

# Behavioral Intention to Use E-Wallets in Surabaya: The Roles of Financial Literacy, Performance Expectancy, Effort Expectancy, Perceived Usefulness, and Trust

Alvian Risqullah Putra<sup>1\*</sup>, Nadia Asandimitra Haryono<sup>2</sup>

<sup>1</sup>Department of Management, Faculty of Economics and Business, Universitas Negeri Surabaya

## Abstract

This study aims to analyze the influence of financial literacy, performance expectancy, effort expectancy, perceived usefulness, and trust on behavioral intention to use e-wallets in Surabaya. The study applies a quantitative causal design with primary data collected through an online questionnaire. The respondents were Generation Z and Millennial e-wallet users domiciled in Surabaya, and 264 valid responses were analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS 4.1.1.6. The findings show that performance expectancy, effort expectancy, perceived usefulness, and trust have significant positive effects on behavioral intention to use e-wallets. In contrast, financial literacy does not significantly affect behavioral intention. The model explains 39.8% of the variance in behavioral intention and demonstrates adequate predictive relevance. These results indicate that e-wallet adoption among young users in Surabaya is driven more by perceived transaction performance, ease of use, practical usefulness, and trust in service security than by financial literacy alone. The originality of this study lies in integrating financial literacy, UTAUT/TAM constructs, and trust to explain e-wallet adoption among Generation Z and Millennials in an urban Indonesian context.

## Keywords:

intention; e-wallet; financial literacy; technology acceptance; trust

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\*Corresponding author

Email: [alvian.22260@mhs.unesa.id](mailto:alvian.22260@mhs.unesa.id), [nadiaharyono@unesa.ac.id](mailto:nadiaharyono@unesa.ac.id)

## INTRODUCTION

The rapid development of information technology has expanded the way people communicate, access information, and conduct transactions. In Indonesia, the growth of internet access and digital financial services has accelerated the use of non-cash payments, including e-wallets. Surabaya is a relevant context for this topic because it is a metropolitan city with strong economic activity, high digital interaction, and growing use of financial technology. The thesis data describe that Surabaya experienced 5.76% economic growth in 2024 and that internet users in Indonesia reached

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approximately 221.56 million in 2024, with Generation Z and Millennials representing the most digitally active groups.

The use of e-wallets continues to increase as consumers seek payment instruments that are practical, fast, and integrated with daily transactions. Reports cited in the thesis show that e-wallets were used by 74.1% of respondents for online shopping in 2024, while another survey stated that 97% of digital payment users used e-wallets. Nevertheless, the persistence of cash-on-delivery behavior and the growing issue of digital scams suggest that high usage does not automatically indicate strong behavioral intention to use e-wallets continuously.

Behavioral intention to use e-wallets reflects an individual tendency to accept and continue using digital payment technology. In technology adoption research, intention is shaped by perceived benefits, ease of use, performance expectations, and trust in the provider (Venkatesh et al., 2003; Davis, 1989). In the e-wallet context, financial literacy may also matter because users need to understand spending control, transaction risk, and financial decision-making. However, previous studies show inconsistent findings. Financial literacy, performance expectancy, effort expectancy, perceived usefulness, and trust have been found significant in some studies, while other studies report insignificant effects (Aditya & Mahyuni, 2022; Afgani et al., 2021; Amelia & Isbanah, 2021; Rahayu, 2022; Sumarauw et al., 2024).

Based on these gaps, this study investigates the influence of financial literacy, performance expectancy, effort expectancy, perceived usefulness, and trust on behavioral intention to use e-wallets among Generation Z and Millennials in Surabaya. The contribution of this study is to integrate the Theory of Planned Behavior, Unified Theory of Acceptance and Use of Technology, Technology Acceptance Model, and trust perspective in explaining e-wallet adoption in a large urban Indonesian market.

## **LITERATURE REVIEW**

### **Behavioral Intention to Use E-Wallets**

Behavioral intention refers to an individual willingness or plan to use a technology in the future. In the Theory of Planned Behavior, intention is shaped by beliefs, attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). In information system research, behavioral intention is also used to predict acceptance and continuous use of technology (Venkatesh et al., 2003). In this study, behavioral intention represents the intention of Generation Z and Millennial users to continue using e-wallets in daily transactions.

### **Financial Literacy and Behavioral Intention**

Financial literacy refers to knowledge, skills, and confidence in managing financial resources and making financial decisions (Remund,

2010). In a digital finance context, financial literacy may help users understand transaction records, spending control, and risk management. Previous studies found that financial literacy may encourage fintech adoption (Aditya & Mahyuni, 2022; Anwarul Islam & Khan, 2024; Saleh & F, 2020), although other evidence shows that it may not directly influence digital payment behavior (Amelia & Isbanah, 2021). Thus, the first hypothesis is formulated as follows:

*H1: Financial literacy affects behavioral intention to use e-wallets in Surabaya.*

### **Performance Expectancy and Behavioral Intention**

Performance expectancy is the degree to which users believe that a technology will improve their performance (Venkatesh et al., 2003). For e-wallets, this means that users expect faster, more efficient, and more practical payment activities. Prior studies generally show that performance expectancy supports behavioral intention to use digital payments (Junadi & Sfenrianto, 2015; Masudin et al., 2023). Therefore:

*H2: Performance expectancy affects behavioral intention to use e-wallets in Surabaya.*

### **Effort Expectancy and Behavioral Intention**

Effort expectancy describes the perceived ease of using a technology (Venkatesh et al., 2003). Users are more likely to adopt e-wallets when the application is easy to learn, clear, and easy to operate. Studies on digital payment and financial technology acceptance show that effort expectancy can strengthen intention because easy interaction lowers adoption barriers (Chao, 2019; Masudin et al., 2023). Therefore:

*H3: Effort expectancy affects behavioral intention to use e-wallets in Surabaya.*

### **Perceived Usefulness and Behavioral Intention**

Perceived usefulness is the belief that using a system enhances task performance (Davis, 1989). In e-wallet use, perceived usefulness appears in faster transactions, broader payment access, and support for financial activities. Empirical studies indicate that perceived usefulness can increase behavioral intention toward mobile payments and fintech services (Keni et al., 2020; Perwitasari, 2022; Sandy & Firdausy, 2021). Therefore:

*H4: Perceived usefulness affects behavioral intention to use e-wallets in Surabaya.*

### **Trust and Behavioral Intention**

Trust is crucial in digital payment services because users store balances, share personal data, and rely on providers to process transactions securely.

Trust reduces uncertainty and supports favorable attitudes toward technology (Fan et al., 2018; Chawla & Joshi, 2019). In e-wallet services, trust relates to integrity, benevolence, and competence (Wijaya & Jasfar, 2014). Therefore:

*H5: Trust affects behavioral intention to use e-wallets in Surabaya.*

## **RESEARCH METHOD**

This study uses a quantitative causal research design. The independent variables are financial literacy, performance expectancy, effort expectancy, perceived usefulness, and trust, while the dependent variable is behavioral intention to use e-wallets. The population consists of Generation Z and Millennial users who use e-wallets for payment transactions in Surabaya.

The sampling technique combines purposive sampling and snowball sampling. Respondents were required to be Generation Z or Millennial users, use at least one e-wallet service, and be domiciled in Surabaya. The thesis calculated a minimum sample of 264 respondents based on the number of indicators and additional allowance for questionnaire distribution. The final analysis in the results chapter used 264 respondents. Data were collected online through Google Forms distributed via WhatsApp, Telegram, and Instagram during 4 April-30 May 2026.

Financial literacy was measured using a Guttman scale for objective knowledge items and a Likert scale for application-related items. Other variables were measured using a four-point Likert scale ranging from strongly disagree to strongly agree. The indicators were adapted from prior studies: behavioral intention from Hanggono (2015) and Perwitasari (2022), financial literacy from Remund (2010), performance expectancy from Ayaz and Yanartaş (2020), effort expectancy from Chao (2019), perceived usefulness from Davis (1989), and trust from Wijaya and Jasfar (2014).

Data were analyzed using Partial Least Squares-Structural Equation Modeling (PLS-SEM) with SmartPLS 4.1.1.6. The analysis included descriptive statistics, convergent validity, discriminant validity, reliability, R-square, Q-square, VIF, goodness of fit, effect size, and bootstrapping hypothesis testing.

## **FINDINGS AND DISCUSSION**

### **Respondent Profile**

The final dataset consisted of 264 valid respondents. Most respondents were from Surabaya Timur, aged 20-24 years, had monthly income or allowance of Rp1,000,001-Rp3,000,000, used Dana as their most frequent e-wallet, and used e-wallets two to three times per month. The dominant profile is summarized in Table 1.

**Table 1.**  
*Profile of Respondents*

| Characteristic           | Dominant Category       | Frequency | Percentage |
|--------------------------|-------------------------|-----------|------------|
| Domicile                 | Surabaya Timur          | 74        | 28%        |
| Age                      | 20-24 years             | 98        | 37%        |
| Monthly income/allowance | Rp1,000,001-Rp3,000,000 | 117       | 44%        |
| