



## THE IMPACT OF NEW TECHNOLOGY ON THE DIGITAL ECONOMY AND ETHICAL CHALLENGES IN THE AGE OF ARTIFICIAL INTELLIGENCE

Haura Safira, Syifa Saura Amanda, Dicky Armanda  
[Safirahaura12@gmail.com](mailto:Safirahaura12@gmail.com), [syifasaura1@gmail.com](mailto:syifasaura1@gmail.com), [dickyarmanda@uinsuna.ac.id](mailto:dickyarmanda@uinsuna.ac.id)  
Universitas Islam Negeri Sultanah Nahrasiyah Lhokseumawe

### ABSTRACT

*The rapid development of new technologies such as Artificial Intelligence (AI), big data, and automation has changed the structure of the digital economy in Indonesia. These innovations have driven increased productivity, efficiency, and innovation in various sectors, but have also given rise to complex ethical and regulatory challenges. This study aims to analyze the economic and ethical impacts of AI implementation in Indonesia's digital ecosystem and identify strategies for building an ethical and sustainable digital economy. Using a qualitative approach through literature review, this study combines findings from various national and international journals, institutional reports, and policy documents related to AI governance and digital transformation. The results show that although AI contributes to accelerating Indonesia's economic growth, its implementation also raises issues such as algorithmic bias, data privacy violations, and technological access inequality. This study emphasizes the importance of strengthening the regulatory framework, improving digital ethics literacy, and collaboration between the government, the private sector, academics, and the community. In addition, sustainable digital economic development needs to be based on the application of ethical principles such as transparency, accountability, fairness, and environmental responsibility in every technological innovation process. This research contributes to the development of responsible innovation discourse by proposing a governance model that balances technological progress with social and moral responsibility. With this approach, Indonesia has the potential to become a pioneer in Southeast Asia in building an inclusive, ethical, and sustainable digital economy.*

**Keywords:** Artificial Intelligence, Digital Economy, Ethics, Sustainability.



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## Introduction

The global digital economic transformation is driven by advances in new technologies such as the Internet of Things (IoT), big data analytics, blockchain, and Artificial Intelligence (AI) (A, Muhammad 2025). This revolution is changing the way individuals, companies, and countries produce and interact in modern markets. Integrating digital technology into economic activities has increased productivity, efficiency, and innovation while accelerating the development of new data-driven business models (Bostrom & Yudkowsky, 2021). However, behind these great opportunities lie complex ethical and social issues, such as unemployment caused by automation, data privacy violations, algorithmic bias, and limited access to technology (Rees, 2020). Therefore, this phenomenon requires comprehensive research that not only assesses the economic impact of new technologies but also considers the moral consequences of AI implementation in an increasingly digital economy.

Previous studies have attempted to explain how new technologies impact the global economy. A report titled *The Future of Jobs* by the World Economic Forum (2020; 2023) shows that automation and AI will transform the labor market, with intelligent systems replacing routine jobs. At the same time, demand for digital skills is increasing. To ensure that the workforce does not fall behind amid technological disruption, the study emphasizes the importance of upskilling and reskilling (World Economic Forum, 2022) (Forum, 2023). From a macroeconomic perspective, reports by the International Monetary Fund (IMF, 2024) and research by Aghion and Bunel (2024) show that artificial intelligence can increase medium- to long-term productivity through increased research and development (R&D) and human labor (Aghion & Bunel, 2024). Due to methodological limitations in statistics, the contribution of AI to Gross Domestic Product (GDP) is often not accurately measured. As a result, its impact on national economic growth is not yet fully known.

Ethical issues are a major concern in the use of AI-based technology. Algorithmic bias and discrimination are increasing in automated decision-making systems, including those related to financial services and labor recruitment. Ethical



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principles such as transparency, fairness, and accountability have not been fully implemented in industry practices. AI regulation and governance are not yet robust in many countries, including Indonesia, to ensure the responsible use of technology. However, unethical use of AI can lead to social discrimination and reduce public trust in digital systems.

Although AI has driven the growth of the digital economy, previous research has largely focused on macro and technological impacts without integrating ethical and policy aspects, and most of it has been conducted in developed countries, leaving the context of Indonesia and other developing countries largely unexplored (Sari et al., 2025). Furthermore, the effectiveness of implementing AI governance principles in the public and private sectors remains limited, creating a gap between norms and actual practices (Gravionika et al., 2024). This study uses an interdisciplinary approach that combines economic, social, and ethical analysis to fill this gap. In addition, they develop ethical governance strategies and policy recommendations to foster an inclusive and sustainable digital economy (Generasi et al., 2025).

## **Literature Review**

New technological developments such as Artificial Intelligence (AI), financial technology (fintech), and the digital economy have fundamentally changed the way humans work, learn, and interact. A number of studies show that the integration of these technologies has an impact not only on economic efficiency, but also on social structures, moral values, and professional ethics in various fields. Research by Tsakila et al. (2024) confirms that the emergence of fintech has driven innovation in the banking sector and strengthened financial inclusion in the digital economy era. Although it has the potential to disrupt traditional business models, the synergy between banking and fintech has been proven to increase operational efficiency and expand the reach of financial services to the community. However, the study also reminds us that this development requires an adaptive regulatory framework and protection against cyber security so that its negative impacts can be minimized (Tsakila et al., 2024).



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Meanwhile, a study by Sonianto, Fatoni, and Hartono (2024) examined how the application of AI affects business processes and decision-making in technology companies. The results show that the use of AI increases productivity, reduces operational costs, and speeds up the decision-making process. However, this study also highlights challenges such as the need for large investments, human resource readiness, and ethical issues in the use of personal data (Sonianto et al., 2024). Moral and ethical issues are also the main focus of research by Kurniawan, Budiyanoto, and Hamdani (2025), which assesses the impact of AI use on professional ethics and morals in the workplace. Although AI can help improve the efficiency and accuracy of professional decisions, the results of the study show that ethical awareness is not solely determined by the intensity of technology use, but is more influenced by personal values, education, and organizational culture. Therefore, they emphasize the importance of digital ethics education and the development of ethical policies that adapt to technological advances (Kurniawan et al., 2025).

In addition, Haris et al. (2024) observed the relationship between AI literacy and changes in student norms and academic ethics. The results show that increased AI literacy can change academic mindsets and behavior, both positively and negatively. On the one hand, a good understanding of AI increases students' responsibility and awareness of digital ethics, but on the other hand, it can lead to dependence on technology and reduce the originality of academic work (Haris et al., 2024). From a macroeconomic perspective, Irawan et al. (2025) show that the digital economic transformation in Indonesia has a major impact on national employment. Technologies such as automation and AI create new job opportunities in platform-based sectors, but also displace traditional jobs. Therefore, collaboration between the government, industry, and educational institutions is needed to strengthen the digital skills of the workforce and prevent digital inequality between urban and rural areas (Irawan et al., 2025).

Overall, previous literature shows that advances in new technologies bring great economic opportunities, but also significant social and ethical consequences. Most



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studies highlight the need for strong governance and ethics education so that technologies such as AI and fintech can be utilized in an inclusive, responsible, and sustainable manner. However, there is still a research gap in the Indonesian context, particularly regarding the integration of digital economic policies and technological ethics principles. Therefore, this study seeks to fill this gap with an interdisciplinary approach that combines economic, social, and ethical aspects in the management of new technologies in the digital era.

## Methods

This study uses a qualitative approach with a library research method. This approach was chosen because the research topic focuses on theoretical and conceptual analysis of the impact of new technologies on the digital economy and the ethical challenges that arise in the application of Artificial Intelligence (AI). This method allows researchers to review, identify, and analyze the results of previous studies relevant to the research theme. The data sources in this study come from accredited national and international journal articles, reports from official institutions such as the World Economic Forum and the International Monetary Fund, as well as other academic publications discussing issues of the digital economy, new technologies, and AI ethics.

The research process was conducted in several stages. First, literature identification was carried out by selecting relevant scientific works based on keywords such as artificial intelligence, digital economy, ethics in technology, and future of work. Second, the credibility and recency of sources were evaluated, with priority given to publications from the last five years (2020–2025). Third, content analysis was conducted to find patterns, differences, and connections between previous research findings. Data from various sources were analyzed to identify existing research gaps in the Indonesian context, particularly regarding the integration of digital economy policies with technological ethics principles. The results of the analysis were interpreted



narratively by linking previous research findings to a theoretical framework that supports the formation of an ethical, inclusive, and sustainable digital economy model.

## **Result and Discussion**

### **1. New Technological Developments in the Digital Economy**

The development of digital technology in Indonesia since 2020 has shown double acceleration. First, there has been an increase in the penetration of infrastructure such as mobile internet, digital payments, and cloud computing. Second, there has been the adoption of platform-based business models (e-commerce, super-apps, fintech, and edutech) that have changed the way goods are produced, distributed, and consumed (Dewi & Lusikooy, 2024). These changes have been driven by several factors, such as the COVID-19 pandemic, which has accelerated digitalization among consumers and MSME players, venture capital investment in local pioneers, and regulations that support the acceptance of digital finance and national AI programs (Anisah et al., 2025). Observational studies show that digitalization increases worker morale in the labor market, which can be useful for highly skilled workers while reducing routine tasks. The Indonesian government is also drafting AI policies to anticipate social risks and research integrity (Wihardja et al., 2024).

Issues such as speed, digital literacy, data security, and equity remain major problems despite improvements in access indicators. Reliance on large platforms, or super-apps, poses risks of market concentration and dependence on third-party infrastructure, which in turn weakens the bargaining power of MSMEs and increases systemic vulnerability if the platform experiences shocks. Several case studies of large Indonesian companies, such as Gojek, show the effects of “creative destruction” alongside monopoly/oligopoly power in the digital market, which needs to be selectively regulated (Teuku Umar et al., 2021).

### **2. The impact of technology on the structure and growth of the digital economy**



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The structure of the digital economy is being transformed by several mechanisms brought about by new technologies such as cloud computing, big data, machine learning/AI, payment rails, and logistics automation. These mechanisms include: a) network scale, where platforms create positive network effects, so that market winners tend to take a large share of the market; b) reduced transaction costs, where integrated digital payments and logistics lower entry costs for sellers; c) value shift, where value shifts away from physical goods; and d) changes in the labor market, where automation of routine tasks displaces certain jobs but creates demand for IT and data management skills (Aminullah, 2024). This shows that although the growth of the digital industry contributes significantly to digital GDP growth, dependence on a few large platforms increases the risk of market instability and unstable long-term profitability for many startups. In addition to local consolidation, the entry of global changes also strengthens the dynamics of digital competition.

- 1) GoTo (Gojek and Tokopedia) shows how mergers/ecosystem constellations for service integration (ride-hailing, marketplaces, fintech) increase captive markets and cross-line efficiency, but also raise concerns about competition and antitrust oversight. Local studies and policy reports indicate that there is a threat of strengthening dominant positions, which could affect consumers and small suppliers (Tjahjawulan & Syahnureza, 2024).
- 2) TikTok's acquisition of Tokopedia acquisition and market response show that this international company's actions add a new dimension to the digital market structure, with the use of recommendation algorithms and social-commerce networks to drive data commercialization, but also prompting regulatory scrutiny (KPPU) of concentration and vertical integration practices. Real-world events such as sanctions or conditional approval requirements demonstrate how corporate strategies and policy interventions influence the structure of the digital market.
- 3) Competitive strategy Bukalapak decided to change its business model by reducing physical goods sales, indicating strong competitive pressure from



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players with large capital. This decision shows that transaction volume growth does not automatically result in sustainable profitability for all parties (LPEM FEB UI, 2021).

The digital economy continues to grow, increasing its share of GDP but creating market fragmentation. MSMEs that join platforms have market access but are bound by platform rules and fees, and their margins are often squeezed. Indonesia's digital economy competition policy is still evolving, and events in 2024–2025 (acquisitions and antitrust fines) show that the policy needs to be adjusted. This includes protecting open data access through open APIs, logistics and payment interoperability, and proactive competition oversight (Tjahjawulan & Syahnureza, 2024).

### **3. Social and ethical implications of using Artificial Intelligence**

AI can increase productivity and customize services, but this raises ethical issues such as algorithmic bias, privacy violations through massive data collection, black-box models, threats to job security, and threats to scientific integrity and research. Relatively new regulations and developing oversight capacities exacerbate these problems, especially in Indonesia.

Privacy and data governance issues remain weak because the implementation of the new Personal Data Protection (PDP) Law is still ongoing, making user data vulnerable to misuse. The lack of transparency and accountability of algorithms also hinders public oversight of automated decisions, while the automation of work by AI poses the risk of structural unemployment without strong reskilling programs (Idris & Kossay, 2025). Nugroho's (2025) analysis found that in Indonesia, the lack of AI ethics regulations and poor digital literacy increase the likelihood of misuse, including AI-based plagiarism. Therefore, it is crucial to strengthen AI governance by auditing algorithms, implementing a national code of ethics, and collaborating with cross-institutional agencies such as BRIN, OJK, and Kemenkominfo so that digital transformation does not sacrifice the social and moral rights of the community (Nugroho, 2025).



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Therefore, it is crucial to improve AI governance across the country. In order for Indonesia's digital economic transformation to be fair and ethical, the government, together with institutions such as BRIN, OJK, and Kemenkominfo, must develop an algorithm audit system, implement a code of ethics, and promote public digital literacy.

#### **4. Regulatory and Ethical Governance Challenges of AI**

The development of artificial intelligence (AI) in Indonesia has had a major impact on efficiency and productivity, but it has also raised various ethical and regulatory challenges. In the context of the digital economy, the use of AI not only touches on technological and business aspects, but also has implications for privacy rights, fairness, and social responsibility. The development of AI in Indonesia is still in the early stages of legal regulation, with a number of major challenges related to ethics, data security, and user privacy rights (Wulandari, 2025). The lack of transparency in AI-based decision-making processes, often referred to as the black box problem, is one of the main factors that has the potential to cause bias and social injustice if not closely monitored.

In addition, the application of AI in the banking and digital finance sectors also faces similar challenges. Amaliyah (2025) highlights that the use of AI in banking corporate governance systems can improve efficiency, accuracy, and regulatory compliance. However, these systems are risky if they are not accompanied by adequate human supervision and clear regulations regarding the use of customer data (Amaliyah, 2025). The use of AI in financial decision-making has the potential to cause algorithmic bias if the training data used is not representative. Therefore, the principles of transparency, accountability, and moral responsibility are important elements in the development of AI systems in the financial sector so as not to sacrifice consumer rights.

Although the government has issued the 2020–2045 National Artificial Intelligence Strategy and the Ministry of Communication and Information Technology Circular Letter No. 9 of 2023 on AI Ethics, their implementation has



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not been fully effective due to weak synergy between public institutions, the private sector, and the community. This challenge highlights the need for comprehensive and adaptive policies to keep pace with rapid technological developments, while ensuring the protection of citizens' rights in the digital age.

Overall, the main challenges faced by Indonesia in implementing AI include four important issues: (1) weak regulatory structures and legal protection of personal data, (2) low ethical awareness and digital literacy, (3) limited technological infrastructure and human resources, and (4) the absence of a clear ethical oversight and audit system. Therefore, strengthening collaboration between the government, the private sector, academics, and civil society is a strategic step towards building a transparent, fair, and responsible AI ecosystem. In the long term, the implementation of AI policies based on Pancasila values and good governance principles is expected to create a digital transformation that is not only economically efficient but also socially ethical.

## **5. Strategies for Realizing an Ethical and Sustainable Digital Economy**

Realizing an ethical and sustainable digital economy requires a balance between technological innovation and social responsibility. Digital transformation driven by Artificial Intelligence (AI), big data, and automation has had a positive impact on economic efficiency, but it also presents new risks to social justice, privacy, and moral integrity. Therefore, the digital economy development strategy should not only focus on growth, but also on sustainability and ethics in the use of technology.

According to (Wulandari, 2025), ethical digital economy development must be based on three main principles: digital justice, algorithmic responsibility, and technological transparency. These principles require that every digital innovation consider its impact on vulnerable groups and ensure that technology is used to expand social welfare, not deepen inequality. In the Indonesian context,



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this is relevant to the Indonesia Digital Nation 2045 vision, which places ethics and human values as the main pillars of national technological transformation.

In the context of sustainability, an ethical digital economy must also consider the environmental impact of technological infrastructure. The use of renewable energy for data centers, electronic waste management, and energy efficiency innovations in AI systems are strategic steps toward a sustainable digital ecosystem. Thus, the concept of sustainability encompasses not only economic aspects, but also integrated social and ecological dimensions. Overall, the strategy for realizing an ethical and sustainable digital economy includes four main pillars:

- 1) Strengthening digital regulation and ethics, with a focus on transparency, accountability, and protection of digital rights.
- 2) Increasing public literacy and ethical awareness, so that users and business actors understand their moral responsibilities in digital transformation.
- 3) Cross-sector collaboration to build an inclusive digital ecosystem that promotes equitable innovation.
- 4) Integration of environmental sustainability into technology policy so that digital economic growth does not sacrifice ecological balance.

By implementing this strategy, Indonesia has the potential to become a country that is not only digitally advanced but also highly competitive with a strong foundation of ethics, social justice, and sustainability.

## **Conclusion**

New technological developments, particularly Artificial Intelligence (AI), have brought significant changes to the structure and dynamics of the digital economy in Indonesia. AI-based innovations, big data, and automation have driven efficiency, productivity, and economic growth, but have also raised ethical issues such as algorithmic bias, privacy violations, and technological access inequality. The results of



the study show that the success of digital transformation is not only determined by technological advances, but also by the strength of the accompanying ethical governance.

This research emphasizes the importance of applying the principles of transparency, fairness, accountability, and social responsibility in every form of digital innovation. The Indonesian government has taken important steps through the 2020–2045 National Artificial Intelligence Strategy and the Ministry of Communication and Information Technology Circular Letter No. 9 of 2023 on AI Ethics. However, to create a sustainable digital ecosystem, these policies need to be strengthened through cross-sectoral synergy between the government, academia, industry, and society.

In addition, strengthening digital literacy and technology ethics is key to building a critical, adaptive, and responsible society amid the rapid development of AI. By integrating social, economic, and moral aspects, Indonesia has the potential to become a pioneer in Southeast Asia in realizing an inclusive, ethical, and sustainable digital economy. Further research is recommended to explore empirical models for implementing AI ethics, particularly in the public and financial sectors, so that policy outcomes can be measured concretely in terms of their social and economic impact on society.

### **Author Contributions**

Haura Safira contributed to the development of the theoretical framework, literature review, and analysis of the relationship between new technologies and the digital economy. She also wrote the Literature Review and Methods sections, finalized the Conclusion section, and edited the manuscript to ensure it complied with academic formatting requirements.

Syifa Saura Amanda played a role in the data analysis process, literature collection, writing the introduction section, compiling several sections of the Results and Discussion, and aligning the research results with national policies related to AI.

Dicky Armanda provided guidance and supervision during the writing process.



## Bibliography

- Aghion, P., & Bunel, S. (2024). AI and Growth: Where Do We Stand? *Mimeo LSE*, June.
- Amaliyah, R. (2025). Efektivitas Penggunaan Teknologi Artificial Intelligence Terhadap Proteksi Keamanan Sistem Tata Kelola Perusahaan (Sektor Perbankan). *Jurnal Info Kripto*, 19(1), 49–59.
- Aminullah, E. (2024). Forecasting of technology innovation and economic growth in Indonesia. *Technological Forecasting and Social Change*, 202, 123333. <https://doi.org/https://doi.org/10.1016/j.techfore.2024.123333>
- Anisah, N. F., Handayani, S. A., Poernomo, R. W., Andini, D., & Sogi, M. N. (2025). The Future of Indonesian Employment : Legal Protection and Effectiveness for Workers in Facing AI Transformation Rapidly developing technology has brought about major changes in various aspects of. *Shautuna: Jurnal Ilmiah Mahasiswa Perbandingan Mazhab*, 06(2), 286–303. <https://doi.org/10.24252/shautuna.v6i2.56577>
- Bostrom, N., & Yudkowsky, E. (2021). *The Ethics of Artificial Intelligence BT - The Cambridge Handbook of Artificial Intelligence*. Cambridge University Press.
- Dewi, G. D. P., & Lusikooy, A. E. (2024). E-commerce Transformation in Indonesia. *Nation State: Journal of International Studies*, 6(2), 117–138. <https://doi.org/10.24076/nsjis.v6i2.1304>
- Forum, W. E. (2023). Future of Jobs Report. In *The Future Of Homo*.
- Generasi, E., Indonesia, Z., & Digital, E. (2025). Dampak Adopsi AI terhadap Produktivitas dan Transformasi. *Warmadewa Economic Development Journal*, 8, 38–55.
- Gravionika, E., Subarkah, A. D., & ... (2024). Kecerdasan Buatan (Artificial Intelligence) Sebagai Katalisator Ekonomi Dalam Peluang Dan Tantangan Di Era Digital. *Prosiding*, 20, 149–155.
- Haris, Arsyanda, Darwis, M. R., JY, M. R. W., & Ilham, M. (2024). Analisis Dampak Literasi AI terhadap Perubahan Norma Dan Etika Akademik Mahasiswa. *JUPITER: Jurnal Pendidikan Terapan*, 02(01), 66–77.
- Idris, M. F., & Kossay, M. (2025). *Legal Accountability of Algorithmic Bias : Examining the Role of Law in Preventing Discriminatory AI Decisions*. 2.
- Irawan, S., Mulyani, S., Darmawan, S. P., & Panorama, M. (2025). Dampak Ekonomi Digital Terhadap Ketenagakerjaan di Indonesia Periode 2010-2023. *JURKAMI: Jurnal Pendidikan Ekonomi*, 10(2).
- Kurniawan, P., Budiyanto, D., & Hamdani, F. (2025). Dampak Penggunaan Artificial Intelligence terhadap Etika Profesi dan Moral di Dunia Kerja. *Jurnal Pustaka Data*, 5(1), 103–108.
- LPEM FEB UI. (2021). Impact of Merging between Digital Platforms. *Economic Research of Economic Faculty, University of Indonesia*.



