IJAFIBS, 13 (4) (2026) pp. 632-640

Published by: TRIGIN Publisher

International Journal of Applied Finance and Business Studies

Journal homepage: www.ijafibs.pelnus.ac.id

The effect of technical skills and digital literacy on transaction efficiency in the use of the shopeepay e-wallet

Aprilda Yanti[1], Watikah Sururi[2], Sheila Galuh Syafira Siregar[3], Syarifah Fahira Sulaiman[4]

[1,2,3,4]Fakultas Ekonomi dan Bisnis, Universitas Satya Terra Bhinneka, Indonesia

ARTICLE INFO

Article history:

Received Dec 31, 2025
Revised Jan 7, 2026
Accepted Jan 21, 2026

Keywords:

Digital Literacy;
E-Wallet;
ShopeePay;
Technical Skills;
Transaction Efficiency.
.

ABSTRACT

The development of digital technology has driven a significant increase in the use of cashless payment systems, one of which is the ShopeePay e-wallet. Transaction efficiency has become a critical factor in evaluating the success of e-wallet adoption, as it is influenced not only by the availability of advanced technology but also by users' readiness and capabilities. This study aims to analyze the effects of technical skills and digital literacy on transaction efficiency in the use of the ShopeePay e-wallet. This research employs a quantitative approach with a causal research design and is analyzed using Partial Least Squares–Structural Equation Modeling (PLS-SEM) through the SmartPLS software. The data were collected from active ShopeePay users who met the research criteria. The results indicate that technical skills have a positive and significant effect on transaction efficiency, with a path coefficient of 0.734 and a T-statistics value of 11.838. In addition, digital literacy is also proven to have a positive and significant effect on transaction efficiency, with a path coefficient of 0.233 and a T-statistics value of 3.555. These findings demonstrate that technical skills exert a more dominant influence than digital literacy in enhancing the transaction efficiency of ShopeePay. Therefore, improving the efficiency of e-wallet transactions depends not only on the sophistication of the payment system but also on the enhancement of users' technical skills and digital literacy. This study is expected to contribute to the development of user education strategies and the improvement of e-wallet service quality in Indonesia.

Corresponding Author:

Aprilda Yanti,
Department of Entrepreneurship,
Universitas Satya Terra Bhinneka,
Jl. Sunggal Gg. Bakul, Sunggal, Kec. Medan Sunggal, Medan, 20128, Indonesia
Email: aprildayanti@satyaterrabhinneka.ac.id

1. INTRODUCTION

The digital revolution has fundamentally transformed the way people conduct financial transactions. One of the major innovations in modern payment systems is the e-wallet (digital wallet), which enables users to perform payment transactions quickly, conveniently, and without the need for physical cash. In Indonesia, ShopeePay has emerged as one of the most popular e-wallets due to its interoperability with the Shopee application, as well as its attractive promotional features and cashback programs that appeal to consumers.

However, the level of adoption and effectiveness of e-wallet usage is not determined solely by the availability of technology, but also by users' technical skills and digital literacy in optimizing the functions of the e-wallet. Technical skills refer to an individual's ability to effectively utilize digital devices and applications. According to Prasetyo & Sutopo (2021), technical skills encompass basic proficiency in using software, understanding application interfaces, and the ability to resolve simple

technical problems. In the context of digital transactions, technical skills are a crucial factor in determining the extent to which users can utilize e-wallet application features quickly and accurately. Oktaviani (2022) argues that insufficient technical skills may lead to transaction errors, slow application navigation, and even transaction failures. Conversely, users with strong technical skills are able to complete transactions more efficiently, as they understand menu functions, security features, verification processes, and payment mechanisms available in the ShopeePay application. Therefore, technical skills are presumed to make a significant contribution to transaction efficiency in digital payment systems.

Meanwhile, Sholikah & Wibowo (2025) define digital literacy as users' understanding of various digital concepts, including transaction security, application feature usage, and the management of financial data and information in the digital environment. Digital literacy is defined as an individual's ability to access, understand, evaluate, and effectively use digital information (Hapsari & Wibowo, 2023). According to Wahyuni (2022), users with a high level of digital literacy are able to comprehend the stages of digital transactions, recognize cybercrime risks, carefully read transaction notifications, and utilize additional features such as vouchers, cashback, and QRIS. Numerous studies have demonstrated that digital literacy plays a critical role in the adoption of modern financial technologies. For instance, Aldoghan & Mirzaliev (2025) found that digital literacy enhances consumer trust in fintech systems and increases the intention to use e-wallets or e-payment services, as users are better able to understand the risks, security aspects, and benefits of the technology.

In the context of e-wallet usage, digital literacy is essential to ensure that users can conduct transactions efficiently and securely. Users with higher levels of digital literacy tend to understand how to optimize application features, such as security settings, promotional vouchers, and various transaction methods, enabling them to perform transactions quickly and accurately. In addition, Putri & Friyatmi (2023) found that digital literacy has a positive influence on e-wallet usage decisions among young users, indicating that digital literacy enhances opportunities for the broader adoption of digital payment technologies.

According to Ramadhan (2020), transaction efficiency can be assessed based on transaction completion time, the minimization of technical obstacles, and the accuracy of the steps performed by users. Lestari & Mahardika (2021) argue that transaction efficiency is influenced by internal user factors, such as technical skills and digital literacy, as well as external factors, including internet network quality and application system performance. Furthermore, a study by Rengganis & Lestari (2024) indicates that the effectiveness and efficiency of e-wallets in managing transactions and financial activities can enhance users' financial experiences and management, provided that users are technically prepared and have an adequate understanding of the technology used. Transaction efficiency thus becomes a key indicator in evaluating the success of e-wallet adoption, including ShopeePay. Efficiency encompasses aspects such as transaction processing speed, user satisfaction with the transaction process, and the minimization of technical issues during transactions. As noted by Rahmatullah (2025), e-wallets are not only expected to function as alternative payment methods but must also deliver a superior transaction experience compared to traditional payment methods such as cash or credit/debit cards.

In addition to its theoretical relevance, this study provides substantial practical contributions to electronic wallet service providers, particularly ShopeePay, by demonstrating that users' technical skills constitute the most dominant factor in enhancing transaction efficiency. These findings indicate that the success of e-wallet services is not solely determined by system sophistication or technological security, but is highly dependent on users' ability to operate application features effectively and efficiently. Accordingly, e-wallet providers are encouraged to shift their strategic focus from technology development alone toward strengthening users' technical skills through intuitive interface design, practice-based transaction guidance, and in-application operational education programs. This practical contribution is directly applicable, as it offers empirical evidence that can serve as a foundation for service providers in designing more effective interventions to improve transaction efficiency, such as simplifying payment flows, providing interactive tutorials, and segmenting users based on their levels of technical proficiency. From an academic perspective, this study addresses a specific research gap within the Indonesian e-wallet

literature. Most prior studies have predominantly emphasized usage intention, adoption intention, or usage decisions, while transaction efficiency as a tangible operational outcome has received relatively limited causal examination. This research explicitly positions transaction efficiency as the primary dependent variable, thereby moving beyond the assessment of user perceptions or intentions to evaluate the actual performance of e-wallet usage. Furthermore, previous studies have tended to treat digital literacy as a single, unified construct, without distinguishing the role of technical skills as an independent operational capability. This study fills that gap by empirically differentiating technical skills from digital literacy and demonstrating that technical skills exert a significantly more dominant influence on ShopeePay transaction efficiency. The Indonesian ShopeePay context further contributes novelty to this study due to its integration with an e-commerce platform, the presence of complex promotional features, and transaction processes that are relatively more extensive than those of other e-wallets. Consequently, this research does not merely replicate prior e-wallet studies, but rather offers contextualized insights that are highly relevant to the characteristics of ShopeePay users in Indonesia.

Accordingly, this study focuses on analyzing the effects of technical skills and digital literacy on transaction efficiency in the use of ShopeePay. This research is important because it helps explain the extent to which digital skills and technological understanding influence digital transaction performance in the context of e-wallet usage. Moreover, the findings are expected to provide practical recommendations for service providers in improving user experience and developing digital literacy education strategies for the broader community.

2. RESEARCH METHOD

This study employs a quantitative approach with a causal research design. Causal research aims to analyze cause-and-effect relationships between independent and dependent variables. In this study, the independent variables consist of Technical Skills and Digital Literacy, while the dependent variable is Transaction Efficiency in the use of the ShopeePay e-wallet. The quantitative approach was selected because it enables researchers to objectively measure the influence among variables through statistical analysis, particularly for testing previously formulated hypotheses (Sugiyono, 2022).

The research location is focused on Medan City, considering the high level of digital payment usage and the diversity of ShopeePay users in the area. The population of this study comprises all active ShopeePay e-wallet users who reside in or conduct transaction activities in Medan City.

The sampling technique used is purposive sampling, which involves selecting respondents based on specific criteria, including: (1) being an active ShopeePay user, (2) having conducted transactions using ShopeePay at least once within the past three months, and (3) residing in or being active in Medan City. In determining the sample size for this study, the researcher followed the guideline proposed by Hair et al. (2021), which recommends a minimum of five respondents for each question. The research questionnaire consisted of a total of 18 items. Therefore, the sample size used in this study was 90 respondents (18 items × 5 respondents).

The data used in this study consist of primary and secondary data. Primary data were collected through the distribution of questionnaires using Google Forms, employing a 5-point Likert scale to measure technical skills, digital literacy, and transaction efficiency. The questionnaire was designed based on variable indicators derived from established theories and previous studies. The theoretical framework and conceptual foundations used in the development of each questionnaire indicator for the variables of Technical Skills, Digital Literacy, and Transaction Efficiency are as follows. First, technical skills refer to an individual's ability to operate and utilize technology to accomplish tasks effectively. This concept is grounded in digital skills theory, which emphasizes operational mastery of technology as the fundamental basis for effective use of digital systems. Accordingly, the indicators of technical skills were developed based on key dimensions, including technological operation, utilization of system features, completion of technical tasks, technical problem-solving, technological adaptability, and technical accuracy. Second, digital literacy is defined as an individual's ability to access, understand, evaluate, and use digital information effectively and responsibly. This concept is derived from digital literacy theory, which encompasses

informational, communicative, security-related, and problem-solving aspects. The indicators of digital literacy include information literacy, digital communication, digital content management, digital security, digital problem-solving, and adaptation to digital technologies. Third, transaction efficiency describes the ability of both the system and its users to complete transactions in a fast, easy, accurate, and cost-efficient manner. Efficiency represents a key performance indicator in digital payment systems. The indicators of transaction efficiency include transaction speed, transaction ease, transaction accuracy, transaction cost, system reliability, and transaction productivity. Secondary data were obtained from books, scientific journals, fintech research reports, and other relevant literature sources related to the research topic.

Data analysis in this study was conducted using Partial Least Squares–Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS software. The PLS-SEM method was chosen because it is capable of simultaneously analyzing relationships among latent variables and is suitable for predictive research models with relatively small sample sizes (Hair et al., 2021). The data analysis procedure involved several stages: (1) evaluation of the measurement model (outer model) to assess the validity and reliability of the instruments, (2) evaluation of the structural model (inner model) to examine the relationships among variables, and (3) hypothesis testing using T-statistics and P-values. Hypothesis testing was performed based on the bootstrapping results of the PLS-SEM model with a significance level of 5% (α = 0.05).

3. RESULTS AND DISCUSSIONS

Data analysis in this study was conducted using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) method with the assistance of SmartPLS software. The research model consists of two independent variables, namely Technical Skills and Digital Literacy, and one dependent variable, namely Transaction Efficiency in the use of the ShopeePay e-wallet. The analysis results include the evaluation of the structural model (inner model), which aims to determine the magnitude of the influence among variables as well as the level of significance of the relationships established.

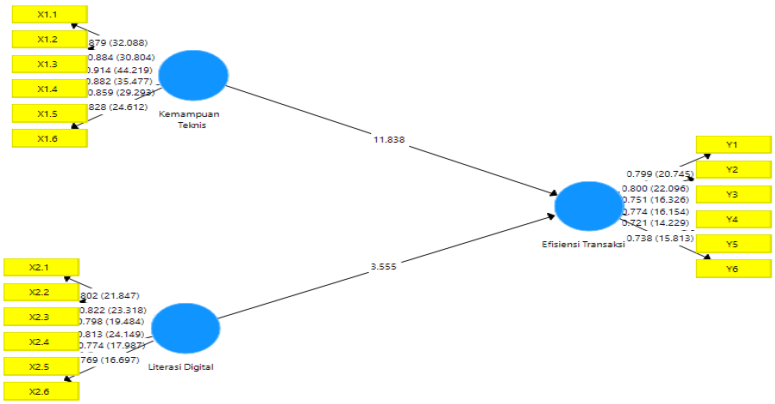

Figure1. Bootstrapping Test Results

Tabel 1. Path coeficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Technical Skills -> Transaction Efficiency	0,734	0,735	0,062	11,838	0,000
Digital Literacy -> Transaction Efficiency	0,233	0,233	0,066	3,555	0,000

The results of the direct effect analysis using the Partial Least Squares–Structural Equation Modeling (PLS-SEM) approach indicate that all hypothesized relationships in this study exert positive and statistically significant effects on transaction efficiency. As illustrated in the structural

model and summarized in the results table, both Technical Skills and Digital Literacy significantly influence Transaction Efficiency in the use of the ShopeePay e-wallet.

Specifically, the relationship between Technical Skills and Transaction Efficiency demonstrates a path coefficient of (R^2) 0.734, with a T-statistic of 11.838 and a P-value of 0.000 ($p < 0.05$). The R^2 value indicates that 74.3% of the variance in ShopeePay transaction efficiency can be explained by the two independent variables included in this research model, namely Technical Skills and Digital Literacy, while the remaining 25.7% is influenced by other factors outside the scope of the model, such as internet network quality, application system stability, user experience, and other situational factors.These results indicate a strong and statistically significant positive effect, suggesting that higher levels of users' technical skills in operating the ShopeePay application lead to greater transaction efficiency in terms of speed, ease, and accuracy. These findings indicate that users' technical skills constitute a primary determinant of success in digital transactions, thereby positioning the enhancement of users' operational capabilities as a strategic aspect in optimizing the performance of ShopeePay's e-wallet services.

Meanwhile, the relationship between Digital Literacy and Transaction Efficiency also shows a positive and statistically significant effect, with a path coefficient of 0.233, a T-statistic of 3.555, and a P-value of 0.000 ($p < 0.05$). This finding suggests that digital literacy contributes meaningfully to transaction efficiency, although its effect size is more moderate compared to technical skills. Users' understanding of digital aspects, such as transaction security and digital information management, enables them to complete transactions more effectively and with fewer errors. Accordingly, ShopeePay transaction efficiency is determined not only by users' operational skills but also by their level of understanding of the digital environment and the associated transactional risks.

Overall, the findings of this study confirm that technical skills are the most dominant factor in enhancing transaction efficiency when using the ShopeePay e-wallet, while digital literacy serves as a significant supporting factor. These results emphasize that the success and efficiency of e-wallet usage depend not only on technological sophistication but also on users' technical competence and digital literacy readiness.

The Effect of Technical Skills on Transaction Efficiency

Based on the hypothesis testing results, the path coefficient (original sample) is 0.734, indicating that technical skills have a strong and positive effect on transaction efficiency. The T-statistics value of 11.838, which exceeds the critical threshold of 1.662, along with a P-value of 0.000 (< 0.05), confirms that this effect is statistically significant. These findings indicate that the higher the users' technical skills in operating the ShopeePay application, the greater the level of transaction efficiency perceived, particularly in terms of speed, ease, and accuracy of transactions. Users' ability to understand application features, complete transactions without obstacles, and resolve technical issues effectively plays a crucial role in enhancing the efficiency of e-wallet usage. The implications of these findings suggest that simplifying transaction flows, reducing the number of payment steps, and employing intuitive icons and navigation in ShopeePay's UI/UX design have the potential to directly enhance transaction efficiency and reduce user error rates.

This finding is consistent with prior studies emphasizing that digital literacy or technological understanding serves as a fundamental foundation for users to comprehend e-wallet features, security systems, and transaction mechanisms, thereby enabling optimal interaction with digital payment technologies. Raisah & Rahagi (2024) found that technical skills in the form of digital literacy increase users' trust in fintech services, which subsequently promotes e-wallet adoption through a better understanding of digital security practices, including protection mechanisms such as two-factor authentication. Similarly, Lutfi (2024) demonstrated that digital capability encompassing technical skills such as mastery of application features and the use of digital technologies has a positive and significant effect on students' tendencies to use digital payment systems (e-wallets). This suggests that higher technical skills are associated with greater intensity of e-wallet usage in daily transaction activities.

From a technology acceptance perspective, Molwen et al. (2025) revealed that perceived ease of use and perceived usefulness key indicators of users' technical understanding of e-wallet technology positively influence the actual use of the DANA e-wallet among students. This finding

further reinforces the relationship between users' level of technical understanding and the intensity of digital payment application usage. In addition, Darmawan & Wenerda (2025) emphasized that digital literacy constitutes an essential foundation for students in utilizing e-wallets as digital transaction tools. With adequate digital technical skills, users are more capable of optimizing various e-wallet features effectively and efficiently in their daily lives.

Furthermore, Tavid (2024) reported a significant relationship between e-wallet adoption and digital financial literacy, which includes technical skills such as feature comprehension and operational proficiency in digital applications. Facilitating conditions, or technical readiness, were also found to strengthen the influence of digital literacy on users' intentions and intensity of e-wallet usage. Moreover, Candy et al. (2025) found that self-efficacy reflecting individuals' confidence in their ability to master technology positively affects user satisfaction and the intention to use digital payment technologies such as e-wallets. This finding underscores that technical skills not only encourage initial adoption but also support effective usage and the sustainability of e-wallet utilization. Finally, Maulidiya & Khusnudin (2025) highlighted that perceived ease of use closely related to users' technical skills significantly contributes to e-wallet usage among students. This indicates that the effectiveness of e-wallet usage is strongly influenced by the extent to which users understand the operational mechanisms, benefits, and functions of digital payment technologies. Therefore, the first hypothesis (H1), which states that technical skills have a positive effect on transaction efficiency in the use of the ShopeePay e-wallet, is accepted.

The Effect of Digital Literacy on Transaction Efficiency

The results of the hypothesis testing examining the relationship between digital literacy and transaction efficiency indicate a path coefficient of 0.233, suggesting that digital literacy has a positive effect on transaction efficiency. The T-statistics value of 3.555, which exceeds the critical value of 1.662, along with a P-value of 0.000 (< 0.05), confirms that this effect is statistically significant. These findings demonstrate that ShopeePay users with a high level of digital literacy such as an understanding of digital security, information management, and awareness of the risks and benefits of digital transactions tend to perform transactions more efficiently. Digital literacy enables users to make appropriate transaction decisions, reduce errors, and enhance their sense of security when using e-wallet services. The practical implications of these findings indicate that educational onboarding features, such as interactive guides, transaction simulations, and concise explanations of digital security, have the potential to enhance users' understanding from the initial stages of application use, thereby minimizing input errors and transaction failures.

This result is consistent with various previous studies showing that digital literacy and financial literacy play an important role in improving the efficiency and intensity of ShopeePay usage. Ferani & Kristiyanti (2025) demonstrated that digital financial literacy, which includes digital technical skills, together with perceived ease of use and perceived usefulness, has a positive effect on the continuance intention to use ShopeePay. These findings indicate that users with higher levels of digital literacy tend to conduct transactions more frequently and more effectively, as they are able to optimally utilize application features. In line with this, Hajar et al. (2024) found that financial literacy significantly influences the decision to use ShopeePay. A better understanding of service features and benefits, including transaction convenience, encourages users to transact more efficiently. This reinforces the argument that adequate literacy helps users reduce technical barriers and transaction time in digital payment activities.

