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The Role Of Digital Payment Systems in Enhancing Financial Inclusion: A Literature Review in the Context of Indonesian Banking

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Abstract :

Digital transformation has opened up significant opportunities to enhance financial inclusion in Indonesia, but challenges such as the gap in information technology infrastructure and low digital financial literacy remain major obstacles. This research aims to analyze the role of digital payment systems, including QRIS, e-wallets, and mobile banking, in supporting financial inclusion in Indonesia, highlighting the driving and inhibiting factors. The research method used is a literature review that examines secondary data from various relevant studies, reports from Bank Indonesia, and the experiences of other countries such as Kenya and India in utilizing digital payment technology. The research results show that digital payment systems have improved access to financial services, especially for SMEs and marginalized communities, although the adoption of this technology faces challenges in infrastructure, security, and digital literacy. Digitalization has proven to reduce economic disparities in remote areas and promote inclusive economic growth. The implications of this research include the importance of collaboration between the government, the private sector, and local communities in accelerating the development of digital infrastructure and community-based financial literacy programs. These findings highlight the need for policies tailored to regional needs to ensure sustainable and equitable financial inclusion across Indonesia.

Keywords : *Digital payment systems, financial inclusion, QRIS, fintech, MSMEs, digital literacy, ICT infrastructure.*

Abstrak :

Transformasi digital telah membuka peluang besar dalam meningkatkan inklusi keuangan di Indonesia, namun tantangan seperti kesenjangan infrastruktur teknologi informasi dan rendahnya literasi keuangan digital masih menjadi hambatan utama. Penelitian ini bertujuan untuk menganalisis peran sistem pembayaran digital, termasuk QRIS, e-wallet, dan mobile banking, dalam mendukung inklusi keuangan di Indonesia, dengan menyoroti faktor pendorong dan penghambatnya. Metode penelitian ini adalah analisis literatur yang mengkaji data sekunder dari berbagai studi relevan, laporan Bank Indonesia, dan pengalaman negara lain seperti Kenya dan India dalam memanfaatkan teknologi pembayaran digital. Hasil penelitian menunjukkan bahwa sistem pembayaran digital telah meningkatkan akses ke layanan keuangan, terutama bagi UMKM dan masyarakat marginal, meskipun adopsi teknologi ini menghadapi tantangan infrastruktur, keamanan, dan literasi digital. Digitalisasi terbukti mengurangi kesenjangan ekonomi di daerah terpencil dan mendorong pertumbuhan ekonomi inklusif. Implikasi penelitian ini mencakup pentingnya kolaborasi antara pemerintah, sektor swasta, dan komunitas lokal dalam mempercepat pengembangan infrastruktur digital serta program literasi keuangan berbasis komunitas. Temuan ini menyoroti perlunya kebijakan yang disesuaikan dengan kebutuhan regional untuk memastikan inklusi keuangan yang berkelanjutan dan merata di

seluruh Indonesia.

Kata Kunci: *Sistem pembayaran digital, inklusi keuangan, QRIS, fintech, UMKM, literasi digital, infrastruktur TIK.*

INTRODUCTION

Digital transformation in the global financial sector has become a very strong trend, especially in facing global and local challenges faced by Islamic banking. Islamic banking must address challenges such as limited digital infrastructure and data security risks, while leveraging opportunities to enhance operational efficiency and competitiveness through the adoption of digital technologies like fintech and blockchain (Raymond et al., 2024).

Digital payment systems play a crucial role in modernizing financial services, especially in developing countries, by addressing the global and local challenges faced by Islamic banking. These challenges include high costs, slow processes, and limited access to financial services, especially in countries with a high unbanked population. The digitization of payments enables broader financial inclusion and better efficiency in cross-border transactions, which is crucial for economic growth in developing countries (He, 2021).

Islamic banking in Indonesia faces significant global and local challenges in enhancing financial inclusion. Global challenges include competition with conventional banks that also offer Sharia products, as well as access to global Sharia financial products (West) et al., 2024). At the local level, the inclusion of Islamic finance is still low, especially in areas such as East Nusa Tenggara (Ali et al., 2019). Nevertheless, Islamic banking has great potential to enhance financial inclusion through responsive and synergistic policy support (Jayengsari & Husaeni, 2020).

Islamic banking faces global and local challenges in expanding access to financial services, especially amidst the rapid development of digital technology. Digital payment systems have emerged as a relevant solution to overcome these barriers, enabling broader and more inclusive access to financial services. Financial technology has transformed the way financial services are provided, enabling Islamic banks to offer more efficient and faster services through mobile applications and online banking (Ali, 2023).

Why is the gap in financial inclusion in Indonesia still high, especially among the unbanked and underbanked population, despite the availability of various digital payment system services? What are the main challenges faced in the implementation of digital payment systems in Indonesian banking, particularly related to infrastructure, regulation, and digital literacy? How can digital payment systems effectively contribute to reducing the financial inclusion gap in Indonesia?

Financial inclusion is one of the main pillars in sustainable economic development in Indonesia because it plays an important role in reducing poverty, accelerating economic growth, and promoting equitable welfare. In an effort to support financial inclusion, digital payment systems have emerged as catalysts capable of expanding access to financial services for the unbanked and underbanked, particularly through the adoption of innovative and efficient technologies. This aligns with the Indonesian government's vision to improve financial literacy and expand public access to formal financial services. However, the dynamics of the relationship between digital payment systems and financial inclusion are still not fully understood, making literature-based research important to delve deeper into the key factors influencing the effectiveness of this technology. In-depth analysis is needed to provide evidence-based policy recommendations, to ensure that digital payment systems can be optimally utilized in supporting inclusive and sustainable economic development.

The rationale for this research is based on the need to deepen the understanding of the role of digital payment systems in supporting financial inclusion, which still faces various challenges, especially in developing countries like Indonesia. Digital payment systems have great potential to expand access to financial services for underserved or limited-served communities, such as the unbanked and underbanked groups. However, despite the fact that this technology has been implemented in various forms, its implementation is still hindered by factors such as inadequate infrastructure, suboptimal regulations, and low levels of digital literacy among the majority of the population. Therefore, integrating previous research findings becomes important to create a more holistic understanding of the relationship between digital payment systems and financial inclusion, as well as the factors that influence their effectiveness. This research also provides practical insights for policymakers and banking practitioners to formulate more targeted policies in leveraging digital payment technology to enhance financial access. Furthermore, raising awareness about key factors such as infrastructure readiness, supportive regulations, and digital literacy will help create an ecosystem that supports the effectiveness and sustainability of digital payment systems, which in turn can accelerate the achievement of financial inclusion in Indonesia.

This research aims to deeply understand why the financial inclusion gap in Indonesia remains high, especially among the unbanked and underbanked populations, despite the availability of various digital payment system services. This research also aims to identify the main challenges faced in the implementation of digital payment systems in the banking sector, including constraints on technological infrastructure, regulations that do not fully support innovation, and the low level of digital literacy among the public. Additionally, this research aims to explore how digital payment systems can effectively contribute to reducing the financial inclusion gap by analyzing the factors that influence the successful adoption of this technology and the potential solutions to optimize its impact. Thus, this research is expected to provide comprehensive insights and strategic recommendations to accelerate the achievement of equitable financial inclusion in Indonesia.

Islamic banking faces global and local challenges in enhancing financial inclusion, especially in Indonesia. Although it has great potential, previous research shows that the geographical coverage and methodological approaches are still limited. The main focus is often on urban areas, while regions such as East Nusa Tenggara and Papua are underserved (Ali et al., 2019). Moreover, imbalanced regulations and legal constraints hinder the role of Islamic banks in serving the MSME segment (Saifurrahman & Kassim, 2023).

Islamic banking faces global and local challenges in improving access to financial services, especially for marginalized groups. One potential solution is a digital payment system, which can overcome geographical barriers and administrative costs that often hinder access to traditional financial services. However, the lack of focus on the role of this system in enhancing financial inclusion for marginalized groups remains a significant issue (Somogyvári, 2021).

This research fills the gap with a literature review approach focused on the local context of Indonesia, starting with a broad overview of the global and local challenges faced by Islamic banking. Islamic banking in Indonesia faces fierce competition from conventional banks offering Sharia-compliant products, as well as challenges in accessing global (Western) Sharia-compliant financial products (Barat et al., 2024).

