

From Digital Transactions to Financial Intelligence: Experiential Learning Through E-Wallet Adoption to Boost MSME Financial Performance

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ABSTRACT

Indonesia's rapid growth in digital transactions has outpaced the financial management capabilities of many Micro, Small, and Medium Enterprise (MSME) owners. This study examines the effect of e-wallet adoption on MSME financial performance, with financial literacy serving as a mediating variable. Drawing on the Technology Acceptance Model and Kolb's Experiential Learning Theory, this study explores how routine e-wallet usage facilitates financial learning through transaction records, balance notifications, and cash flow transparency. A quantitative approach using Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed, with data collected from 95 MSME owners in the Nozama Community, Malang, selected through purposive sampling and analyzed using SmartPLS 4. The results indicate that e-wallet usage significantly influences financial literacy ($\beta = 0.491$; $p < 0.001$) and financial performance ($\beta = 0.396$; $p = 0.001$). Financial literacy also significantly influences financial performance ($\beta = 0.449$; $p < 0.001$) and partially mediates the relationship between e-wallet usage and financial performance ($\beta = 0.220$; $p = 0.002$). These findings highlight the importance of integrating digital payment adoption with experiential financial learning to enhance MSME financial performance and long-term sustainability.

Keywords: E-Wallet Adoption; Experiential Learning Theory; Financial Literacy; Financial Performance; MSMEs

JEL Classification: G53; M13; O3

INTRODUCTION

Fintech advancements worldwide have transformed the operational landscape of Micro, Small, and Medium Enterprises (MSMEs). Indonesia has experienced particularly rapid growth in electronic wallet (e-wallet) adoption, supported by the national Quick Response Code Indonesian Standard (QRIS) payment infrastructure. Cities such as Malang reflect this transformation, where cashless payments have become an integral part of daily micro-business operations. MSME owners increasingly adopt non-cash payment methods due to their convenience, efficiency, and ease of use. However, the rapid adoption of digital payment technologies does not necessarily correspond to improvements in business owners' financial management capabilities. National survey findings indicate a persistent gap between increasing digital financial inclusion and the financial literacy levels of business owners. This disparity has significant implications, as transactional convenience without adequate financial understanding may prevent business owners from converting increased digital transactions into sustainable capital accumulation. Consequently, many MSMEs remain vulnerable to cash flow disruptions despite improvements in their payment infrastructure. Community-based business clusters, such as the Nozama Community in Malang, provide a relevant context for examining this issue, as their members operate under relatively similar market conditions and have comparable exposure to digital payment technologies but differ in their ability to interpret and utilize financial information generated through e-wallet transactions.

This phenomenon can be attributed to the tendency of MSME owners to adopt e-wallets primarily for their operational convenience and practicality in receiving customer payments (Amrullah et al., 2023; Chelvarayan et al., 2022). However, without adequate financial knowledge, such convenience may contribute to the mixing of personal and business finances, ineffective working capital management, and excessive consumption behavior (Long et al., 2023; Rosli et al., 2023). Previous studies have reported inconsistent findings regarding the relationship between fintech adoption and business performance. Several studies indicate that e-wallet adoption directly contributes to improved operational performance and increased revenue (Thai & Kuwa, 2021; Yang et al., 2021). Conversely, other studies suggest that these benefits may be temporary or unsustainable when business owners lack the ability to interpret cash flow reports, evaluate financial risks, and make appropriate capital allocation decisions (Leong et al., 2021; Long et al., 2023). These inconsistencies highlight the importance of examining not only the adoption of digital payment technologies but also the cognitive and behavioral mechanisms through which transactional information is understood and utilized. Without considering these mechanisms, initiatives focused solely on expanding e-wallet adoption and QRIS accessibility may overestimate their contribution to MSME development, as greater access to digital payment infrastructure does not automatically result in improved financial decision-making.

Another limitation in the existing literature concerns the conceptualization of financial literacy, which is generally treated as a prerequisite or independent variable influencing technology adoption (Che Nawi et al., 2022; Che Nawi et al., 2024), rather than as a capability developed progressively through repeated practical experiences with digital financial transactions. To address this research gap, the present study integrates Kolb's Experiential Learning Theory with the Technology Acceptance Model (TAM). The central proposition is that practical e-wallet features, including automated transaction records, real-time balance notifications, and transparent cash flow information, can function as informal financial education mechanisms that enhance the financial capabilities of micro-entrepreneurs through everyday transactional experiences rather than formal instruction. From this perspective, financial literacy is conceptualized not merely as a fixed individual characteristic but as a dynamic capability that develops as business owners accumulate

transactional experiences, interpret financial information, and apply the knowledge gained to their financial decisions. This perspective also has practical implications for digitalization programs, suggesting that the design and functionality of digital payment interfaces, alongside business owners' motivation, may influence the extent to which transactional experiences are transformed into meaningful financial knowledge.

