommendation

The moderating regression analysis provided three primary conclusions. First, ESG score do not directly enhance a company's financial performance (ROA). Second, having more women and a lot of capital structure reduces profits severely. Third, gender diversity as a moderating variable can enhance the impact of ESG and capital structure on financial performance.

This discovery has major implications for business professionals. Management needs more than just ESG investment, they also need inclusive governance. Having women on boards of directors has been shown to be able to turn ESG policies into financial benefits and help make better decisions about how to structure capital. This research shows investors that corporate success is not enough to see ESG as a separate aspect. Instead, they need to think about how these ESG practices are used in different governance systems.

Based on these findings, the strategic solutions that might be proposed are: First, the corporation needs to rearrange its board of directors by increasing gender representation, not merely to meet quotas, but to ensure women have a strategic role in decision-making. Second, ESG implementation must be linked to gender diversity policies. This means that ESG projects need to be run in a more creative and relevant way by taking into account different points of view. Third, businesses need to be more careful about how much debt they take on and use gender diversity to make better financial decisions. Consequently, it is anticipated that future study will incorporate the variable of corporate governance effectiveness to enhance its comprehensiveness.

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