This research focuses on a specific and in-depth literature analysis regarding the relationship between digital payment systems and financial inclusion in the context of Indonesia, which has previously been rarely discussed comprehensively. Although there is much research on digital payment systems and financial inclusion, few specifically examine the dynamics and challenges faced by Indonesia, given its unique social, economic, and regulatory conditions. This research makes an important contribution by providing a strong theoretical foundation for the development of policies and innovations in digital payment systems, which can help accelerate the adoption of this technology across all layers of society. In addition, this research also serves as a practical guide for Indonesian banking, providing insights on how to effectively utilize digital payment technology to expand financial inclusion, particularly among communities that are still lagging in access to formal financial services. Thus, this research not only enriches the existing literature but also provides strategic directions that can be applied in practice to drive digital transformation in Indonesia's financial sector.

RESEARCH METHOD

This research uses a literature review, which is a method of data collection through the examination of related literature. Nazir states that this method involves the collection of data from various literature sources, such as books, journals, magazines, and lecture materials related to the research subject (Mardalis, 2006). Furthermore, Muhadjir states that library research prioritizes philosophical and theoretical approaches over empirical field tests. This is because the aim of this research is to gain a better understanding of the concepts and theories underlying the issues being studied, as well as to create a strong theoretical framework for this research. The data collected in this research were gathered by reading and analyzing relevant literature. To ensure the relevance and quality of the obtained data, this process involves the identification, collection, and evaluation of information from carefully selected written sources. Next, the literature data is analyzed descriptively to identify the main themes and patterns. The aim of this research is to gain a comprehensive understanding of the research topic and to develop arguments supported by evidence from the literature. The literature study method used in this research allows the researcher to collect and analyze data from various relevant written sources, with a focus on philosophical and theoretical approaches. This method also provides a strong foundation for understanding and explaining the issues discussed.

FINDINGS AND DISCUSSION

This research found that digital payment systems have shown great potential in supporting financial inclusion in Indonesia. With the adoption of technologies such as digital wallets, QRIS (Quick Response Code Indonesian Standard), and mobile banking, public access to financial services has significantly increased. Based on the literature, the use of QRIS has expanded to more than 25 million business actors, including MSMEs, since its launch in 2019 (Bank Indonesia, 2023).

Further research shows that fintech has made a positive contribution to financial inclusion in Indonesia by facilitating access to financial services for those who were previously underserved by the traditional banking system (Sriyono et al., 2023). Additionally, the penetration of e-wallet applications in Indonesia faces challenges such as infrastructure readiness and public perception regarding the security of mobile transactions (Ciptarianto, 2022). However, the adoption of digital payment systems has been driven by factors such as ease of use and government support (Pratama & Anas, 2024).

The importance of financial inclusion in economic development is widely recognized, especially in helping low-income communities manage risks and absorb financial shocks (Soejachmoen, 2016). Therefore, strategies to improve financial literacy and provide adequate information about financial technology become very important (Kurniasari et al., 2021).

The disparity in the adoption of digital technology in Indonesia, especially in remote areas, has become a major concern in efforts to enhance financial and digital economic inclusion. Research shows that the penetration of digital payments in the eastern regions of Indonesia is still below 30%, far behind Java which reaches 70% (Ciptarianto, 2022).

One of the factors affecting the low adoption of technology in remote areas is the lack of information and communication technology (ICT) infrastructure. The development of infrastructure such as base transceiver stations (BTS) in areas that have not yet been reached by the internet is an important step to address this issue (Irawan et al., 2024). In addition, low digital literacy also becomes a major obstacle. Communities in remote areas often lack education regarding the benefits and risks of using digital technology, such as e-wallets, which can enhance financial inclusion (Ciptarianto, 2022; Setiawan et al., 2021).

The government and e-wallet service providers play an important role in educating the public about the benefits and risks of adopting digital technology as a cashless payment method (Ciptarianto, 2022). By improving digital literacy and expanding ICT infrastructure, it is hoped that the digital divide can be reduced, allowing the entire Indonesian society to benefit from an inclusive and sustainable digital economy. These efforts will also support the growth of micro and small economies that heavily rely on technology-based innovations (Trinugroho et al., 2021).

Digital payment systems have become a key element in enhancing financial inclusion, especially in developing countries like Indonesia. By reducing dependence on physical branches, digital technology enables broader access to financial services for previously underserved populations (Sriyono et al., 2023). However, the main challenges faced are digital literacy and uneven infrastructure. In Indonesia, the low digital financial literacy among marginalized communities is the main barrier to optimally utilizing digital payment systems (Sriyono et al., 2023; Ciptarianto, 2022).

Research shows that digital payment services through fintech have made a positive contribution to financial inclusion in Indonesia. This service enables financial transactions to be easier, faster, and safer, and provides an affordable alternative compared to conventional payment methods (Sriyono et al., 2023; Pratama & Anas, 2024). However, to enhance financial inclusion through fintech, challenges such as financial literacy, access to technological infrastructure, and transaction security need to be addressed (Sriyono et al., 2023; Situmorang, 2022).

Moreover, the penetration of e-wallet applications in Indonesia faces its own challenges. Although smartphone and internet penetration is high, this does not always correlate with e-wallet usage. Factors such as infrastructure readiness and public perception of mobile transaction security influence e-wallet adoption (Ciptarianto, 2022). Therefore, education and promotion about the benefits and risks of using e-wallets need to be enhanced by Bank Indonesia and e-wallet service providers (Ciptarianto, 2022).

The results of this study are in line with previous findings by Santos and Kvangraven (2017), which highlighted the importance of digital infrastructure in improving financial access. However, unlike the aforementioned study which focused on developed countries, this research provides a unique perspective on the context of developing countries, particularly Indonesia. In this context, the adoption of financial technology (Fintech) in Indonesia has become a major driver of financial inclusion, especially for small and medium enterprises (SMEs) that face challenges in accessing formal financial services (Nugraha et al., 2022; Setiawan et al., 2021).

Another study by Irimia-Dieguez et al. (2023) also highlights that digital payment systems can be an effective tool for attracting the younger generation, but are less relevant for the elderly population, which requires a special approach such as community-based financial literacy training. This is in line with the finding that financial literacy plays an important role in enhancing the impact of digital platforms and peer-to-peer lending financial technology on access to capital and the growth of SMEs (Efendi et al., 2023).

Moreover, the digitalization of financial inclusion in Indonesia has proven to reduce income inequality by increasing access to financial services for poor groups who previously had no access (Murtama & Falianty, 2024). The Indonesian government is also striving to accelerate the improvement of information and communication technology (ICT) infrastructure to support the adoption of Fintech and expand access to financial services for the unbanked population (Setiawan et al., 2021).

The limited availability of internet networks in remote areas has become one of the main obstacles in the implementation of digital payment systems. In many developing countries, adequate technological infrastructure is not yet fully available, thus hindering the accessibility and adoption of digital payments (Putrevu & Mertzanis, 2023; Kulkarni & Taj, 2017). This is exacerbated by the dependence on a stable internet connection to conduct digital transactions, which is often unreliable in remote areas (Limpiada et al., 2024).

The inconsistency of regulations also poses a significant challenge. Inconsistent regulations can hinder collaboration between traditional financial institutions and fintech, which should complement each other in providing digital payment services (Abraham et al., 2023). In several countries, strict and diverse regulations make it difficult for service providers to meet different legal requirements, thereby hindering innovation and the adoption of new technologies (Klapper & Singer, 2017).

The low understanding of the public about how digital payment systems work is another challenge that must be addressed. Many people do not yet understand the benefits and usage of digital payment systems, which results in a low adoption rate (Khando et al., 2022; Rachman et al., 2024). Adequate education and training are necessary to improve the digital literacy of the community, so they can utilize this technology more effectively (Limpiada et al., 2024).

The digital infrastructure gap in Indonesia is a complex challenge, primarily caused by hard-to-reach geographical factors, such as remote areas. This is exacerbated by inflexible regulations, which often hinder innovation and the development of digital infrastructure. For example, overlapping regulations and complicated local licensing procedures hinder the development of ICT infrastructure in underdeveloped areas (Husna & Budiman, 2023).

According to Rogers' (2003) diffusion of innovation theory, the success of technology adoption heavily depends on the community's ability to understand and accept the innovation. In Indonesia, this diffusion process is hindered by the lack of effective educational programs. For example, although internet penetration has increased, the digital competence of the community has not kept pace with this increase, resulting in a significant digital divide (Jayanthi & Dinaseviani, 2022).

To address this gap, collaboration between the government and various stakeholders is necessary. The government can act as a facilitator, while the millennial generation can be the implementers in bridging this digital gap (Shesa et al., 2020). Additionally, regulatory reforms are needed to address barriers from the central to local levels, in order to ensure internet connectivity that is accessible to remote areas (Husna & Budiman, 2023).

This study shows that the infrastructure and digital literacy challenges faced by Indonesia are similar to those experienced by other developing countries, such as India and Kenya. In Kenya, the development of M-Pesa, a digital payment service, has successfully overcome infrastructure challenges by utilizing existing telecommunications networks (Radovanović et al., 2020). Meanwhile, in India, initiatives like the Digital India Campaign have improved digital literacy and the adoption of digital payment technologies. This program focuses on developing an inclusive digital literacy framework that encompasses various literacies such as health, financial, and digital security literacy, especially for vulnerable populations in rural areas (Nedungadi et al., 2018).

The experiences from Kenya and India can serve as valuable lessons for Indonesia. In Kenya, digital literacy programs have successfully built knowledge and health literacy, addressed social issues, and promoted development (Radovanović et al., 2020). In India, educational models using mobile technology for digital literacy in remote areas have shown great potential in improving digital skills and community well-being (Nedungadi et al., 2018).

Digital payment systems have played an important role in reducing the gap in financial inclusion by providing more affordable and accessible services. Research shows that digital payment services, such as e-wallets, have increased financial inclusion among Micro, Small, and Medium Enterprises (MSMEs) by up to 40% in the past five years (Saifurrahman & Kassim, 2023). This is in line with findings from other research that show financial technology (fintech) has a positive and significant impact on the financial inclusion of MSMEs. For example, the use of third-party payment systems and Peer-to-Peer (P2P) payment systems has become a popular choice among SMEs, indicating an increase in the use of digital financial services (Wati et al., 2020).

Additionally, research in DKI Jakarta shows that digital payment systems based on Islamic fintech also contribute positively to the financial literacy and inclusion of MSMEs, both directly and indirectly (Widiawati et al., 2023). In North Sumatra, financial technologies such as P2P Lending and cashless societies have also proven to have a significant positive effect on financial inclusion (Putri et al., 2022). On the other hand, research in Ambon shows that cashless payments and market aggregators have a significant impact on financial inclusion, although risk management and investment have not yet shown the same effect (Atarwaman et al., 2023).

Overall, the adoption of digital payment systems by MSMEs not only enhances financial inclusion but also contributes to the development of their businesses by improving financial performance and facilitating transactions (Annisa et al., 2024).

The theory of economic access justice highlights the important role of digital technology in improving access to financial services for marginalized groups by reducing cost and distance barriers. In Indonesia, the digitalization of financial inclusion has proven to reduce income inequality by making financial services more accessible to everyone, especially the poor who previously had no access (Murtama & Falianty, 2024). The use of digital payment technology aligns with the government's vision to accelerate the digital economy transformation and enhance financial inclusion. This is supported by the growth of digital technology that is changing the way financial transactions are conducted, although the level of financial inclusion in Indonesia is still low with 64% of the population lacking access to banking services (Kurniasari et al., 2021).

Digital technology innovations have opened up significant opportunities in improving financial access for low-income communities. Digital banking services, electronic payments, and alternative funding models help overcome traditional barriers such as geographical distance and administrative costs (Wanof, 2023). Moreover, the adoption of fintech in Indonesia has expanded access to formal financial services, especially for vulnerable groups such as the unbanked population, most of whom live in rural areas (Setiawan et al., 2021).

The research results show that financial digitalization has great potential to reduce economic disparities in rural areas. Research by Barat et al. (2024) supports this finding by showing that financial digitization can reduce the economic gap in rural areas. However, it is important to remember that a more inclusive approach is needed to effectively harness this technology, especially for low-income communities that do not have access to smartphones or stable internet connections.

Other research also shows that financial digitalization can play a role in rural revitalization. For example, in China, digital inclusive finance has been proven to help rural revitalization by narrowing the income gap between urban and rural areas (Xiong et al., 2022). Additionally, digital inclusive finance can boost consumption and economic growth in rural areas, which in turn can reduce poverty (Zhang et al., 2024).

However, challenges remain, especially in remote areas where digital infrastructure may be underdeveloped. Research shows that the positive effects of digital inclusive finance are more significant in the eastern and central coastal areas compared to the remote western regions (Xiong et al., 2022; Liu et al., 2023). Therefore, policies tailored to regional conditions are needed to maximize the benefits of financial digitalization (Xiong et al., 2022).

Theoretically, this research emphasizes the importance of an inclusive digital ecosystem in achieving financial inclusion. These findings support the concept that infrastructure and digital literacy are fundamental factors in technology adoption. This research emphasizes the importance of a multidimensional approach in addressing the gap in financial inclusion.

Practically, this finding highlights the need for government policies that support digital infrastructure investment in remote areas as well as community-based financial literacy programs focused on marginalized groups. The government and the private sector in Indonesia need to collaborate to accelerate infrastructure development and provide broader financial literacy training programs.

CONCLUSION

This research reveals that digital payment systems play a significant role in enhancing financial inclusion in Indonesia by expanding access to financial services, particularly for populations that were previously unreachable by traditional banking systems. The adoption of technologies such as QRIS, e-wallets, and mobile banking has proven to accelerate the transformation of the digital economy, especially among MSMEs. Findings show that although these initiatives have successfully promoted financial inclusion, challenges such as disparities in ICT infrastructure, low digital financial literacy, and security perceptions remain major obstacles.

The novelty of this research lies in the in-depth contextual analysis of the implementation of digital payment systems in Indonesia, including the driving and inhibiting factors, as well as comparisons with the experiences of other countries such as Kenya and India. This study also highlights the potential of digitalization in reducing economic disparities in remote areas and improving the welfare of marginalized communities.

However, this research has limitations in geographical coverage and a lack of longitudinal data to measure the long-term impact of digital payment technology adoption. Therefore, further research is recommended to explore the implementation of digital technology in remote areas with a community-based approach and to examine the effectiveness of digital literacy policies. Practically, these findings underscore the importance of collaboration between the government, fintech service providers, and local communities to address the digital divide, build inclusive ICT infrastructure, and enhance the financial literacy of the public.

REFERENCES

Raymond, I., Atta, A., Barrak, T., Lutfi, A., & Alrawad, M. (2024). Digital transformation: An empirical analysis of operational efficiency, customer experience, and competitive advantage in Jordanian Islamic banks. *Uncertain Supply Chain Management*.

He, D. (2021). Digitalization of cross-border payments. *China Economic Journal*, 14, 26 - 38.

Jayengsari, R., & Husaeni, U. (2020). MANAGEMENT OF FINANCIAL INCLUSION IN ISLAMIC BANKING: EVIDENCE FROM INDONESIA. 1, 21-35.

Ali, M., Sakti, M., & Devi, A. (2019). DEVELOPING ISLAMIC FINANCIAL INCLUSION INDEX FOR ISLAMIC BANKS IN INDONESIA: A CROSS-PROVINCE ANALYSIS. *Journal of Islamic Monetary Economics and Finance*.

Barat), N., Barat), S., Malaysia), N., Barat), J., & Barat), A. (2024). DEVELOPMENT AND CHALLENGES OF SHARIA BANKING IN INDONESIA IN THE GLOBAL FINANCIAL CONTEXT. *muamalatuna*.

Ali, H. (2023). Financial technology and its role in promoting digital services in Islamic banks. *Al Kut Journal of Economics and Administrative Sciences*.

Saifurrahman, A., & Kassim, S. (2023). Regulatory issues inhibiting the financial inclusion: a case study among Islamic banks and MSMEs in Indonesia. *Qualitative Research in Financial Markets*.

Ali, M., Sakti, M., & Devi, A. (2019). DEVELOPING ISLAMIC FINANCIAL INCLUSION INDEX FOR ISLAMIC BANKS IN INDONESIA: A CROSS-PROVINCE ANALYSIS. *Journal of Islamic Monetary Economics and Finance*.

Somogyvári, M. (2021). Financial Exclusion in the Digital Payment Space. *Financial and Economic Review*.

Barat), N., Barat), S., Malaysia), N., Barat), J., & Barat), A. (2024). DEVELOPMENT AND CHALLENGES OF SHARIA BANKING IN INDONESIA IN THE GLOBAL FINANCIAL CONTEXT. *muamalatuna.*

Hadi, S. (1993). *Metodologi research jilid I*: Vol. Cet. Ke-24. Andi offset.

Mardalis. (2006). *Metode Penelitian: Suatu pendekatan proposal* (Cet. 8). Bumi aksara.

Sriyono, S., Andjani, S., & Irawan, M. (2023). Evaluation of Fintech's Impact on Financial Inclusion in Indonesia: A Case Research on the Use of Digital Payment Services. *The Management Journal of Binaniaga*.

Ciptarianto, A. (2022). E-Wallet Application Penetration for Financial Inclusion in Indonesia. *International Journal of Current Science Research and Review*.

Kurniasari, F., Gunardi, A., Putri, F., & Firmansyah, A. (2021). The role of financial technology to increase financial inclusion in Indonesia. *International Journal of Data and Network Science*.

Soejachmoen, M. (2016). Financial Inclusion in Indonesia: Moving Towards a Digital Payment System. **, 131-186.

Pratama, A., & Anas, E. (2024). Financial Technology Adoption on Payment Systems and Financial Transactions Among Millenials in Indonesia. *Syntax Literate ; Jurnal Ilmiah Indonesia*.

Trinugroho, I., Pamungkas, P., Wiwoho, J., Damayanti, S., & Pramono, T. (2021). Adoption of digital technologies for micro and small business in Indonesia. *Finance Research Letters*.

Ciptarianto, A. (2022). E-Wallet Application Penetration for Financial Inclusion in Indonesia. *International Journal of Current Science Research and Review*.

Setiawan, B., Nugraha, D., Irawan, A., Nathan, R., & Zoltan, Z. (2021). User Innovativeness and Fintech Adoption in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*.

Irawan, A., Yendra, Y., Sutisna, E., Marihi, L., Mardhatillah, M., & Soesilo, D. (2024). DIGITAL INEQUALITY AND DIGITAL ENTREPRENEURSHIP IN INDONESIA. *Jurnal Aplikasi Manajemen*.

Sriyono, S., Andjani, S., & Irawan, M. (2023). Evaluation of Fintech's Impact on Financial Inclusion in Indonesia: A Case Research on the Use of Digital Payment Services. *The Management Journal of Binaniaga*.

Ciptarianto, A. (2022). E-Wallet Application Penetration for Financial Inclusion in Indonesia. *International Journal of Current Science Research and Review*.

Pratama, A., & Anas, E. (2024). Financial Technology Adoption on Payment Systems and Financial Transactions Among Millenials in Indonesia. *Syntax Literate ; Jurnal Ilmiah Indonesia*.

Pratama, A., & Anas, E. (2024). Financial Technology Adoption on Payment Systems and Financial Transactions Among Millenials in Indonesia. *Syntax Literate ; Jurnal Ilmiah Indonesia*.

Nugraha, D., Setiawan, B., Nathan, R., & Fekete-Farkas, M. (2022). Fintech Adoption Drivers for Innovation for SMEs in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*.

Setiawan, B., Nugraha, D., Irawan, A., Nathan, R., & Zoltan, Z. (2021). User Innovativeness and Fintech Adoption in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*.

Efendi, Z., Wati, L., & Kuraesin, A. (2023). The Role of Financial Literacy in Strengthening the Effect of Digital Platforms and Financial Technology Peer-to-Peer Lending on Capital Access and MSME Growth: An Empirical Study of MSMEs in DKI Jakarta. *International Journal of Marketing and Digital Creative*.

Murtama, A., & Falianty, T. (2024). The Role of Digitalization of Financial Inclusion in Reducing Income Gaps: an Empirical Study at 33 Provinces in Indonesia. *International Journal of Applied and Advanced Multidisciplinary Research*.

Putrevu, J., & Mertzanis, C. (2023). The adoption of digital payments in emerging economies: challenges and policy responses. *Digital Policy, Regulation and Governance*.

Khando, K., Islam, M., & Gao, S. (2022). The Emerging Technologies of Digital Payments and Associated Challenges: A Systematic Literature Review. *Future Internet*, 15, 21.

Limpiada, M., Ramos, R., Festijo, J., Rojo, J., Cruz, B., & Victorino, M. (2024). Cashless to classless: a case study of the role of technology and the state in E-payments at Lazada and Shopee in the Philippines. *Diversitas Journal*.

Klapper, L., & Singer, D. (2017). The Opportunities and Challenges of Digitizing Government-to-Person Payments. *World Bank Research Observer*, 32, 211-226.

Abraham, E., Ville, A., Ingalill, V., & Catrine, F. (2023). Exploring the Regulatory Demands and Evolution of Payment Security Regulations for Digital Payment Platforms in Sweden. *Law and Economy*.