Therefore, this study aims to empirically examine the influence of e-wallet adoption on the financial performance of MSMEs within the Nozama Community in Malang, considering both its direct effect and its indirect effect through financial literacy as a mediating variable. This investigation is particularly relevant because most micro and ultra-micro enterprises in this community operate with monthly turnover below IDR 10,000,000.00, highlighting the importance of strengthening their financial capabilities and business sustainability. Theoretically, this study contributes to behavioral finance and technology management literature by integrating Experiential Learning Theory and TAM to explain the relationship between digital payment adoption, financial literacy development, and MSME financial performance. Practically, the findings are expected to provide insights for MSME mentors, fintech service providers, and policymakers in designing digitalization initiatives that promote sustainable financial intelligence and improve the long-term financial performance of micro-enterprises.

LITERATURE REVIEW

Theoretical Foundation: Technology Acceptance Model and Experiential Learning Theory

This study integrates the Technology Acceptance Model (TAM) developed by Davis (1989) and Experiential Learning Theory proposed by Kolb (1984) to explain the relationship between e-wallet usage, financial literacy, and MSME financial performance. TAM explains technology adoption through two primary determinants: perceived ease of use and perceived usefulness (Chelvarayan et al., 2022; Leong et al., 2021). Previous studies have extended this model by incorporating trust, perceived risk, and motivational factors to explain e-wallet adoption behavior (Rosli et al., 2023; Yang et al., 2021). Among MSME owners, the adoption of digital payment technologies is influenced by their perceived practicality, security, and compatibility with daily business operations (Che Nawi et al., 2022; Thai & Kuwa, 2021). Perceived ease of use reflects the extent to which users believe that technology requires minimal effort, while perceived usefulness refers to their belief that technology improves operational efficiency and business productivity. These factors are particularly relevant to MSMEs, which often operate with limited technological resources and rely on practical experience when adopting digital financial services.

Although TAM provides a theoretical foundation for understanding technology acceptance, it does not fully explain how repeated technology usage contributes to the development of financial knowledge and behavior. Therefore, this study incorporates Kolb's (1984) Experiential Learning Theory, which explains learning through four interconnected stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation. In the context of MSMEs, routine e-wallet transactions provide direct financial experiences through transaction records, balance notifications, and cash flow information (Daragmeh et al., 2021). These features enable business owners to observe financial activities, evaluate transaction patterns, and develop financial management knowledge. Through repeated interactions, business owners may apply their accumulated knowledge to budgeting, working capital allocation, and financial decision-making. Accordingly, integrating TAM and Experiential Learning Theory provides a theoretical explanation of how digital payment adoption may facilitate financial literacy development and subsequently improve MSME financial performance.

E-Wallet Usage

E-wallet usage refers to the frequency, intensity, and extent to which individuals or businesses utilize digital wallet applications to conduct financial transactions (Amrullah et al., 2023; Yang et al., 2021). E-wallets represent a financial technology innovation that enables users to store monetary value electronically and conduct cashless transactions (Rosli et al., 2023). Che Nawi et al. (2024), using Partial Least Squares Structural Equation Modeling (PLS-SEM) with 384 Indonesian respondents, identified facilitating conditions, perceived usefulness, and compatibility as important determinants of e-wallet adoption. Similarly, Che Nawi et al. (2022), examining 1,156 Malaysian workers, found that trust and compatibility contribute to the adoption of digital payment services.

Despite their advantages, e-wallet applications continue to face technical and behavioral challenges. Amrullah et al. (2023) reported that 86.7% of respondents experienced technical difficulties, including limited accessibility of application features and delays in transaction processing. Furthermore, Chelvarayan et al. (2022) and Leong et al. (2021) emphasized the influence of perceived risk and habitual behavior on continued e-wallet usage. These findings suggest that technology acceptance and consistent usage depend on both application functionality and user experience. Accordingly, this study measures e-wallet usage using four indicators: daily transaction frequency, perceived ease of use, perceived operational benefits, and the flexibility and completeness of digital payment features.