Furthermore, Budiman et al. (2025) showed that the effectiveness and efficiency of the ShopeePay system are strongly influenced by users' level of understanding of application features and digital transaction risks. Although their study focused on overall system effectiveness, the findings support the argument that users' digital literacy contributes to a safer, faster, and more efficient transaction experience. Additionally, Sugeng et al. (2025) highlighted the role of financial literacy and digital literacy in the personal financial management of student ShopeePay users. Their results indicate that users with higher literacy levels are better able to manage financial transactions in a more controlled, effective, and efficient manner when using e-wallets. These findings are further supported by Utami et al. (2025), who identified perceived ease of use and perceived usefulness of ShopeePay as key indicators in explaining efficient e-wallet usage. Such

positive perceptions are generally held by users with good digital literacy, thereby facilitating efficiency in digital transaction processes.

As a comparison, a study outside the ShopeePay context by Listasari & Dwihandoko (2025) also indicates that the efficiency of e-wallet usage in financial management is closely related to users' level of digital understanding. With higher digital literacy, users are able to utilize transaction features more optimally and efficiently, thereby reinforcing previous findings within the context of ShopeePay usage. Accordingly, the second hypothesis (H2), which states that digital literacy has a positive effect on transaction efficiency in the use of the ShopeePay e-wallet, is accepted.

The implications of this study's findings for the design of ShopeePay application features can be directly explained by referring to the PLS-SEM analysis results, which indicate that Technical Skills exert the most dominant influence on Transaction Efficiency, followed by Digital Literacy. Based on these results, the UI/UX design of the ShopeePay application should be oriented toward minimizing user interaction complexity, thereby enabling transactions to be completed more quickly and accurately. A simple, consistent, and intuitive interface will directly reduce transaction time and the potential for user errors, particularly among users with varying levels of technical proficiency.

The finding that Technical Skills exhibit the highest path coefficient (0.734) suggests that simplifying transaction flows, reducing the number of payment steps, and utilizing easily recognizable icons within the ShopeePay UI/UX will directly enhance transaction efficiency and lower user error rates. Beyond UI/UX considerations, the user onboarding process also plays a critical role. Effective onboarding mechanisms, such as interactive guides, transaction simulations, and concise explanations of core features, can enhance users' technical skills from the initial stages of application use. Consistent with the study's findings indicating a significant influence of Digital Literacy (path coefficient = 0.233), educational onboarding features can accelerate users' understanding of transaction mechanisms, digital security, and payment notifications, thereby minimizing input errors and transaction failures. Furthermore, in-application help centers and support features should be designed as just-in-time learning tools. Easily accessible help centers equipped with contextual FAQs, short instructional videos, and keyword-based search functions can assist users in resolving technical issues without leaving the application.

Given that Technical Skills represent the most dominant factor in improving Transaction Efficiency, the presence of a responsive and user-friendly help center serves as a critical supporting mechanism to reduce transaction time and operational errors, as demonstrated by the hypothesis testing results of this study.

Overall, the results of this study indicate that technical skills have a positive and significant effect on transaction efficiency, with a more dominant influence compared to digital literacy. Digital literacy also has a positive and significant effect on transaction efficiency, although with a more moderate level of influence. These findings emphasize that the successful use of the ShopeePay e-wallet in improving transaction efficiency depends not only on the sophistication of the technology provided, but also on users' technical capabilities and digital literacy.

4. CONCLUSION

Based on the results of this study on the effect of technical skills and digital literacy on transaction efficiency in the use of the ShopeePay e-wallet, it can be concluded that both independent variables have a positive and significant influence on the transaction efficiency of ShopeePay users.

The analysis shows that technical skills have the most dominant effect on transaction efficiency. This is evidenced by a path coefficient value of 0.734, a T-statistics value of 11.838, and a P-value of 0.000, which is below the significance level of 0.05. These findings indicate that the higher the users' technical skills in operating the ShopeePay application such as understanding application features, conducting transactions correctly, and overcoming technical issues the higher the perceived transaction efficiency in terms of speed, convenience, and accuracy of the payment process. Thus, technical skills constitute the primary factor determining the success and efficiency of ShopeePay e-wallet usage.

Furthermore, digital literacy is also proven to have a positive and significant effect on transaction efficiency, although with a lower magnitude compared to technical skills. This is reflected in a path coefficient value of 0.233, a T-statistics value of 3.555, and a P-value of 0.000. These results indicate that users' understanding of digital aspects such as transaction security, digital information management, and awareness of the risks and benefits of e-wallet usage plays an important role in enhancing transaction efficiency. Digital literacy helps users conduct transactions more securely, reduce errors, and increase confidence in using ShopeePay. This study concludes that the transaction efficiency of the ShopeePay e-wallet is not only influenced by the technology provided by service providers but is also highly dependent on users' readiness in terms of technical skills and digital literacy. Technical skills serve as the strongest factor in improving transaction efficiency, while digital literacy functions as a supporting factor that ensures transactions are conducted optimally and securely. Therefore, efforts to enhance e-wallet transaction efficiency should be supported by initiatives aimed at improving users' technical skills and providing continuous digital literacy education.

Based on the conclusions of this study, which demonstrate that Technical Skills and Digital Literacy have positive and significant effects on ShopeePay transaction efficiency, several recommendations can be proposed for future researchers to expand and deepen the understanding of factors influencing e-wallet transaction efficiency.

First, future studies may incorporate external variables that have not been accommodated in the current research model. Variables such as internet network quality, application system stability, UI/UX design, and customer service support have the potential to explain the remaining variance in transaction efficiency that is not captured by the present model. The inclusion of external variables represents an important research agenda, as the conclusions of this study indicate that transaction efficiency is determined not only by user readiness but also by technological and environmental factors associated with application usage.

Second, a highly relevant agenda for further research is to examine the role of mediating variables, such as trust and perceived ease of use. These variables theoretically function as psychological mechanisms that mediate the effects of Technical Skills and Digital Literacy on transaction efficiency. Testing mediation models would strengthen the conclusions by explaining how and through what mechanisms technical skills and digital literacy are translated into higher levels of ShopeePay transaction efficiency.

Third, longitudinal research represents a particularly strategic agenda for capturing the dynamics of changes in user competencies over time. This approach allows researchers to observe how increased usage experience, repeated learning, and continuous application feature updates influence the development of technical skills, digital literacy, and transaction efficiency. In line with the study's conclusion emphasizing the importance of user readiness, a longitudinal approach would provide stronger empirical evidence regarding changes in user competencies and the sustainability of ShopeePay transaction efficiency in the long term.

Overall, future research agendas that incorporate external variables, test mediation models, and employ longitudinal designs will enrich the findings of this study. Such approaches will not only strengthen the conclusions drawn but also enhance the theoretical and practical relevance of research on e-wallet transaction efficiency in Indonesia. Beyond academic contributions, the findings of this study also offer strong practical implications for ShopeePay service providers in designing more effective intervention strategies to improve user transaction efficiency.

REFERENCES

Aldoghan, M. A., & Mirzaliev, S. (2025). The impact of digital literacy on e-wallet usage intention. *ResearchGate*.

Budiman, A., Laksana, R. D., & Aydogmus, I. (2025). The benefits, effectiveness, and risks of ShopeePay: Shaping consumer interest. *Jurnal Konsep Bisnis Dan Manajemen*.

Candy, C., Shellyna, S., Justyanita, J., & Kristiani, K. (2025). Niat adopsi generasi Z terhadap solusi pembayaran digital FinTech. *Business Management Journal*.

Darmawan, M., & Wenerda, I. (2025). Digital literacy as the basis for the use of digital wallets during COVID-19 pandemic. *Universitas Ahmad Dahlan Research*.

