

COMPARATIVE STUDY OF E-WALLET ADOPTION IN DEVELOPED AND DEVELOPING COUNTRIES: IMPLICATIONS FOR FINANCIAL INCLUSION

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Abstract

This study aims to compare the factors that influence the adoption of e-wallets in developed and developing countries and analyse their implications for financial inclusion. The results show that in developing countries, e-wallets play an important role in expanding access to formal finance, especially for the unbanked and micro-entrepreneurs, through ease of access, pro-digital regulations, and mobile technology penetration. Conversely, in developed countries, e-wallet adoption is more focused on improving transaction efficiency and convenience within an already established financial ecosystem, so that its impact on financial inclusion is relatively limited. This study confirms that e-wallet development strategies must be tailored to the social, economic, and regulatory context of each country in order to promote optimal and sustainable financial inclusion.

Keywords: Comparative Study, E-Wallet Adoption, Developed and Developing Countries, Implications for Financial Inclusion.

Introduction

The development of digital technology has brought changes to various aspects of life, including the financial sector. One of the most notable innovations in the last decade is the emergence of digital wallets or e-wallets as an alternative means of payment that is efficient, fast, and easily accessible (Richmond Fed Research, 2021). E-wallets not only offer ease of transaction, but also open up new opportunities for people to access formal financial services without having to go through complicated processes such as those found in conventional banking. This phenomenon has become increasingly relevant amid global efforts to improve financial inclusion, especially in countries with low banking penetration rates (Finextra, 2023).

In developing countries, the adoption of e-wallets has experienced rapid growth. Indonesia, for example, recorded more than 70% of online transactions conducted through digital wallets, with projections of continued user growth each year. This is driven by high smartphone penetration, easy internet access, and various incentives provided by service providers and the government. In addition, the COVID-19 pandemic has accelerated digital transformation in the financial sector, as people have become more accustomed to cashless transactions in order to maintain health and safety (Hinson & et al., 2022).

Conversely, in developed countries such as Japan and South Korea, despite highly capable digital infrastructure, e-wallet adoption is not as fast as in developing

countries. People in these countries still heavily rely on credit cards and conventional payment systems that have been integrated into the banking ecosystem for a long time. Security concerns, cultural preferences, and trust in traditional payment systems are some of the main reasons why e-wallets have not completely replaced credit cards in developed countries (Widodo & et al., 2022).

The differences in e-wallet adoption patterns between developed and developing countries raise important questions about the factors influencing people's decisions to use this new financial technology. Is ease of access and the need for inclusive financial services the main driver in developing countries? Or is it the security and convenience of traditional payment systems that make people in developed countries reluctant to switch to e-wallets?

These questions form an important basis for cross-country comparative research (Abdul Haeba Ramli, 2023). In addition to internal factors within society, government regulations and policies also play a major role in encouraging or hindering the adoption of e-wallets.

In Indonesia, for example, Bank Indonesia is actively developing a QRIS-based payment system that facilitates the integration of various digital wallet services. Meanwhile, in developed countries, regulations focus more on security and user data protection, which sometimes slows down innovation and the adoption of new technologies. These differing approaches have the potential to produce different impacts on financial inclusion in each country (Kraenzlin & et al., 2021).

Financial inclusion itself is a central issue in economic development, as it opens access to formal financial services, which can improve welfare, expand business opportunities, and reduce social inequality. E-wallets, with all their advantages, are considered an effective solution to reach groups of people who have not been served by formal financial institutions, especially in rural and remote areas.

However, the effectiveness of e-wallets in improving financial inclusion is greatly influenced by the social, economic, and technological context of each country (Rahmawati et al., 2025). Previous studies show that in developing countries, e-wallets can significantly increase financial inclusion. This is reflected in the increasing number of people who have access to digital payment services, even though they do not have bank accounts.

On the other hand, in developed countries, e-wallets are more commonly used as a complement to existing payment systems, resulting in a smaller impact on financial inclusion compared to developing countries. This difference highlights the need for in-depth comparative analysis to understand the dynamics of e-wallet adoption across different national contexts (Chaveesuk & et al., 2021).

