

The Role of Digital Leadership in Improving Employee Performance through Digital Fluency as a Mediation Variable

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Abstract. *Digital transformation in the financial sector requires organizations to develop adaptive leadership while simultaneously improving employee digital fluency. This study aims to analyze the influence of digital leadership on employee performance, both directly and through digital fluency as a mediating variable, at the Bank Indonesia Representative Office in South Kalimantan Province. This study uses a quantitative approach with an explanatory design. Data were collected through a survey of 133 employees selected using a simple random sampling technique and analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) using SmartPLS 4. The results show that digital leadership has a positive and significant effect on digital fluency ($\beta = 0.996$; $p < 0.001$), while digital fluency has a positive and significant effect on employee performance ($\beta = 0.860$; $p < 0.001$). However, digital leadership does not have a significant direct effect on employee performance ($\beta = 0.138$; $p = 0.505$). The indirect effect test showed that digital fluency significantly mediated the effect of digital leadership on employee performance ($\beta = 0.857$; $p < 0.001$). This finding confirms the occurrence of full mediation, indicating that digital leadership can improve performance if it is able to build employee capabilities in adapting to technology, critically analyzing information, collaborating in digital environments, creating technology-based solutions, and maintaining digital security. Practically, organizations need to prioritize the development of digital fluency through continuous training, mentoring, and the establishment of a supportive digital work ecosystem so that the leadership's digital vision can be effectively translated into improved employee performance.*

Keywords: *Digital Fluency; Digital Leadership; Digital Transformation; Employee Performance; Mediation.*

1. Introduction

The global economy is undergoing a fundamental transformation from conventional industrial models to a digital ecosystem driven by data and artificial intelligence. Industry 4.0 has integrated the physical, digital, and biological worlds through exponential technologies such as IoT, big data analytics, and autonomous systems.(Oktareza et al., 2024;Tjandrawinata, 2016)This revolution has had a significant impact on the economic structure, driving digitalization and creating new demands on the workforce, while also causing unemployment due to the digital competency gap.(Fadhil & Yanti, 2025; Sunarya, 2023). The discourse is gradually shifting towards Industry 5.0, which emphasizes human-centricity, sustainability, and resilience rather than pure automation.(Rokhimah et al., 2024;Darvish & Handayani, 2022)This paradigm views technology as a strategic partner that creates synergy between the cognitive capabilities of machines and human creativity and empathy.(Hayati & Astutik, 2023)Indonesia has embraced this transformation through initiatives such as Making Indonesia 4.0, recognizing the need to integrate both Industry 4.0 and Society 5.0 into the national blueprint.(Rahma, 2020).

The COVID-19 pandemic has drastically accelerated organizations' digital transformation, forcing companies to adopt technologies in a matter of months that were previously planned for years.(Graciella, 2021;Maulana, 2021). Digital transformation creates opportunities for operational efficiency and global market access, but face challenges such as resistance to change and digital skills shortages(Asrul et al., 2025;Marpaung et al., 2024)Organizations that previously viewed digitalization as a long-term agenda or merely an administrative tool are suddenly faced with a reality where technology has become the sole instrument for maintaining business continuity. This emergency situation has forced companies to adopt various digital collaboration platforms, cloud-based systems, and remote work protocols without proper infrastructure preparation or comprehensive risk mitigation. As a result, a significant gap has emerged between the availability of technological devices and the mental readiness and competency of human resources. This phenomenon creates a gap between technology availability and human resource readiness, resulting in a reactive "forced digitalization."(Graciella, 2021), where employees are required to master various digital devices instantly amidst the psychological pressures of the pandemic, which ultimately often leads to operational inefficiencies and failure to achieve the maximum potential of the technology that has been invested.