Ferani, N., & Kristiyanti, L. M. S. (2025). Analisis faktor-faktor yang berpengaruh terhadap niat berkelanjutan

penggunaan e-wallet ShopeePay. *Jurnal Ilmiah Manajemen Dan Akuntansi*.
Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.
Hajar, A. S., Priyatna, A., & Djaelani, G. P. (2024). Pengaruh literasi keuangan dan kemudahan penggunaan terhadap keputusan penggunaan ShopeePay pada mahasiswa. *Jurnal Bisnis, Manajemen, Dan Keuangan*.
Hapsari, N., & Wibowo, A. (2023). Pengaruh literasi digital terhadap kemudahan transaksi QRIS pada pengguna dompet digital. *Jurnal Teknologi Dan Bisnis Digital*, *5*(2), 112–123.
Lestari, D., & Mahardika, R. (2021). Efisiensi transaksi pada layanan dompet digital: Analisis faktor pengguna dan teknologi. *Jurnal Sistem Informasi Indonesia*, *7*(1), 45–54.
Listasari, A., & Dwihandoko, T. H. (2025). Pengaruh transaksi online terhadap minat penggunaan ShopeePay sebagai layanan e-money. *Jurnal Manajemen Bisnis Era Digital*.
Lutfi. (2024). Pengaruh efisiensi, literasi finansial, dan digital capability terhadap tendensi penggunaan digital payment (e-wallet). *Jurnal BAABU AL-ILMI*.
Maulidiya, Z., & Khusnudin. (2025). E-wallet adoption in digital payment services: The impact of convenience, trust, and lifestyle. *Formosa Journal of Multidisciplinary Research*.
Molwen, E., Caroline, C., Tamia, B. A., Yulina, D., & Yossinomita, Y. (2025). Persepsi manfaat dan kemudahan dalam penggunaan e-wallet DANA. *Jurnal Manajemen Teknologi Dan Sistem Informasi*.
Oktaviani, F. (2022). Kemampuan teknis dan pengaruhnya terhadap efektivitas penggunaan e-wallet pada mahasiswa. *Jurnal Ekonomi Dan Teknologi Informasi*, *9*(3), 210–220.
Prasetyo, B., & Sutopo, A. (2021). *Teknologi digital dan kompetensi pengguna dalam era transformasi keuangan*. Prenadamedia Group.
Putri, K. K., & Friyatmi. (2023). How financial and digital literacy shape e-wallet adoption decisions. *Journal of Educational Management Research*, *4*(2), 85–97. https://doi.org/10.61987/jemr.v4i2.973
Rahmatullah, R. (2025). Digitalisasi pembayaran: Peran e-wallet dan fintech pada ekonomi digital. *Jurnal Economina*, *4*(6). https://doi.org/10.55681/economina.v4i6.1560
Raisah, R., & Rahagi, S. (2024). Enhancing digital payment adoption: The impact of digital literacy on e-wallet usage intention. *ResearchGate*.
Ramadhan, R. (2020). Analisis efisiensi transaksi pada pembayaran non-tunai. *Jurnal Keuangan Dan Teknologi*, *2*(1), 55–66.
Rengganis, F. M., & Lestari, B. A. H. (2024). The impact of e-wallet effectiveness and efficiency in financial management. *Formosa Journal of Science and Technology*, *3*(7), 1661–1674.
Sholikah, M., & Wibowo, E. (2025). Pengaruh literasi keuangan digital, persepsi kemudahan, dan gaya hidup Gen Z terhadap minat penggunaan e-wallet ShopeePay. *Jurnal Riset Manajemen Dan Ekonomi*.
Sugeng, R., Muliana, & Annisa, I. (2025). Pengaruh literasi keuangan terhadap manajemen keuangan pribadi dengan penggunaan ShopeePay. *Jurnal Ilmiah Ekonomi Islam*.
Sugiyono. (2022). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.
Tavid, K. A. (2024). Hubungan digital financial literacy, facilitating conditions, dan e-wallet adoption di Indonesia. *Jurnal Ilmu Manajemen*.
Utami, E. Y., Hendrayani, E., Nitawati, E. Y., Nuraini, L., & Kalalo, R. R. (2025). Eksplorasi penggunaan e-wallet ShopeePay pada mahasiswa di Indonesia. *Jurnal Ilmiah Edunomika*.