In addition to economic and technological aspects, cultural factors cannot be ignored in studies of e-wallet adoption. In some developed countries, a cashless payment culture has been established for a long time through the use of credit and debit

cards, so people tend to be loyal to familiar systems. Meanwhile, in developing countries, limited access to banking has encouraged people to more quickly accept innovations such as e-wallets.

These factors add complexity to understanding the process of cross-border financial technology adoption (Lim et al., 2021). This research is highly relevant in the era of global digitalisation, where geographical boundaries are becoming increasingly blurred and technological innovations can quickly spread to various parts of the world.

By comparing the experiences of developed and developing countries in adopting e-wallets, this study aims to provide new insights into effective strategies for promoting financial inclusion through the digitalisation of financial services. The findings of this study can also serve as a reference for policymakers, industry players, and academics in designing more targeted programmes and policies (Chaveesuk et al., 2020).

Finally, this comparative study aims not only to identify differences and similarities in e-wallet adoption but also to analyse their practical implications for financial inclusion. With a holistic approach, this study is expected to make a tangible contribution to efforts to expand inclusive and sustainable financial access in the digital age, both in developed and developing countries.

Research Method

This study uses a comparative method with a mixed quantitative and qualitative approach to compare the factors that influence the adoption of e-wallets in developed and developing countries and their implications for financial inclusion. Primary data was collected through questionnaire surveys of e-wallet users in several developed and developing countries, as well as in-depth interviews with regulators and digital financial industry players (Paré et al., 2015). Secondary data were obtained from official reports of financial institutions, international publications, and previous studies related to the adoption of financial technology. Data analysis was conducted using descriptive statistical tests and regression to identify significant differences between countries, as well as thematic analysis to explore the influence of social, economic, and policy factors on the level of adoption and financial inclusion (Machi & McEvoy, 2016).

Results and Discussion

Differences in E-Wallet Adoption Factors Between Developed and Developing Countries

The differences in e-wallet adoption factors between developed and developing countries can be explained by the interrelated dynamics of infrastructure, regulation, culture, and economic needs. In developing countries such as Indonesia, e-wallet adoption is driven by a mobile-first strategy with smartphone penetration reaching 68% of the population, enabling financial access through simple applications such as QRIS

scanning. This contrasts with developed countries like Japan or Belgium, where traditional financial systems (credit/debit cards) are already well-established, so e-wallets focus on premium features like biometrics and cross-border transactions (Lestari & et al., 2021).

Regulation is the key differentiator: developing countries actively promote adoption through pro-digital policies such as non-cash tax incentives and QRIS development, while developed countries tend to restrict fintech innovation with strict regulations related to data security and PCI-DSS standards. These differing approaches impact adoption rates – Indonesia saw a 44% increase in e-wallet users during the pandemic, while Japan only saw a 15% increase (Arora et al., 2023).

Socio-cultural factors also play a significant role. In developing countries, 44% of Indonesian users adopted e-wallets due to social influence (recommendations from family/friends), while in developed countries, loyalty to traditional payment systems stems from trust in established financial institutions. Low financial literacy in developing countries (35%) is offset by educational features in apps, unlike developed countries that rely on formal education systems for financial understanding (Rahman & et al., 2022).

From an economic perspective, e-wallets in developing countries provide a solution for Indonesia's 66 million unbanked population, increasing financial inclusion by 8.65% post-adoption. Conversely, in developed countries with 95% of the population banked, e-wallets are more commonly used for high-value transactions and investment service integration. This difference underscores the role of e-wallets as a *game-changer* for financial inclusion in developing countries versus a complementary function in developed countries (Saputri & Pratama, 2025).

The COVID-19 pandemic widened the adoption gap: e-commerce transactions in Southeast Asia surged by 62% with digital payments dominating, while developed countries continued to rely on credit cards, which are perceived as safer. This differing response reflects varying levels of dependence on existing systems versus adaptation to disruptive technology (Singh & et al., 2022).

Transaction security aspects reveal differing priorities – users in developing countries are more tolerant of risk for the sake of ease of access (*perceived ease of use* influences 87.9%), while 78% of Japanese users prioritise end-to-end encryption and SMS-based OTP integration. These differing perceptions stem from the availability of alternatives and digital literacy levels (Tun, 2020).

The informal sector plays a crucial role in developing countries, with 60% of Indonesia's e-wallet transactions originating from online ride-hailing services and small shops. Cashback and discount features are the main attractions (utilised by 89% of users), unlike in developed countries, which focus on modern retail and subscription-based services (Nguyen & Huynh, 2022).

Policy implications from these differences require different strategies: developing countries need to expand rural internet infrastructure and fintech-SME

collaboration, while developed countries should optimise interoperability between platforms and biometric innovations. Both agree that integrating technology and financial policies is key to accelerating inclusion (UNDP, 2024).

From a technology adoption theory perspective, perceived usefulness and ease of use are dominant in developing countries, while developed countries are more influenced by performance expectancy and habits. These findings confirm that socio-economic context determines critical variables in the application of the TAM/UTAUT model (Singh & et al., 2022).

The government's role as a facilitator is evident in developing countries through community-based education programmes and partnerships with e-wallet providers. In developed countries, regulations focus more on balancing innovation and financial system stability. This approach reflects differing development priorities between expanding access and optimising existing systems (Aad & Young, 2023).

The long-term impacts of e-wallet adoption also vary: in developing countries, this technology opens formal financial access for SMEs and rural communities, while in developed countries, e-wallets play a greater role in corporate transaction efficiency and investment. These two patterns complement each other in the global financial digitalisation landscape (Widiyanto, 2021).

This comparative study reveals that the success of e-wallet adoption does not only depend on technological advancement but also on the alignment between policies, culture, and real community needs. Developing countries show that infrastructure limitations can be overcome with mobile-based innovations, while developed countries prove that the integration of existing systems is the key to sustainability (Lee & Kim, 2021).

The challenge ahead lies in the ability of developing countries to maintain the momentum of inclusion through inclusive financial literacy, while developed countries need to overcome resistance to changes in established payment systems. Cross-country collaboration in research and policy exchange can accelerate the achievement of global financial inclusion goals (Kongaut & Lis, 2017).

These findings underscore that e-wallets are not merely transaction tools but strategic instruments for reducing economic disparities—a valuable lesson from developing countries for the world in democratising access to finance.

Implications of Differences Between Developed and Developing Countries in Adopting Financial Inclusion

The difference in e-wallet adoption between developed and developing countries creates complex implications for financial inclusion, reflecting structural gaps as well as opportunities for global financial system transformation. In developing countries such as Indonesia, e-wallets have become a crucial instrument for reaching 66 million unbanked people through QRIS transactions and integration with MSMEs,

increasing financial inclusion by 8.65% in one year. Meanwhile, in developed countries like Japan, e-wallets primarily serve as a complement to an already mature banking system, with limited impact on expanding financial access since 95% of the population is already banked (Lee & Kim, 2021).

Regulation is the key differentiator: pro-digital policies in Indonesia, through non-cash tax incentives and QRIS standards, have accelerated adoption, while strict regulations in Europe related to data security (PCI-DSS) have hindered fintech innovation. These differences are reflected in the growth of e-wallet users in Southeast Asia, which reached 44% during the pandemic, while developed countries only recorded 15%. The flexibility of digital financial systems in developing countries has proven to be more adaptive in responding to crises, with e-commerce transactions surging 62% through the dominance of digital payments (Widiyanto, 2021).

Cultural factors also shape adoption patterns: 44% of Indonesian users adopted e-wallets due to social influence, while in developed countries, loyalty to credit cards stems from trust in established financial institutions. Low financial literacy in developing countries (35%) is offset by educational features within apps, creating informal 'digital financial schools' for rural communities. Conversely, developed countries rely on formal education systems to build financial understanding (Aad & Young, 2023).

From an economic perspective, e-wallets in developing countries empower the informal sector – 60% of transactions in Indonesia come from online motorcycle taxis and traditional food stalls – while in developed countries, this technology is mostly used by corporations for high-value transactions. These differences highlight a duality of function: a tool for financial democratisation vs. optimisation of existing systems. The challenges of digital exclusion also differ: 22% of Indonesia's rural population lacks internet access, while developed countries face resistance from older generations to changes in payment systems (Singh & et al., 2022).

Technological innovations such as blockchain are utilised differently: in Indonesia for credit assessment based on e-wallet transaction history, while in Japan for investment portfolio optimisation. CBDC policies also have different motivations – developing countries see it as a tool to strengthen payment systems, while developed countries focus on interoperability with private digital currencies (UNDP, 2024).

Environmental impacts also vary: reducing cash usage in Indonesia has cut the cost of printing physical rupiah by 15%, while in developed countries, environmental benefits primarily stem from the energy efficiency of digital systems. Cross-border policy collaboration is key, where lessons from Indonesia's QRIS success can be adapted for inclusive fintech development in Africa, while Japan's experience in biometric integration could serve as a reference for enhancing global transaction security (Nguyen & Huynh, 2022).

Long-term implications point to a divergence in financial systems: developing countries have the potential to 'leapfrog' traditional development stages through mass

digitalisation, while developed countries must revitalise existing infrastructure to avoid being left behind. However, the risk of global disparities remains if there are no fair knowledge transfer and funding mechanisms (Tun, 2020).

The key to success lies in the ability of developing countries to maintain the momentum of inclusion through community-based financial literacy, while developed countries need to design incentives for the older generation to transition to digital systems. Synergy between fintech and traditional banking – such as the partnership between Bank Indonesia and Gojek – is an important model to replicate, while developed countries need to address the competitive friction between fintech and conventional banks (Singh & et al., 2022).

Thus, the future of global financial inclusion will be largely determined by how developed and developing countries respond to three key challenges: (1) aligning regulations with the pace of innovation, (2) ensuring digital infrastructure reaches marginalised groups, and (3) creating a value system that integrates economic efficiency with social justice. In this context, e-wallets are not merely transaction tools but catalysts for systemic transformation that redefine financial access as a basic right of modern society.

Conclusion

A comparative study of e-wallet adoption in developed and developing countries shows that differences in digital infrastructure, financial literacy, and government policies greatly influence the role of e-wallets in promoting financial inclusion. In developing countries such as Indonesia, e-wallets have proven to be an effective solution for expanding access to formal financial services, especially for the unbanked and micro-entrepreneurs who were previously difficult to reach by conventional banks.

Ease of access, transaction efficiency, and pro-digital regulatory support have increased public participation in the digital financial system, which in turn has had a positive impact on economic growth and reduced financial access gaps. Conversely, in developed countries, e-wallet adoption is more focused on improving transaction efficiency and convenience in an already established financial ecosystem. Since most people already have access to banking services, e-wallets in developed countries tend to play a complementary role rather than being the main driver of financial inclusion. The impact on financial inclusion is less significant, and innovation is more focused on security, system integration, and a better user experience. Overall, this study confirms that e-wallets have great potential to accelerate financial inclusion in developing countries by expanding access and simplifying financial services.

However, challenges such as infrastructure gaps, low financial literacy, and consumer protection must still be addressed to ensure that the benefits of financial digitalisation are felt evenly and sustainably. In developed countries, the main focus should be on innovations that maintain security and convenience, while in developing

countries, collaborative strategies between the government, fintech, and financial institutions are crucial to optimally promote financial inclusion.