The global banking and financial sector is currently at the epicenter of a digital disruption storm, making it one of the industries experiencing the most fundamental structural change. The global banking sector is undergoing a fundamental digital transformation due to the disruption of financial technology (fintech) and the emergence of neo-banks offering "anytime, anywhere, and any device" services.(Takdirmin et al., 2025; Ardianto et al., 2024)In Indonesia, fintech transaction volume reached more than Rp 800 trillion, with a 42% increase in users.(Takdirmin et al., 2025)Fintech has transformed the financial industry landscape through innovations in digital payments, peer-to-peer lending, blockchain, and artificial intelligence.(Mangkona et al., 2023;Tsakila et al., 2024). This transformation creates pressure for conventional banks to undertake comprehensive modernization, not only clerical automation but also a big data management paradigm for predictive analysis and data-driven decision making.(Ronggo et al., 2022;(Ngamal & Perjaka, 2021). Despite increasing financial inclusion and operational efficiency(Jange et al., 2024), the main challenges include adaptive regulations, cyber security, and public financial literacy.(Marginingsih, 2019;Tsakila et al., 2024)In this context, digitalization is no longer simply the automation of clerical administrative processes or the transfer of services to mobile applications, but rather a paradigm shift in big data management. An organization's ability to process big data in real-time becomes a strategic asset for predictive analysis of market behavior, credit risk mitigation, and more precise, data-driven monetary policy decisions. Therefore, failure to adopt technological fluency in this sector risks not only a decline in competitiveness but also the institution's relevance in the ever-changing digital economy ecosystem.

As the highest monetary authority in the country, Bank Indonesia (BI) holds a crucial mandate to maintain the stability of the Rupiah, the effectiveness of monetary policy, and the reliability of the payment system amidst the massive onslaught of global digitalization. This role positions Bank Indonesia not merely as a regulator, but as the backbone of the national digital economy ecosystem. Through the vision outlined in the 2025 Indonesian Payment System Blueprint (BSPI), Bank Indonesia has established a progressive policy direction to integrate the digital economy and finance end-to-end. Bank Indonesia (BI) acts as the central monetary authority responsible for the stability of the Rupiah, the effectiveness of monetary policy, and the reliability of the payment system.(Lestari et al., 2025)The primary focus of this policy is to ensure that digitalization not only benefits specific sectors but is also inclusive for all levels of society. However, a major operational challenge arises, where the implementation of digital policies formulated at the central level must be precisely synchronized with Regional Representative Offices (KPw). This synchronization requires exceptionally high levels of infrastructure readiness and system integrity to avoid cyber risks and systemic failures.

2. Research Methods

This study employed a quantitative approach with an explanatory survey method. This design was chosen because the primary objective of the study was to explain causal relationships and test established hypotheses regarding how Digital Leadership influences performance through mediating variables. Technically, this study employed path analysis to examine the direct and indirect influences between variables within the digital work ecosystem at Bank Indonesia, South Kalimantan.

3. Results and Discussion

3.1. Status and Position

A new chapter in the history of Bank Indonesia as an independent Central Bank in carrying out its duties and authorities began when a new law, namely Law Number 23 of 1999 concerning Bank Indonesia as amended several times, most recently by Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector. This law provides status and position as an independent state institution in carrying out its duties and authorities, free from interference from the Government and/or other parties, except for matters expressly regulated in this law.

Bank Indonesia has full autonomy in formulating and implementing all its duties and authorities as stipulated in the law. External parties are not permitted to interfere in the implementation of Bank Indonesia's duties, and Bank Indonesia is also obliged to reject or ignore any form of intervention from any party. This special status and position are necessary so that Bank Indonesia can carry out its role and function as a monetary authority more effectively and efficiently. Bank Indonesia's status as both a public legal entity and a civil legal entity is stipulated by law. As a public legal entity, Bank Indonesia has the authority to establish legal regulations that implement the laws that bind the entire public in accordance with its duties and authorities. As a civil legal entity, Bank Indonesia can act for and on its own behalf both inside and outside the court.

a. Vision and Mission

1. Vision

To become a leading digital central bank with strong governance that makes a real contribution to the national economy and is the best among emerging market countries for an Advanced Indonesia.

