

DIGITAL ECONOMY DEVELOPMENT AND ITS CONTRIBUTION TO ECONOMIC GROWTH IN INDONESIA

Rizky Oktaviani¹

Universitas Widyatama, Bandung, Indonesia

Email: rizky.oktaviani@widyatama.ac.id

Abstract

Indonesia has emerged as the largest digital economy market in Southeast Asia. The rapid development of e-commerce, digital payments, financial technology (fintech), digital banking, and online platforms has transformed economic activities and consumer behavior across the country. This study aimed to examine the contribution of the digital economy to economic growth and financial inclusion in Indonesia. A descriptive quantitative approach was employed using secondary data obtained from Bank Indonesia, the World Bank, DataReportal, the Organisation for Economic Co-operation and Development (OECD), and the Google-Temasek-Bain e-Conomy SEA Report. The findings indicate that Indonesia's digital economy continues to expand significantly, supported by increasing internet penetration, widespread adoption of digital payments, and growing participation of micro, small, and medium enterprises (MSMEs) in digital ecosystems. QRIS has become a major driver of digital payment growth, while digital financial services have improved access to financial services among underserved communities. Indonesia remains the largest digital economy market in Southeast Asia, with its digital economy approaching USD 100 billion in gross merchandise value. However, challenges related to digital infrastructure disparities, cybersecurity risks, and digital literacy remain significant issues. The study concludes that strengthening digital infrastructure, enhancing digital skills, and improving regulatory frameworks are essential to maximize the benefits of digital transformation and support sustainable economic growth in Indonesia.

Keywords: digital economy; financial inclusion; Indonesia; QRIS; sustainable growth



By Authors

This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

1. Introduction

Digital transformation has become one of the most important drivers of economic development worldwide. Advances in information and communication technology have fundamentally changed production systems, consumption patterns, and business models across various sectors. In Indonesia, digitalization has accelerated over the past decade and has become a strategic component of national economic development.

Indonesia possesses significant potential for digital economy development due to its large population and increasing internet penetration. Indonesia had approximately 212 million internet users in early 2025, representing 74.6% of the total population. This extensive digital user base provides a strong foundation for the growth of e-commerce, financial technology, digital banking, and platform-based economic activities.

The development of digital payment systems has contributed substantially to Indonesia's digital transformation. QRIS adoption reached 57 million users and 39.3 million merchants by mid-2025. Approximately 93.16% of participating merchants were MSMEs, demonstrating the effectiveness of digital payment infrastructure in promoting financial inclusion. QRIS transaction volume reached 6.05 billion transactions with a total value of IDR 579 trillion during the first half of 2025.

Indonesia continues to lead Southeast Asia's digital economy. The e-Conomy SEA Report estimated that Indonesia's digital economy is approaching USD 100 billion in gross merchandise value (GMV), supported by rapid growth in e-commerce, digital finance, online transportation, digital content, and emerging artificial intelligence-related activities.

According to Tapscott (1996), the digital economy refers to economic activities enabled by digital technologies and network connectivity. Bukht and Heeks (2018) further defined the digital economy as economic activities resulting from billions of online connections among people, businesses, devices, data, and processes. However, despite substantial progress, several challenges remain, including unequal digital infrastructure, cybersecurity risks, data protection concerns, and shortages of digital talent.

Therefore, understanding the role of the digital economy in promoting economic growth and financial inclusion has become increasingly important. This study aims to analyze the development of Indonesia's digital economy and its contribution to economic growth and financial inclusion.

2. Method

2.1 Research Design

This study employed a descriptive quantitative research design. The approach was used to analyze current developments in Indonesia's digital economy through selected digital economy indicators.

2.2 Participants/Data Source

The study utilized secondary data collected from:

- Bank Indonesia (BI)
- Statistics Indonesia (BPS)
- Financial Services Authority (OJK)
- DataReportal
- Google, Temasek, and Bain & Company e-Conomy SEA Reports
- OECD Publications
- World Bank Publications

The analyzed data were published between 2024 and 2025.

2.3 Instrument and Data Collection

Data were collected through document analysis of official reports, statistical publications, policy documents, and digital economy reports. The indicators examined included:

- Internet users
- Internet penetration
- QRIS adoption

- Digital payment transactions
- MSME participation in digital ecosystems
- Digital economy market size

2.4 Data Analysis

The collected data were analyzed using descriptive statistical techniques. Trends and patterns were examined to evaluate the contribution of digital economy development to economic growth and financial inclusion in Indonesia.

3. Results and Discussion

3.1 Results

Indonesia's digital economy has experienced significant development during the last few years. The growth has been supported by increasing internet penetration, the rapid adoption of digital payment systems, expanding digital financial services, and the growing participation of Micro, Small, and Medium Enterprises (MSMEs) in digital ecosystems. As shown in Table 1, Indonesia recorded substantial achievements across several key digital economy indicators in 2025, including internet penetration, QRIS adoption, digital transaction value, and MSME digitalization

Table 1. Descriptive Indicators of Indonesia's Digital Economy (2025)

Variable	Value
Internet users	212 million users
Internet penetration	74.6% of population
QRIS users	57 million users
QRIS merchants	39.3 million merchants
MSME share in QRIS ecosystem	93.16% of merchants
QRIS transaction volume	6.05 billion transactions
QRIS transaction value	IDR 579 trillion
Digital economy market size	Nearly USD 100 billion GMV
Digitized MSMEs	More than 25 million MSMEs

Note. Data compiled from Bank Indonesia (2025), Data Reportal (2025), and Google, Temasek, and Bain & Company (2025). GMV = Gross Merchandise Value; QRIS = Quick Response Code Indonesian Standard; MSMEs = Micro, Small, and Medium Enterprises.

Table 1 indicates that Indonesia had approximately 212 million internet users in 2025. Internet penetration reached 74.6% of the population. QRIS adoption expanded to 57 million users and 39.3 million merchants, while QRIS transaction value reached IDR 579 trillion. The data also show that more than 25 million MSMEs have entered digital ecosystems and that Indonesia's digital economy is approaching USD 100 billion in gross merchandise value (GMV). To illustrate the development of digital payment adoption, Table 2 presents the growth of QRIS users, merchants, transaction volume, and transaction value between 2023 and 2025.

Table 2 Growth of Indonesia's Digital Payment Ecosystem (2023–2025)

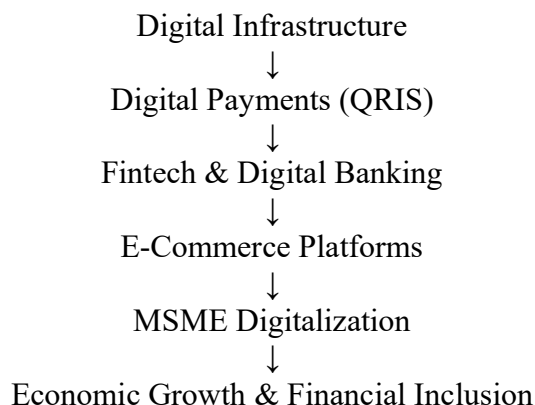
Indicator	2023	2024	2025*
QRIS Users (million)	45.8	54.1	57.0
QRIS Merchants (million)	30.4	36.0	39.3
Transaction Volume (billion)	3.7	5.5	6.05
Transaction Value (IDR trillion)	229	428	579

Note. 2025 data represent the latest available statistics. Compiled from Bank Indonesia.

Table 2 demonstrates a consistent increase in QRIS adoption and transaction activity. The number of QRIS users increased from 45.8 million in 2023 to 57 million in 2025. The number of merchants also expanded considerably, accompanied by significant growth in transaction volume and transaction value.

Figure 1 illustrates the structure of Indonesia's digital economy ecosystem and the relationship between digital infrastructure, payment systems, MSME digitalization, and economic growth.

Figure 1 Structure of Indonesia's Digital Economy Ecosystem



Note. Developed by the author based on Bank Indonesia (2025) and e-Conomy SEA (2025).

Figure 1 shows that digital infrastructure serves as the foundation of Indonesia's digital economy. The development of digital payments, fintech, and e-commerce platforms supports MSME digitalization, which subsequently contributes to economic growth and financial inclusion.

3.2 Discussion

3.2.1 Growth of Digital Payment Adoption

The findings indicate that digital payment systems have become an important driver of Indonesia's digital transformation. The rapid growth of QRIS users and merchants demonstrates increasing public acceptance of digital payment methods. Persadha et al. (2024) found that perceived usefulness, ease of use, trust, and innovation significantly influence consumers' intentions to adopt QRIS-based payment systems. These findings are consistent with the observed increase in QRIS adoption in Indonesia.

The growth in transaction value also suggests that digital payment services are becoming increasingly integrated into daily economic activities. Sari et al. (2025) emphasized that trust and perceived security play essential roles in encouraging users to adopt QRIS. This supports the argument that secure and user-friendly digital payment systems contribute to the expansion of cashless transactions.