References

- Aad, M., & Young, A. (2023). Cashless society, e-wallets and continuous adoption: A study in Malaysia. [Journal Name]. <https://digilib.uin-suka.ac.id/id/eprint/51344/1/Cashless%20society,%20e-wallets%20and%20continuous%20adoption.pdf>
- Abdul Haeba Ramli, dkk. (2023). Peran Fintech Dalam Meningkatkan Akses Keuangan di Era Digital. *Jurnal Gemilang*. <https://jurnal-stiepari.ac.id/index.php/gemilang/article/download/1573/1502/5272> ER
- Arora, S., Kaur, M., & Jain, E. (2023). E-wallet Adoption amidst COVID Era: An Empirical Intervention with Extended UTAUT2. *Asian Journal of Business Research*, 13(1). <https://doi.org/10.14707/ajbr.230145>
- Chaveesuk, S. & et al. (2020). E-wallet Adoption in Thailand: An Extended UTAUT2 Approach. *Journal of Asian Finance, Economics and Business*. <https://doi.org/10.13106/jafeb.2020.vol7.no11.789>
- Chaveesuk, S. & et al. (2021). Factors Affecting the Adoption of E-wallets: A Comparative Study between Developed and Developing Countries. *International Journal of Information Management*. <https://doi.org/10.1016/j.ijinfomgt.2021.102456>
- Finextra. (2023). The role of digital wallets in promoting financial inclusion. <https://www.finextra.com/blogposting/24912/the-role-of-digital-wallets-in-promoting-financial-inclusion>
- Hinson, R. & et al. (2022). The Relationship between Digital Wallet Adoption and Usage to Financial Inclusion. Proceedings of the International Conference on Industrial Engineering and Operations Management. <https://ieomsociety.org/proceedings/2022nigeria/203.pdf>
- Kongaut, C., & Lis, P. (2017). A comparative analysis of successful mobile payment adoption in developed and developing countries. *Econstor Discussion Papers*. <https://www.econstor.eu/bitstream/10419/169474/1/Kongaut-Lis.pdf> ER
- Kraenzlin, S. & et al. (2021). Mobile Payments and Financial Inclusion: A Cross-Country Study. *Journal of Banking & Finance*. <https://doi.org/10.1016/j.jbankfin.2021.106234>
- Lee, J., & Kim, S. (2021). Adoption of Mobile Payment Systems in Developed and Developing Countries: A Comparative Study. *Telematics and Informatics*. <https://doi.org/10.1016/j.tele.2021.101567>
- Lestari, P. & et al. (2021). E-wallet Adoption and Financial Literacy: Evidence from Indonesia. *Jurnal Ekonomi Dan Keuangan*, 24(2). <https://doi.org/10.20885/jeki.vol24.iss2.art5>
- Lim, W. M. & et al. (2021). Exploring the Role of Trust and Risk in E-wallet Adoption in Malaysia and Singapore. *Journal of Consumer Behaviour*. <https://doi.org/10.1002/cb.1893>
- Machi, L. A., & McEvoy, B. T. (2016). *The Literature Review: Six Steps to Success*. Corwin Press.
- Nguyen, T., & Huynh, T. (2022). Digital Wallet Adoption and Financial Inclusion in Southeast Asia. *Asian Economic Papers*. https://doi.org/10.1162/asep_a_00810

- Paré, G., Trudel, M. C., Jaana, M., & Kitsiou, S. (2015). Synthesizing Information Systems Knowledge: A Typology of Literature Reviews. *Information & Management*, 183–199.
- Rahman, M. & et al. (2022). Drivers and Barriers of E-wallet Adoption: A Comparative Study between Developed and Developing Countries. *Information Systems Frontiers*. <https://doi.org/10.1007/s10796-021-10112-3>
- Rahmawati, R. & et al. (2025). Investigating E-Wallet Adoption Among Gen Z Students: Determinants of Behavioral Intention and Actual Use. *Jurnal Ekonomi Dan Digital*, 7(1). <https://doi.org/10.20414/jed.v7i1.13106>
- Richmond Fed Research. (2021). Why Is the U.S. Lagging in Adopting Mobile Payments? *Economic Brief*. https://www.richmondfed.org/publications/research/economic_brief/2021/eb_21-21
- Saputri, A., & Pratama, D. (2025). Digital wallets: A study on the influence of consumer perceptions and impulsive spending behaviour. *Frontiers in Human Dynamics*. <https://doi.org/10.3389/fhumd.2025.1545141>
- Singh, A. & et al. (2022). Determinants of E-wallet Adoption: Evidence from Emerging and Developed Markets. *Journal of Retailing and Consumer Services*. <https://doi.org/10.1016/j.jretconser.2022.103321>
- Tun, Z. M. (2020). Digital Wallet Adoption and the Future of Cashless Economy in Africa. *African Journal of Economic Review*. <https://doi.org/10.4314/ajer.v8i1.7>
- UNDP. (2024). *Digital Mobile Wallet Usage as a Catalyst for Financial Inclusion in Cameroon*. United Nations Development Programme.
- Widiyanto, A. (2021). Analisis Faktor-Faktor yang Mempengaruhi Minat Penggunaan E-Wallet di Indonesia. *Jurnal Ekonomi Digital Indonesia*.
- Widodo, A. & et al. (2022). The Impact of E-wallet Adoption on Financial Inclusion in Indonesia. *Jurnal Keuangan Dan Perbankan*, 26(3). <https://doi.org/10.26905/jkdp.v26i3.6939>