Financial Literacy

Financial literacy refers to the knowledge, awareness, skills, and attitudes required to make effective financial decisions (Long et al., 2023; Lusardi & Mitchell, 2014). In the context of MSMEs, financial literacy encompasses the ability to manage cash flow, distinguish personal and business finances, evaluate financial risks, and plan working capital allocation (Widyastuti et al., 2025; Ye & Kulathunga, 2019). Financial literacy is essential for supporting financial discipline and improving the quality of business decisions, particularly among micro-enterprises with limited financial resources.

Long et al. (2023), using data from 25,000 respondents obtained from the Bank of Japan, demonstrated that individuals with higher financial literacy were more likely to adopt and effectively utilize electronic payment services. However, the relationship was also influenced by behavioral factors, including herd behavior and risk aversion. Similarly, Lestari et al. (2024) and Satoto and Putra (2021) emphasized the importance of financial literacy in developing responsible financial attitudes and behaviors. These findings indicate that financial literacy is associated with both financial technology usage and financial management practices. In this study, financial literacy is measured through three dimensions: cash flow management capability, financial risk analysis capability, and working capital allocation planning.

MSME Financial Performance

MSME financial performance refers to the ability of enterprises to achieve financial objectives through operational efficiency, sales growth, and profitability (Rifani et al., 2025; Yumna, 2026). Financial performance represents an important indicator of business sustainability, particularly among micro and ultra-micro enterprises that frequently experience limited working capital and relatively high transaction costs (Widyastuti et al., 2025). Previous studies have indicated that digitalization and financial literacy contribute to improved business performance and long-term sustainability (Astuti et al., 2019; Rifani et al., 2025; Widyastuti et al., 2025).

The adoption of e-wallet technology may improve financial performance by facilitating efficient transactions, reducing cash handling costs, and expanding customer access to

digital payment services (Thai & Kuwa, 2021; Yang et al., 2021). However, achieving sustainable financial benefits also requires effective financial management and appropriate allocation of business resources. Therefore, this study measures MSME financial performance using three indicators: sales turnover growth, operational cost efficiency, and net profitability growth.

Relationship Between E-Wallet Usage and Financial Literacy

E-wallet usage may contribute to financial literacy development by providing business owners with continuous access to digital financial information. Based on Kolb's (1984) Experiential Learning Theory, repeated digital transactions provide concrete financial experiences, while transaction histories and balance notifications facilitate reflection on financial activities. Through this process, MSME owners may develop a better understanding of income, expenditure, and cash flow management.

Long et al. (2023) and Che Nawi et al. (2024) provide empirical evidence concerning the relationships between financial knowledge, technology adoption, and digital financial behavior. Similarly, Satoto and Putra (2021) highlighted the relationship between electronic money usage and financial awareness. Integrating these findings with Experiential Learning Theory suggests that repeated e-wallet usage may facilitate financial knowledge development through practical experience. Therefore, the following hypothesis is proposed:

H1: E-wallet usage has a positive and significant effect on MSME financial literacy.

Relationship Between Financial Literacy and MSME Financial Performance

Financial literacy enables MSME owners to make informed financial decisions, manage operational costs, and allocate working capital effectively. Business owners with stronger financial literacy are better equipped to evaluate financial risks, maintain financial discipline, and develop sustainable financial strategies. Ye and Kulathunga (2019) demonstrated that financial literacy contributes to small business performance and sustainability. Similarly, Widyastuti et al. (2025) reported a positive and significant relationship between financial literacy and MSME financial performance in East Java ($\beta = 0.367$; $p = 0.034$). Lestari et al. (2024) further emphasized the role of financial literacy in improving capital management efficiency.

These findings indicate that financial literacy contributes to business performance by strengthening financial planning, resource allocation, and financial decision-making. Therefore, the following hypothesis is proposed:

H2: Financial literacy has a positive and significant effect on MSME financial performance.

Relationship Between E-Wallet Usage and MSME Financial Performance

E-wallet usage may directly improve MSME financial performance through increased transaction efficiency and reduced operational costs. Digital payment services facilitate faster transaction processing, minimize cash handling errors, and reduce costs associated with conventional payment methods (Thai & Kuwa, 2021; Yang et al., 2021). Furthermore, the availability of e-wallet and QRIS payment options enables MSMEs to accommodate consumer preferences for cashless transactions, potentially increasing transaction frequency and sales turnover (Leong et al., 2021).

Rifani et al. (2025) demonstrated that digital transaction technology adoption contributes positively to business performance among creative-sector MSMEs. These findings suggest that e-wallet usage may enhance financial performance by improving

operational efficiency, reducing transaction costs, and expanding market accessibility. Therefore, the following hypothesis is proposed:

H3: E-wallet usage has a positive and significant effect on MSME financial performance.

The Mediating Role of Financial Literacy

Although e-wallet usage provides operational benefits, its contribution to sustainable financial performance may depend on business owners' ability to interpret and utilize financial information (Swandani, 2025). From the perspective of Experiential Learning Theory, repeated digital transactions create opportunities for MSME owners to develop financial knowledge through direct experience, reflection, and practical application. Transaction histories, balance notifications, and cash flow information may facilitate financial literacy development, enabling business owners to make more informed decisions regarding budgeting, working capital management, and business investment (Damanik et al., 2025).

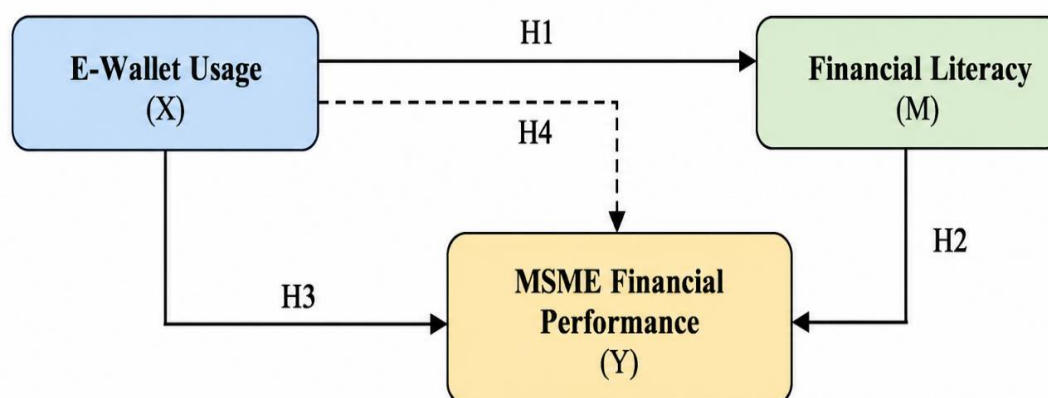
Long et al. (2023) and Che Nawi et al. (2024) provide empirical insights into the relationships among financial literacy, digital financial technology adoption, and financial behavior. Building on these findings, this study proposes that financial literacy serves as a mediating mechanism through which e-wallet usage influences MSME financial performance. Improved financial literacy may enable business owners to transform transactional efficiency into more effective financial management and sustainable business outcomes (Babajide et al., 2023). Therefore, the following hypothesis is proposed:

H4: Financial literacy significantly mediates the relationship between e-wallet usage and MSME financial performance.

Conceptual Framework

Based on the theoretical foundations and empirical evidence, this study develops a conceptual framework examining the direct and indirect relationships among e-wallet usage, financial literacy, and MSME financial performance. E-wallet usage is positioned as the independent variable (X), financial literacy as the mediating variable (M), and MSME financial performance as the dependent variable (Y). The framework proposes that e-wallet usage directly influences financial literacy and financial performance, while financial literacy influences financial performance and mediates the relationship between e-wallet usage and MSME financial performance. The proposed relationships are illustrated in Figure 1.

Figure 1. Research Framework



RESEARCH METHOD

This study employed a quantitative approach with an explanatory research design to examine the direct and indirect relationships among e-wallet usage, financial literacy, and MSME financial performance. The study population comprised 110 active MSME owners registered with the Nozama Community in Malang City, Indonesia. A purposive sampling technique was applied based on two criteria: (1) MSMEs had operated for at least one year, and (2) MSME owners had used e-wallets and the Quick Response Code Indonesian Standard (QRIS) as their primary payment methods for at least six months. Based on these criteria, 95 MSME owners were selected as respondents, representing 86.36% of the total population. All selected respondents met the inclusion criteria and completed the questionnaire.

Primary data were collected using a structured questionnaire measured on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). E-wallet usage was measured using four indicators: transaction frequency, perceived ease of use, perceived usefulness, and payment feature flexibility, adapted from Davis (1989) and Che Nawi et al. (2022). Financial literacy was assessed using three indicators: cash flow management, financial risk management, and working capital allocation planning, adapted from Long et al. (2023) and Lusardi and Mitchell (2014). Meanwhile, MSME financial performance was measured using three indicators: sales growth, operational cost efficiency, and profitability growth, adapted from Ye and Kulathunga (2019) and Yumna (2026).

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4 software (Hair et al., 2021). The analysis consisted of two stages: measurement model evaluation (outer model) and structural model evaluation (inner model). The measurement model was assessed through convergent validity, discriminant validity, and internal consistency reliability. Convergent validity was evaluated using outer loading values greater than 0.70 and average variance extracted (AVE) values greater than 0.50. Discriminant validity was examined using the heterotrait-monotrait ratio (HTMT), with a threshold below 0.85. Internal consistency reliability was assessed using Cronbach's alpha and composite reliability (CR), with acceptable values above 0.70. Subsequently, the structural model was evaluated using the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Hypothesis testing was conducted using a bootstrapping procedure with 5,000 resamples at a significance level of 5% ($p < 0.05$) to examine the direct effects and the mediating role of financial literacy.

RESULTS

Respondent Characteristics

This study involved 95 MSME owners registered with the Nozama Community in Malang City, Indonesia. The respondents were predominantly female, accounting for 86.30% (82 respondents) of the total sample. In terms of age, 77.90% (74 respondents) were younger than 35 years, indicating that most participants belonged to a relatively young age group. Regarding business characteristics, 71.60% (68 respondents) operated enterprises with a monthly turnover below IDR 10,000,000.00. These findings indicate that the sample was primarily composed of young female micro-entrepreneurs operating relatively small-scale businesses. The respondent characteristics also provide a relevant context for examining e-wallet usage, financial literacy, and financial performance among MSMEs.

Measurement Model Evaluation (Outer Model)

The measurement model was evaluated to assess the validity and reliability of the research constructs. Convergent validity was examined using outer loading values and average variance extracted (AVE), while internal consistency reliability was assessed using Cronbach's alpha and composite reliability (CR). The results of the measurement model evaluation are presented in Table 1.

Table 1. Measurement Model Evaluation (Outer Model)

Variable	Outer Loading Range	Cronbach's Alpha	Composite Reliability	AVE
E-Wallet Usage (PEW)	0.742–0.865	0.854	0.898	0.637
Financial Literacy (FL)	0.758–0.881	0.871	0.912	0.675
Financial Performance (FP)	0.761–0.894	0.889	0.923	0.706

Note. AVE = average variance extracted.

As presented in Table 1, all constructs met the recommended criteria for convergent validity, with outer loading values exceeding 0.70 and AVE values exceeding 0.50. The outer loading values ranged from 0.742 to 0.894, while the AVE values ranged from 0.637 to 0.706. These results indicate that the indicators adequately represent their respective constructs. Furthermore, Cronbach's alpha values ranged from 0.854 to 0.889, and composite reliability values ranged from 0.898 to 0.923, exceeding the recommended threshold of 0.70. Therefore, all constructs demonstrated satisfactory internal consistency reliability. Discriminant validity was also assessed using the heterotrait-monotrait ratio (HTMT), with all reported values below the threshold of 0.85, indicating satisfactory discriminant validity.

Structural Model Evaluation (Inner Model)

The structural model was evaluated using the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). The R^2 value for financial literacy was 0.241, indicating that e-wallet usage explained 24.10% of the variance in financial literacy, while the remaining 75.90% was attributable to factors outside the model. Meanwhile, the R^2 value for MSME financial performance was 0.533, indicating that e-wallet usage and financial literacy collectively explained 53.30% of the variance in financial performance. The remaining 46.70% was explained by other factors not included in the research model.

The reported Q^2 value of 0.483 was greater than zero, indicating predictive relevance according to the criterion applied in this study. In addition, the f^2 analysis was used to evaluate the effect size of each predictor variable within the structural model. Overall, the structural model results indicate that e-wallet usage and financial literacy contribute to explaining variations in MSME financial performance.

Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure with 5,000 resamples in SmartPLS 4. The significance of the relationships among the research variables was evaluated using path coefficients (β), t-statistics, and p-values at a 5% significance level. The results of hypothesis testing are presented in Table 2.

Table 2. Hypothesis Testing and Path Coefficients (PLS-SEM)

Hypothesis	Path Relationship	β	t-Statistic	p-Value	Decision
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H1	E-Wallet Usage → Financial Literacy	0.491	4.705	< 0.001	Supported
H2	Financial Literacy → Financial Performance	0.449	3.871	< 0.001	Supported
H3	E-Wallet Usage → Financial Performance	0.396	3.203	0.001	Supported
H4	E-Wallet Usage → Financial Literacy → Financial Performance	0.220	3.109	0.002	Supported

Note. β = standardized path coefficient. Statistical significance was determined at $p < 0.05$.

As presented in Table 2, all four hypotheses were supported. The results of H1 demonstrated that e-wallet usage had a positive and significant effect on financial literacy ($\beta = 0.491$, $t = 4.705$, $p < 0.001$). This finding indicates that higher levels of e-wallet usage were associated with greater financial literacy among MSME owners.

The results of H2 showed that financial literacy had a positive and significant effect on MSME financial performance ($\beta = 0.449$, $t = 3.871$, $p < 0.001$). This result indicates that MSME owners with higher financial literacy tended to demonstrate better financial performance.

Furthermore, H3 confirmed that e-wallet usage had a positive and significant direct effect on MSME financial performance ($\beta = 0.396$, $t = 3.203$, $p = 0.001$). This finding suggests that greater utilization of e-wallet services was associated with improved MSME financial performance.

Finally, the mediation analysis for H4 revealed that financial literacy significantly mediated the relationship between e-wallet usage and MSME financial performance ($\beta = 0.220$, $t = 3.109$, $p = 0.002$). Since the direct effect of e-wallet usage on financial performance remained statistically significant, the results indicated partial mediation. This finding demonstrates that e-wallet usage was associated with MSME financial performance both directly and indirectly through financial literacy.

DISCUSSION

The Effect of E-Wallet Usage on Financial Literacy

The findings indicate that e-wallet usage has a positive and significant effect on financial literacy ($\beta = 0.491$, $t = 4.705$, $p < 0.001$), supporting H1. This result suggests that greater utilization of e-wallet services is associated with higher financial literacy among MSME owners in the Nozama Community, Malang. From the perspective of Kolb's (1984) Experiential Learning Theory, repeated engagement with digital payment applications may facilitate financial learning through direct transactional experiences. Features such as transaction histories and automated balance notifications provide opportunities for business owners to monitor financial activities, evaluate cash flow patterns, and improve their understanding of financial management. This finding is consistent with Long et al. (2023) and Che Nawi et al. (2024), who highlighted the relationships among digital financial technology adoption, financial knowledge, and financial behavior. The relatively substantial path coefficient indicates that e-wallet usage is an important factor associated with financial literacy development. These findings extend the application of Experiential Learning Theory by suggesting that routine digital transactions may serve as an informal learning mechanism that supports financial knowledge acquisition among micro-entrepreneurs.

The Effect of Financial Literacy on MSME Financial Performance

The results demonstrate that financial literacy has a positive and significant effect on MSME financial performance ($\beta = 0.449$, $t = 3.871$, $p < 0.001$), supporting H2. This finding indicates that MSME owners with higher financial literacy tend to achieve better financial performance. Financial literacy enables business owners to make informed financial decisions, manage operational expenditures, allocate working capital efficiently, and distinguish personal finances from business finances. These capabilities are particularly important for micro-enterprises operating with limited financial resources. The finding is consistent with [Ye and Kulathunga \(2019\)](#), [Widyastuti et al. \(2025\)](#), and [Lestari et al. \(2024\)](#), who emphasized the contribution of financial literacy to business performance, financial management efficiency, and sustainability. The positive relationship suggests that financial literacy plays an important role in translating financial knowledge into effective business management practices. Therefore, strengthening financial literacy may contribute to improved profitability, operational efficiency, and long-term financial sustainability among MSMEs.