Furthermore, digital payments contribute to greater transaction efficiency. Zakariya and Arifin (2025) reported that QRIS and e-wallet implementation improve transaction speed, reduce operational costs, and enhance the quality of financial records among MSMEs. These benefits strengthen business performance and encourage wider digital adoption.

3.2.2 Digital Economy and MSME Development

The participation of more than 25 million MSMEs in digital ecosystems highlights the important role of digital transformation in supporting business development. Digital technologies enable MSMEs to expand market access, improve customer engagement, and increase operational efficiency.

This finding is consistent with Nambisan et al. (2019), who argued that digital technologies create new opportunities for innovation and entrepreneurship. Similarly, Purnomo et al. (2024) concluded that digital transformation contributes to higher competitiveness, broader market reach, and stronger resilience among Indonesian MSMEs.

Ainin et al. (2023) further emphasized that digital platforms and social commerce positively affect SME performance by enhancing business visibility and market accessibility. Therefore, digitalization can be considered an important strategy for improving MSME competitiveness in Indonesia.

3.2.3 Financial Inclusion Through Digital Innovation

The findings suggest that digital innovation has significantly contributed to financial inclusion in Indonesia. Digital payment systems, fintech services, and digital banking have reduced barriers to financial access, particularly among underserved populations and MSMEs. Demirgüç-Kunt et al. (2022) highlighted that digital financial services create opportunities for broader participation in formal financial systems. Similarly, Ozili (2023) argued that fintech innovations improve financial inclusion by lowering transaction costs and improving accessibility to financial services.

In Indonesia, fintech development has expanded financing opportunities for MSMEs. Ismanto et al. (2023) found that fintech services improve MSME access to credit by providing alternative financing channels beyond traditional banking institutions. This finding reinforces the role of digital innovation in supporting inclusive economic growth.

3.2.4 Indonesia's Position in Southeast Asia's Digital Economy

Indonesia remains the largest digital economy market in Southeast Asia. The country's digital economy is approaching USD 100 billion in GMV and benefits from a large population, expanding internet access, and strong consumer demand.

Bukht and Heeks (2018) emphasized that digital economies depend on digital infrastructure, connectivity, and data-driven activities. Indonesia's extensive internet user base creates favorable conditions for digital business expansion and innovation.

According to the OECD (2024), Southeast Asia's digital economy is increasingly driven by integrated ecosystems involving digital payments, fintech, e-commerce, and emerging technologies. Indonesia's strong performance in these sectors strengthens its regional competitiveness and supports long-term economic growth.

3.2.5 Challenges Toward a Sustainable Digital Economy

Despite substantial achievements, several challenges continue to affect the sustainability of Indonesia's digital economy. One of the most important challenges is the digital divide between urban and rural areas. Unequal access to digital infrastructure may limit participation in digital economic activities.

Cybersecurity has also emerged as a critical issue. Cresci et al. (2023) argued that cybercrime, digital fraud, and data breaches can reduce public trust in digital ecosystems and hinder adoption. Therefore, cybersecurity governance and consumer protection mechanisms must continue to be strengthened.

Digital literacy remains another key challenge. Van Deursen and Van Dijk (2023) emphasized that access to technology alone is insufficient; individuals must also possess the skills necessary to effectively use digital technologies. Consequently, investment in education, workforce development, and digital training programs remains essential.

The World Bank (2024) also highlighted the importance of developing digital talent and workforce readiness to enhance national competitiveness in an increasingly digital economy. Improving human capital quality will therefore be critical to ensuring the long-term sustainability of digital transformation in Indonesia.

Overall, the findings suggest that Indonesia's digital economy has become an important contributor to economic growth, MSME development, and financial inclusion. Nevertheless, achieving sustainable digital transformation requires continued improvement in infrastructure, digital literacy, cybersecurity, and regulatory adaptation.

4. Conclusion

This study analyzed the development of Indonesia's digital economy and its contribution to economic growth and financial inclusion. The findings revealed that Indonesia has become the largest digital economy market in Southeast Asia, supported by increasing internet penetration, growing QRIS adoption, expanding digital transactions, and greater MSME participation in digital ecosystems.

The digital economy has strengthened financial inclusion, increased operational efficiency, and created broader business opportunities. Nevertheless, challenges related to digital infrastructure, cybersecurity, and digital literacy continue to require policy attention. Strengthening digital infrastructure, enhancing cybersecurity frameworks, improving digital literacy, and supporting innovation ecosystems are essential to ensure sustainable and inclusive digital economic growth in Indonesia.