- Nugroho, F. (2025). Artificial Intelligence Regulation and Political Ethics: An Analysis of Indonesia's Position in AI Governance. *Journal of Political Innovation and Analysis*, 2(1), 42–51. <https://doi.org/10.59261/jpia.v2i1.10>
- Rees, C. (2020). The Ethics of Artificial Intelligence. *IFIP Advances in Information and Communication Technology*, 555, 55–69. [https://doi.org/10.1007/978-3-030-64246-4\\_5](https://doi.org/10.1007/978-3-030-64246-4_5)
- Sari, C. M., Tegar, T., Bashiroh, N. N., & Armadhita, S. (2025). *The Transformation of the Indonesian Market in the Digital Era 5.0: The Role of Artificial Intelligence (AI) and the Internet of Things (IoT) in Driving Economic Growth* (Issue Irceb 2024). Atlantis Press International BV. [https://doi.org/10.2991/978-94-6463-722-9\\_17](https://doi.org/10.2991/978-94-6463-722-9_17)
- Sonianto, Fatoni, & Hartono, S. (2024). Dampak implementasi artificial intelligence terhadap proses bisnis dan pengambilan keputusan di perusahaan teknologi. *Technologia : Jurnal Ilmiah*, 15(4), 735–741.
- Teuku Umar, J., Baja, L., Batam-Indonesia, K., Lingkungan Kerja, P., Kerja Dan Disiplin Kerja, K., Diana Nabella, S., & Syahputra, R. (2021). Universitas Ibnu Sina (Uis). *Jurnal JUMKA*, 1(1), 30–38.
- Tjahjaulan, I., & Syahnureza, T. (2024). Analysis of Promotional Content on Marketplace Tokopedia and Bukalapak to Improve the Culture of Online Shopping. *Mudra Jurnal Seni Budaya*, 39(3), 385–403. <https://doi.org/10.31091/mudra.v39i3.2787>
- Tsakila, N. F., Wirahadi, M. A., Fadilah, A. A., Simanjuntak, H., & Siswajanty, F. (2024). Analisis Dampak Fintech terhadap Kinerja dan Inovasi Perbankan di Era Ekonomi Digital. *Indonesian Journal of Law and Justice*, 1(4), 1–11.
- Wihardja, M. M., Pradana, A. T., Wiibisana, P. S., & Swarnata, A. (2024). The Heterogeneous Impacts of Digital Transformation and Investment on Indonesia's Labour Market. *ERIA Discussion Paper Series*, 524.
- World Economic Forum. (2022). The future of jobs report 2020 | world economic forum. *The Future of Jobs Report*, 1163.
- Wulandari, Y. S. (2025). Kecerdasan Buatan dan Perlindungan Data: Analisis Regulasi yang Adil untuk Sistem Hukum Indonesia. *THE JURIS: Jurnal Ilmu Hukum*, IX(1), 174–181.