2. Mission

- a. Achieving stability in the value of the rupiah through the effective determination and implementation of monetary policy and Bank Indonesia's policy mix in a sustainable, consistent and transparent manner in order to support sustainable economic growth;
- b. Maintaining the stability of the payment system through the establishment of policies, regulations, licensing, implementation, supervision of the payment system, and management of the rupiah, including facilitating the acceleration of the digital economy and finance in order to support sustainable economic growth;
- c. Participate in maintaining the stability of the financial system through the determination and implementation of macroprudential policies in order to support sustainable economic growth;
- d. Contribute to supporting macroeconomic stability and sustainable economic growth through synergy between Bank Indonesia's policy mix with the central and regional governments, relevant authorities or institutions, and/or other strategic partners, as well as international cooperation;
- e. Contribute to increasing financial market deepening through regulation, supervision, and development of money markets and foreign exchange markets, including their infrastructure, to strengthen the effectiveness of Bank Indonesia policies and support national economic financing;
- f. Contribute to increasing economic-financial inclusion and sustainable finance, both conventionally and based on sharia principles, as well as consumer protection through the formulation of policies and implementation of Bank Indonesia's work programs; and
- g. Realizing a digital-based central bank in policies and institutions, which prioritizes a good and professional Bank Indonesia Policy and Institutional Governance System, through organizational and resource management.

b. Goals and Tasks

In its capacity as the central bank, Bank Indonesia aims to achieve rupiah stability, maintain payment system stability, and contribute to financial system stability in order to support sustainable economic growth. The first aspect is reflected in the development of the inflation rate, while the second is reflected in the development of the rupiah exchange rate against other currencies. The formulation of this single objective is intended to clarify the targets Bank Indonesia must achieve and the boundaries of its responsibilities. Thus, the achievement of Bank Indonesia's objectives will be easily measurable.

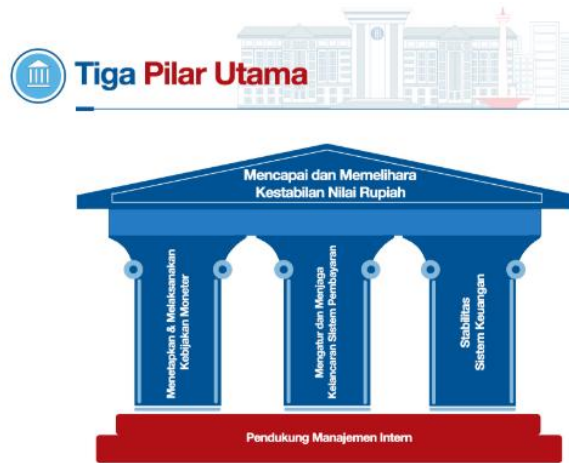


Figure Three Main Pillars Bank Indonesia

To achieve this goal, Bank Indonesia is supported by three pillars, representing its three areas of responsibility. These three areas of responsibility need to be integrated so that the goal of achieving and maintaining rupiah stability can be achieved effectively and efficiently. The following are Bank Indonesia's duties and functions, outlined in a diagram containing the three pillars:

3.2. Research result

a. Respondent Characteristics

This Respondent Characteristics study presents a comprehensive analysis of the demographic profiles and professional characteristics of 133 employees at the Bank Indonesia South Kalimantan Regional Representative Office (KPwBI Kalsel). This data collection aims to provide an objective overview of the Human Resources (HR) mapping that underpins the implementation of central bank duties at the regional level.

b. Gender Distribution

Of the total 133 respondents, the majority were male employees, amounting to 72 people (54.14%), while female employees numbered 61 people (45.86%).

Table Gender Distribution

Demographic & Professional Variables	Category	Frequency (n)	Percentage (%)
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Gender	Man	72	54.14%
	Woman	61	45.86%

Source: Processed Data

This composition reflects a relatively ideal gender balance within the South Kalimantan Representative Office of Bank Indonesia (KPwBI). Although the banking sector and operational cash management often require some physical mobility (such as mobile cash operations in 3T areas and Rupiah distribution), the relatively high proportion of female employees demonstrates the institution's commitment to the principles of gender equality (diversity and inclusion) and open career opportunities without gender bias.

c. Age Group Structure

The proportion of respondents' age groups shows a very dynamic demographic structure:

Table Age Group Structure

Demographic & Professional Variables	Category	Frequency (n)	Percentage (%)
Age	< 30Year	38	28.57%
	31-40Year	52	39.10%
	41-50Year	29	21.80%
	>50 Years	14	10.53%

Source: Processed Data

The young to mid-productive age group (31-40 years old) is the dominant group. Combined with the younger age group (<30 years old), 67.67% of employees are under 40 (Millennials and Gen Z). This indicates an internal demographic dividend, where the South Kalimantan KPwBI workforce is dominated by individuals with high technological adaptability, energy, and readiness to embrace the central bank's digital transformation (such as the acceleration of QRIS, BI-FAST, and CBDC).