Acknowledgments

The author would like to acknowledge Bank Indonesia, DataReportal, Google, Temasek, Bain & Company, OECD, and the World Bank for providing publicly accessible data used in this study.

References

- Ainin, S., Parveen, F., Moghavvemi, S., & Jaafar, N. (2023). Digital platform utilization and SME performance. *Technological Forecasting and Social Change*, 194, 122676.
- Arner, D. W., Buckley, R. P., Zetzsche, D. A., & Veidt, R. (2023). Sustainability, fintech and financial inclusion. *European Business Organization Law Review*, 24(1), 7-34. <https://doi.org/10.1007/s40804-022-00259-9>
- Asian Development Bank. (2024). *Digital transformation and inclusive growth in ASEAN*. Asian Development Bank.
- Bank Indonesia. (2025). *QRIS development statistics and payment system report*. Bank Indonesia. Retrieved from <https://www.bi.go.id>
- Bukht, R., & Heeks, R. (2018). Defining, conceptualising and measuring the digital economy. *Development Informatics Working Paper Series*, 68, 1-24.
- Cresci, S., Lillo, F., Regoli, D., Tardelli, S., & Tesconi, M. (2023). Digital trust and cybersecurity challenges in platform economies. *Computers & Security*, 128, 103145. <https://doi.org/10.1016/j.cose.2023.103145>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2022). *The Global Findex Database 2021: Financial inclusion, digital payments, and resilience in the age of COVID-19*. World Bank.
- Google, Temasek, & Bain & Company. (2025). *e-Conomy SEA 2025*. Retrieved from https://services.google.com/fh/files/misc/indonesia_e_economy_sea_2025_report.pdf
- Ismanto, H., Wibowo, P. A., & Shofwatin, T. D. (2023). Bank stability and fintech impact on MSMEs' credit performance and credit accessibility. *Banks and Bank Systems*, 18(4), 105-115. [https://doi.org/10.21511/bbs.18\(4\).2023.10](https://doi.org/10.21511/bbs.18(4).2023.10)
- Kemp, S. (2025). *Digital 2025: Indonesia*. DataReportal. Retrieved from <https://datareportal.com/reports/digital-2025-indonesia>
- Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship. *Research Policy*, 48(8), 103773. <https://doi.org/10.1016/j.respol.2019.03.018>
- Organisation for Economic Co-operation and Development. (2024). *Digital Economy Outlook 2024*. OECD Publishing.
- Ozili, P. K. (2023). Financial inclusion and fintech research: A review. *Journal of Risk and Financial Management*, 16(3), 145. <https://doi.org/10.3390/jrfm16030145>
- Persadha, P. D., Lukito, D., Wahyuni, E. S., Judijanto, L., Bakri, A. A., Paranita, E. S., & Susanti, M. (2024). Factors influencing consumer adoption of QRIS mobile payment services in Indonesia: An extended Technology Acceptance Model approach. *Journal of Logistics, Informatics and Service Science*, 11(7), 1-17.

- Purnomo, S., Nurmalitasari, N., & Nurchim, N. (2024). Digital transformation of MSMEs in Indonesia: A systematic literature review. *Journal of Management and Digital Business*, 4(2), 115-132.
- Sari, D. R., Sorongan, E., & Kusno, H. S. (2025). When culture meets code: Enhancing e-payment technology adoption through QRIS in the digital transformation. *Innovation in Research of Informatics*, 7(1), 51-58. <https://doi.org/10.37058/innovatics.v7i1.13153>
- Tapscott, D. (1996). *The digital economy: Promise and peril in the age of networked intelligence*. McGraw-Hill.
- United Nations Conference on Trade and Development. (2024). *Digital Economy Report 2024*. United Nations.
- van Deursen, A., & van Dijk, J. (2023). Digital skills and the digital divide. *New Media & Society*, 25(7), 1687-1705. <https://doi.org/10.1177/14614448211063159>
- World Bank. (2024). *Indonesia Financial Sector Assessment*. World Bank Group. Retrieved from <https://documents1.worldbank.org/curated/en/099103024111024730/pdf/BOSIB-54390b61-e3f3-4b20-84b9-65f56a68f909.pdf>
- World Economic Forum. (2024). *Future of the Digital Economy and Society Report*. World Economic Forum.
- Zakariya, A., & Arifin, A. A. (2025). The application of digital payments (QRIS & e-wallet) on the efficiency of MSME transactions. *Journal of Finance, Economics and Business*, 4(2), 85-102.