Kulkarni, S., & Taj, A. (2017). Digital Payments: Challenges and Solutions.

Rachman, A., Julianti, N., & Arkoyah, S. (2024). Challenges and Opportunities for QRIS Implementation as a Digital Payment System in Indonesia. *EkBis: Jurnal Ekonomi dan Bisnis*.

Shesa, P., Wahyuni, R., & Prabawontika, A. (2020). BRIDGING THE PERSPECTIVES OF TRADITIONAL COMMUNITIES AND URBAN COMMUNITIES TOWARDS INDONESIA EMAS 2045.

Jayanthi, R., & Dinaseviani, A. (2022). Kesenjangan Digital dan Solusi yang Diterapkan di Indonesia Selama Pandemi COVID-19. *JURNAL IPTEKKOM Jurnal Ilmu Pengetahuan & Teknologi Informasi*.

Husna, A., & Budiman, L. (2023). Connecting the Unconnected: Lessons for Enhancing Fast and Reliable Internet from Southwest Sumba District.

Nedungadi, P., Menon, R., Gutjahr, G., Erickson, L., & Raman, R. (2018). Towards an inclusive digital literacy framework for digital India. *Education + Training*.

Radovanović, D., Holst, C., Belur, S., Srivastava, R., Houngbonon, G., Quentrec, E., Miliza, J., Winkler, A., & Noll, J. (2020). Digital Literacy Key Performance Indicators for Sustainable Development. *Social Inclusion*.

Widiawati, W., Nuraini, A., & Haryana, A. (2023). Analysis of The Effect Of Sharia Financial Technology (Fintech) on Increasing Literacy and Inclusion of Sharia Financial Inclusion of Msmes in Dki Jakarta. *Journal of Entrepreneur and Business*.

Wati, L., Isprihayadi, H., Nisa', K., Lutfi, M., & Suprapta, I. (2020). Financial Technology and Financial Inclusion on MSME:Mixed-Method Research Approach. *Moneter - Jurnal Akuntansi dan Keuangan*.

Putri, A., Tiovandy, V., Kawijaya, J., & Sandy, R. (2022). THE IMPACT OF FINANCIAL TECHNOLOGY ON THE DEVELOPMENT OF FINANCIAL INCLUSION ON MSME. *Vol 14 No 1 (2022): April Edition*.

Atarwaman, R., Gainau, P., & Muriany, W. (2023). PENGARUH FINANCIAL TECHNOLOGY TERHADAP INKLUSI KEUANGAN UMKM PENGGUNA QRIS. *Jurnal Akuntansi Kontemporer*.

Annisa, H., Nurbaiti, A., Sundari, W., & Sari, S. (2024). The Effect of Digital Payments on Micro, Small and Medium Enterprises (MSMEs): Literature Review. *Jurnal Disrupsi Bisnis*.

Murtama, A., & Falianty, T. (2024). The Role of Digitalization of Financial Inclusion in Reducing Income Gaps: an Empirical Study at 33 Provinces in Indonesia. *International Journal of Applied and Advanced Multidisciplinary Research*.

Kurniasari, F., Gunardi, A., Putri, F., & Firmansyah, A. (2021). The role of financial technology to increase financial inclusion in Indonesia. *International Journal of Data and Network Science*.

Wanof, M. (2023). Digital Technology Innovation in Improving Financial Access for Low-Income Communities. *Technology and Society Perspectives (TACIT)*.

Setiawan, B., Nugraha, D., Irawan, A., Nathan, R., & Zoltan, Z. (2021). User Innovativeness and Fintech Adoption in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*.

Xiong, M., Fan, J., Li, W., & Xian, B. (2022). Can China's digital inclusive finance help rural revitalization? A perspective based on rural economic development and income disparity. **, 10.

Xiong, M., Li, W., Teo, B., & Othman, J. (2022). Can China's Digital Inclusive Finance Alleviate Rural Poverty? An Empirical Analysis from the Perspective of Regional Economic Development and an Income Gap. *Sustainability*.

Liu, J., Puah, C., Arip, M., & Jong, M. (2023). Impacts of Digital Financial Inclusion on Urban–Rural Income Disparity: A Comparative Research of the Eastern and Western Regions in China. *Economies*.

Zhang, Z., Wang, J., & Sun, C. (2024). Digital financial inclusion, rural consumption and economic growth in China. *The American Journal of Economics and Sociology*.