c. Last Level of Education

The respondents' educational background reflects a very high standard of intellectual qualification:

Table Last Level of Education

Demographic & Professional Variables	Category	Frequency (n)	Percentage (%)
Level of education	Diploma (D3)	8	6.02%
	Bachelor degree)	91	68.42%
	Masters (S2)	32	24.06%
	Doctorate (S3)	2	1.50%

Source: Processed Data

Bachelor's degree (S1) education level dominates employee qualifications (68.42%). A notable feature is the high proportion of postgraduate graduates (Master's and Doctoral) at 25.56% (more than a quarter of the total staff). This higher education qualification aligns with Bank Indonesia's demands as a knowledge-based institution that relies on in-depth macroeconomic analysis, regional monetary policy research, and complex payment system oversight.

d. Years of service

Employee work experience is distributed into four categories of length of service:

Table Years of service

Demographic & Professional Variables	Category	Frequency (n)	Percentage (%)
Years of service	<5Year	35	26.32%
	6-10Year	44	33.08%
	11-15Year	31	23.31%
	>15Year	23	17.29%

Source: Processed Data

The 6-10 year tenure category comprised the largest group (33.08), followed by employees with less than 5 years of tenure (26.32). This indicates that most employees are in the mid-career stage of their careers. Solid work experience, combined with the presence of 17.29 senior employees (>15 years), creates a healthy knowledge transfer and mentorship mechanism to maintain institutional continuity.

e. Position / Position Level

The hierarchy map and the level of respondents' positions are divided pyramidally:

Table Position / Position Level

Demographic & Professional Variables	Category	Frequency (n)	Percentage (%)

Position Level	Executive Staff / Assistant	68	51.13%
	Supervisor / Specialist	41	30.83%
	Managerial / Functional Leader	24	18.05%

Source: Processed Data

The distribution of job levels shows a proportional span of control. The executive level forms the majority (51.13) as the driving force behind daily operational execution. The supervisor/specialist level (30.83) acts as a bridge between tactical and technical analysis, while the managerial function (18.05) holds strategic control and decision-making.

3.3. Descriptive Analysis Results

Descriptive statistical data processing is carried out by calculating the absolute frequency (n), percentage proportion (%), and the average value (mean /x) for each questionnaire statement item.

1. Percentage of Respondents' Frequency:

$$\% = \left(\frac{n}{N} \right) \times 100\%$$

with N= 133 Respondents.

2. Average Score (Mean) of Indicator:

$$\bar{X} = \frac{\sum_{i=1}^N X_i}{N} = \frac{(f_1 \times 1) + (f_2 \times 2) + (f_3 \times 3) + (f_4 \times 4) + (f_5 \times 5)}{N}$$

Where f_1, f_2, f_3, f_4, f_5 states the frequency of respondents' answers on a Likert Scale of 1 (Strongly Disagree) to 5 (Strongly Agree).

3. Likert Mean Interval Categorization

Determining the class category interval limits uses the following criteria interval range formula:

$$\text{Panjang Interval Class} = \frac{\text{Skor Maksimal} - \text{Skor Minimal}}{\text{Jumlah Kategori}} = \frac{5 - 1}{5} = 0,80$$

Based on the interval length of 0.80, the interpretation criteria for the mean value ($\bar{X}$) are determined as follows:

$1,00 \leq \bar{X} \leq 1,80$: Very Low / Very Poor

$1,81 \leq \bar{X} \leq 2,60$: Low / Bad

$2,61 \leq \bar{X} \leq 3,40$: Sufficient / Moderate

$3,41 \leq \bar{X} \leq 4,20$: High / Good

$4,21 \leq \bar{X} \leq 5,00$: Very High / Very Good

a. Digital Leadership Variables

The Digital Leadership variable measures employee perceptions of leadership capacity in guiding a digital vision, optimizing technology tools, and managing virtual teams in an integrated manner. This variable is measured using eight indicators.