The Effect of E-Wallet Usage on MSME Financial Performance

The findings reveal that e-wallet usage has a positive and significant direct effect on MSME financial performance ($\beta = 0.396$, $t = 3.203$, $p = 0.001$), supporting H3. This result indicates that greater utilization of digital payment services is associated with improved financial performance among MSME owners. E-wallet applications facilitate transaction efficiency, reduce cash handling risks, and provide convenient payment alternatives for customers. These operational benefits may contribute to increased sales opportunities, improved transaction management, and reduced operational costs. The finding is consistent with [Yang et al. \(2021\)](#), [Thai and Kuwa \(2021\)](#), and [Rifani et al. \(2025\)](#), who identified positive relationships between digital payment adoption and business performance. From the perspective of the Technology Acceptance Model, the perceived usefulness and ease of use of e-wallet applications may encourage their continued utilization in daily business activities. However, the direct effect of e-wallet usage on financial performance should be considered alongside its indirect effect through financial literacy, as digital transaction efficiency alone may not fully explain improvements in financial performance.

The Mediating Role of Financial Literacy in the Relationship Between E-Wallet Usage and MSME Financial Performance

The mediation analysis demonstrates that financial literacy significantly mediates the relationship between e-wallet usage and MSME financial performance ($\beta = 0.220$, $t = 3.109$, $p = 0.002$), supporting H4. Since both the direct effect of e-wallet usage on financial performance ($\beta = 0.396$, $p = 0.001$) and the indirect effect through financial literacy are statistically significant, financial literacy serves as a partial mediator. This finding indicates that e-wallet usage is associated with financial performance not only through transaction efficiency but also through financial literacy development.

The result supports the integration of the Technology Acceptance Model and Experiential Learning Theory in explaining the relationship between digital payment adoption and MSME financial performance. While the Technology Acceptance Model explains the acceptance and utilization of digital payment technologies, Experiential Learning Theory provides a perspective on how repeated transactional experiences may contribute to financial knowledge development. Through access to transaction records, balance notifications, and financial information, MSME owners may develop financial management capabilities that support more effective financial decisions ([Tandilino et al., 2025](#)). The indirect effect accounts for approximately 35.71% of the total estimated effect of e-wallet usage on financial performance, indicating that financial literacy represents a meaningful pathway linking digital payment usage to financial outcomes. This finding

highlights the importance of integrating financial literacy development into MSME digitalization initiatives. Consequently, programs promoting e-wallet adoption should also encourage business owners to interpret transaction records, monitor cash flow, and apply financial information to budgeting and working capital management to support sustainable financial performance.

CONCLUSION

This study concludes that e-wallet usage has a positive and significant relationship with MSME financial performance in the Nozama Community, Malang City, both directly and indirectly through financial literacy. The findings indicate that financial literacy partially mediates the relationship between e-wallet usage and financial performance, highlighting its role in linking digital payment adoption with improved financial outcomes. From the perspective of Experiential Learning Theory, repeated interactions with e-wallet features, including transaction histories and balance notifications, may provide opportunities for MSME owners to develop financial knowledge through practical experience. The integration of the Technology Acceptance Model and Experiential Learning Theory contributes to understanding how digital financial technology usage is associated with financial literacy development and MSME financial performance.

The findings have practical implications for fintech providers, MSME mentors, and policymakers. Digital payment platforms should consider incorporating accessible financial education features to support users in interpreting transaction records, monitoring cash flow, and improving financial decision-making. MSME owners are also encouraged to regularly review digital transaction histories and apply financial information to budgeting and working capital management. Future research should involve larger samples across different regions and business sectors, examine potential moderating variables such as education level and business experience, and employ longitudinal approaches to better understand the development of financial literacy through continued e-wallet usage. Further investigation of additional mediating variables, including digital financial confidence and risk tolerance, may also provide a more comprehensive understanding of the relationship between digital payment adoption and MSME financial performance.

LIMITATION

This study has several limitations. First, the sample was limited to 95 MSME owners from the Nozama Community in Malang City, which may restrict the generalizability of the findings to MSMEs operating in different regions, sectors, and business environments. Second, data were collected using self-reported questionnaires, which may introduce common method bias and social desirability bias. In particular, financial performance was measured based on respondents' perceptions rather than verified financial records. Third, the cross-sectional research design limits the ability to establish causal relationships among the variables. Although the proposed relationships were supported by theoretical foundations and statistical analysis, longitudinal or experimental studies are needed to provide stronger evidence of causality. Finally, e-wallet usage and financial literacy were assessed through respondents' perceptions rather than objective transaction records or behavioral measurements. Future studies are therefore encouraged to incorporate longitudinal data, actual financial records, and digital transaction histories to strengthen the validity of the findings and provide further insights into the experiential learning mechanisms associated with e-wallet adoption.

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DECLARATION OF CONFLICTING INTERESTS

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