Table Digital Leadership Frequency and Average Distribution Table

Statement Indicator	STS	TS	N	S	SS	Mean	Category
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Predicting future technology trends	1	4	22	68	38	4.04	Tall
Long-term view of technology integration	0	3	18	71	41	4.13	Tall
Understanding the optimization of divisional digital tools	1	5	20	65	42	4.07	Tall
Directing team technology utilization	0	2	15	69	47	4.21	Very high
Global digital regulatory policy adjustments	1	6	25	63	38	3.98	Tall
Maintaining productivity amidst uncertainty	0	4	21	70	38	4.07	Tall
Managing & motivating virtual teams	0	3	19	66	45	4.15	Tall
Cross-functional digital media collaboration	0	2	16	67	48	4.21	Very high
OVERALL AVERAGE OF VARIABLES (X)						4.11	Tall

Source: Processed Data

In aggregate, the average score for the Digital Leadership variable was 4.11, falling into the High category. This indicates that the digital leadership style at the South Kalimantan

Representative Office of Bank Indonesia (KPwBI) has been perceived positively and effectively by the majority of employees. Indicators X4 (Directing the use of technology) and X8 (Digital cross-functional collaboration) scored the highest at 4.21 (Very High). These results indicate that the leadership at the South Kalimantan KPwBI actively encourages the use of technology in daily tasks and successfully facilitates digital coordination between divisions. Indicator X5 (Adjusting global digital regulatory policies) achieved the lowest average score of 3.98 (High). While still considered good, this figure indicates that harmonizing leadership directives with the rapid pace of change in international cyber finance regulations requires more explicit strategic communication at the operational level.

b. Digital Fluency Variable

The Digital Fluency variable measures employees' intuitive skills, data processing capabilities, digital solution creativity, and cybersecurity awareness. This variable is measured using 10 indicators.

Table Frequency Distribution and Mean Table *Digital Fluency*

Statement Indicator	STS	TS	N	S	SS	Mean	Category
Quickly learn new digital platforms	0	2	12	65	54	4.29	Very high
System transition does not reduce performance	1	5	20	68	39	4.05	Tall
Filtering & grouping information	0	2	15	72	44	4.19	Tall
Distinguishing valid data vs digital noise	0	1	14	70	48	4.24	Very high
Create new, value-added ways of working	0	3	18	67	45	4.16	Tall

Innovative problem solving with digital devices	0	4	22	64	43	4.10	Tall
Professional communication ethics in cyberspace	0	0	8	58	67	4.44	Very high
Digital media targeted communication	0	1	11	64	57	4.33	Very high
Keep your work password/account confidential	0	0	6	51	76	4.53	Very high
Recognizing potential cyber dangers (phishing)	0	2	13	61	57	4.30	Very high
OVERALL AVERAGE OF VARIABLES (M)						4.26	Very high

Source: Processed Data

The average Digital Fluency variable, at 4.26, falls into the Very High category. This indicates that employees' digital skills extend beyond basic technical skills (digital literacy) to a level of intuitive proficiency (fluency). Indicator M17 (Maintaining account/password confidentiality) achieved the highest score of 4.53, followed by M15 (Cybercommunication Ethics) at 4.44. This high average demonstrates the success of a strong cybersecurity compliance culture and information ethics standards within Bank Indonesia. Indicator M10 (System transition does not degrade performance) had the lowest score of 4.05 (High). This indicates a learning curve lag during the introduction of a new system or platform, where some employees still need time to adjust to prevent productivity fluctuations.

c. Employee Performance Variables

The Employee Performance variable measures the effectiveness of work results, accuracy, timeliness, process efficiency, adaptability, and proactive innovation of employees. This variable is measured through eight indicators.

Table Table of Frequency Distribution and Average Employee Performance

Statement Indicator	STS	TS	N	S	SS	Mean	Category
Accurate work results & meet high standards	0	1	13	69	50	4.26	Very high
Output aligned with BI's strategic objectives	0	0	10	63	60	4.38	Very high
Complete the task on time	0	2	12	66	53	4.28	Very high
Prioritize daily tasks well	0	1	14	67	51	4.26	Very high
Cutting bureaucracy via digital systems	0	3	17	65	48	4.19	Tall
Utilizing technology saves time	0	1	11	61	60	4.35	Very high
Adapting to technological disruption	0	2	15	68	48	4.22	Very high
Proactively improve old work processes	0	4	20	64	45	4.13	Tall
OVERALL AVERAGE OF VARIABLES (Y)						4.26	Very high

Source: Processed Data

The overall average Employee Performance variable reached 4.26 (Very High). This value reflects the high operational effectiveness of KPwBI South Kalimantan employees in carrying out tasks of managing regional economic stability and implementing monetary policy/payment systems. Indicator Y20 (Output aligned with BI's strategic objectives) obtained the highest average of 4.38, followed by Y24 (Utilization of technology to save time/energy) at 4.35. This proves the high strategic alignment of employees, where the use of digital instruments contributes directly to daily work efficiency. Indicator Y26 (Proactively improving old work processes) had the lowest average score of 4.13 (High). This finding indicates that independent work process improvement initiatives (bottom-up innovation) still need to be stimulated so that employees do not simply follow standard procedures, but actively improve workflow efficiency.

4. Conclusion

Based on the results of data analysis, hypothesis testing using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4 software, as well as descriptive statistical analysis of 133 respondents of Bank Indonesia Representative Office (KPwBI) employees in South Kalimantan Province, conclusions can be drawn in accordance with the four problem formulations proposed in this study:

1. Digital Leadership does not have a significant direct impact on Employee Performance at the Bank Indonesia Representative Office in South Kalimantan Province. This proves that the leader's digital vision, direction, and leadership style do not directly boost the daily performance of employees in the field if they are not transformed into increased technical capacity and digital skills of the employees themselves.
2. Digital leadership has a positive and highly significant impact on employee digital fluency at the Bank Indonesia Representative Office in South Kalimantan Province. These findings indicate that visionary, digitally savvy, adaptive leaders who facilitate digital collaboration play a significant role in developing and shaping employee intuitive skills (fluency) and cyber awareness.
3. Digital Fluency is proven to significantly mediate the influence of Digital Leadership on Employee Performance, because the indirect influence is significant while the direct influence is insignificant, then the Digital Fluency variable plays a Perfect Mediation role (Full Mediation). Substantively, digital leadership in the central bank environment works absolutely through the intermediary of employee digital skills; New digital leadership will only be converted into real performance if it succeeds in producing digitally fluent human resources.

5. References

Journals:

- Agustina, R., Kamdi, W., Java, E., Hadi, S., Nurhadi, D., & Java, E. (2020). *Influence of the Principal ' s Digital Leadership on the Reflective Practices of Vocational Teachers Mediated by Trust , Self Efficacy , and Work Engagement*. 19(11), 24–40.
- Andriani, R. D. (2021). STRATEGI PEMIMPIN DALAM DIGITAL LEADERSHIP DI ERA DISRUPSI DIGITAL. *JURNAL PENDIDIKAN DAN KONSELING*, 58–72.
- Annisa, S., Siahaan, E., & Lumbanraja, P. (2024). Impact of digital transformation on banking employee performance with self-efficacy as a mediator. *Problems and Perspectives in Managemen*. [https://doi.org/10.21511/ppm.22\(4\).2024.39](https://doi.org/10.21511/ppm.22(4).2024.39)
- Ardianto, R., Ramdhani, R. F., Octavia, L., Dewi, A., Saputri, Y. W., Lestari, A. S., & Hadi, N. (2024). *Transformasi Digital dan Antisipasi Perubahan Ekonomi Global dalam Dunia Perbankan*. 80–88.
- Asrul, Putra, A., & Rajab, M. (2025). Transpormasi Bisnis Di Era Digital : *Jurnal Minfo Polgan*, 13, 2294–2298.
- Binsar, F., Mursitama, T. N., Hamsal, M., & Uterus, R. K. (2024). Does digital leadership impact the performance of lower-middle-class hospitals? *International Journal of Innovation and Technology Management*. <https://api.semanticscholar.org/CorpusID:269095649>
- Darvish, M. Y., & Handayani, A. N. (2022). Teknologi Informasi Tentang Sebagai Dasar Transformasi Menjadi Masyarakat Digital Dan Industri 5.0. *Jurnal Inovasi Teknologi Dan Edukasi Teknik*. <https://api.semanticscholar.org/CorpusID:272416002>
- Fadhil, M., & Yanti. (2025). Dampak Transformasi Revolusi Industri 4.0 dan Society 5.0 Terhadap Lanskap Ekonomi Indonesia. *Jurnal Penelitian Sosial Keagamaan*, 25, 140–158.
- Fahlepi, S., Sobri, K. M., Lionardo, A., & Nadjib, A. (2025). *Digital Leadership dalam Pengelolaan Aset untuk Mencapai Akuntabilitas Publik Pemerintah Daerah Sumatera Selatan*. 6(3), 2205–2218.
- Fajar, R., Susilo, N., Suryani, N. K., Yogi, P., & Pratama, A. (2025). *Pengaruh Kepemimpinan Digital dan Penghargaan & Pengakuan Berbasis Digital terhadap Kinerja Organisasi*. 9(2), 125–142.
- Fatmasari, & Adha, W. M. (2022). Dimensi Komunikasi Interpersonal dan Pengaruhnya Terhadap Kinerja Pegawai. *Management Development and Applied Research Journal*, 5, 119–124.

- Fitriani, D. (2023). MANAJEMEN PELATIHAN BERBASIS E-LEARNING KORELASINYA DENGAN PRODUKTIFITAS PEGAWAI BALAI DIKLAT KEAGAMAAN BANDUNG. *Benchmarking*. <https://api.semanticscholar.org/CorpusID:268471757>
- Graciella, R. I. (2021). *Mengelola Transformasi Digital di Masa Pandemi*. 1–3. <https://doi.org/10.1109/ICIMTech53080.2021.9534976.2>.
- Haikal, H., & Sulaiman, S. (2025). Peran Mediasi Kepemimpinan Digital dalam Pengaruh Kompetensi Digital terhadap Peningkatan Kinerja Pegawai. *Journal of Innovative and Creativity (Joecy)*. <https://api.semanticscholar.org/CorpusID:283128603>
- Hayati, K. R., & Astutik, R. L. (2023). *Penerapan E-Business Teknologi Informasi dalam*. 16(1), 401–410.
- Ingsih, K., Astuti, S. D., & Riyanto, F. (2024). The role of digital competence in improving service quality and employee performance. *SA Journal of Human Resource Management*, 1–9.
- Israeni. (2021). *MANAJEMEN SUMBER DAYA MANUSIA*. <https://api.semanticscholar.org/CorpusID:244474924>
- Jange, B., Pendi, I., & Susilowati, E. M. (2024). Peran Teknologi Finansial (Fintech) dalam Transformasi Layanan Keuangan di Indonesia. *Indonesian Research Journal on Education*. <https://api.semanticscholar.org/CorpusID:272445774>
- Koopmans, L., Bernaards, C., Hildebrandt, V., Buuren, S. Van, Beek, A. J. Van Der, Vet, H. C. W. De, & Koopmans, L. (2013). Development of an individual work performance questionnaire. *International Journal of Productivity and Performance Management*. <https://doi.org/10.1108/17410401311285273>
- Lestari, F. P., Astuti, R. P., Anggraeni, A. S., Ardiansyah, D. E., Studi, P., Syariah, P., Islam, U., Kiai, N., Achmad, H., Jember, S., Jember, K., & Timur, P. J. (2025). *Peran Bank Sentral Dalam Mengawasi Stabilitas Lembaga Keuangan Nasional*. 2(1), 179–188.
- Malik, A. J., Yahya, S. D., & Aras, R. A. (2025). *Fostering a Digital Culture in Indonesian Higher Education: The Impact of Digital Leadership on Lecturer Performance and Organizational Citizenship Behaviour*. 10, 283–295.
- Mangkona, S., Aswirah, & Wahyudin. (2023). TRANSFORMASI INDUSTRI KEUANGAN MELALUI PERKEMBANGAN TEKNOLOGI FINANSIAL (FINTECH): ANALISIS TANTANGAN DAN PELUANG. *Movere Journal*, 5(2), 297–304.
- Marginingsih, R. (2019). *Analisis SWOT Technology Financial (FinTech) Terhadap Industri Perbankan*. <https://api.semanticscholar.org/CorpusID:169230978>
- Marpaung, D., Suriono, H., Bakti, S., Nuzul, L., Mursyidin, E. H., & Ginting. (2024). *Mendorong Inovasi Melalui Budaya Digital: Studi Literatur tentang Transformasi*

Budaya Organisasi di Era Pasca-Pandemi. *KALIANDA HALOK GAGAS*.
<https://api.semanticscholar.org/CorpusID:274493857>

Mashud, A. R. (2024). *Gaya kepemimpinan dan inovasi Kepala Dinas Perpustakaan dan Kearsipan Provinsi Kalimantan Selatan*. 12(1), 81–93.

Melliasari, H., Dwiyo, I., Purwadhi, & Widjaya, Y. R. (2024). DIGITAL LEADERSHIP SKILL DAN PERANANNYA BAGI KEPEMIMPINAN INSTITUSI PELAYANAN KESEHATAN DI ERA DIGITAL. *JOURNAL SYNTAX IDEA*, 6(09).

Ngamal, Y., & Perajaka, M. (2021). PENERAPAN MODEL MANAJEMEN RISIKO TEKNOLOGI DIGITAL DI LEMBAGA PERBANKAN BERKACA PADA CETAK BIRU TRANSFORMASI DIGITAL PERBANKAN INDONESIA. *JURNAL MANAJEMEN RISIKO*, 2, 59–74.
<https://doi.org/10.33541/mr.v2iIV.4099>

Nugroho, S. H., Said, M., & Arifin, Z. (2024). *The Influence of Digital Leadership on Employee Affective Well Being with the mediation of Organizational Citizenship Behavior and Job Satisfaction*. 6798, 2102–2115.

Oktareza, D., Noor, A., Saputra, E., Aulia, & Yulianingrum, V. (2024). Transformasi Digital 4.0: Inovasi yang Menggerakkan Perubahan Global. *Cendekia : Jurnal Hukum, Sosial Dan Humaniora*. <https://api.semanticscholar.org/CorpusID:283207435>

Oktavianaty, Agit, A., & Nur, N. (2024). Studi Reflektif Terhadap Kapabilitas Literasi Digital Dalam Menunjang Kinerja Bisnis di Era Digital. *Jurnal Ekonomi Bisnis Ekuivalensi*.

Putra, F. R. A., & Priyatmono, B. (2025). ANALISIS PERUBAHAN KEPEMIMPINAN DI ERA PERKEMBANGAN DIGITAL YANG PESAT PADA PEMASYARAKATAN. *Jurnal Dinamika Sosial Dan Sains*, 663–669.

Rahma, I. (2020). TOLAK UKUR PERBANDINGAN NEGARA INDONESIA 4.0 (FOUR POINT ZERO) DENGAN NEGARA 5.0 (FIVE POINT ZERO). *Jurnal Sosial Humaniora Sigli* |, 3, 213–219.

Rexady, V. G., Lestari, P., & Prayudi. (2023). Pengaruh Komunikasi Interpersonal dan Gaya Kepemimpinan Melalui Motivasi Kerja Terhadap Kinerja Pegawai. *Jurnal Ilmu Komunikasi*, 21(2), 226–240.

Rokhimah, A., Nurdiana, R., & pramono, P. (2024). TRANSFORMASI BISNIS MENUJU EKONOMI 5.0: STRATEGI ADAPTASI DAN INOVASI. *Jurnal Kajian Dan Penalaran Ilmu Manajemen*. <https://api.semanticscholar.org/CorpusID:271197464>

Books:

Adiyatomo, M. A. (2021). *Definition and Types of Digital Business Strategy*.

Campbell, J. (1990). *Modeling the performance prediction problem in industrial and organizational psychology*.

Cornelius, R. M. (2021). *Digital Business Strategy*.

Junita, D., & Damanik, K. (2024). *PENGARUH KEPEMIMPINAN DIGITAL TERHADAP KINERJA UMKM : PERAN MEDIASI KAPABILITAS INOVASI DIGITAL*.

Maulana, A. (2021). *Transformasi Digital*.

Öngel, V. (2024). *behavioral sciences Digital Leadership ' s Influence on Individual Creativity and Employee Performance : A View through the Generational Lens*.

Robbins, S. P., & Judge, T. A. (2017). *Perilaku Organisasi (edisi 16)*. Salemba Empat.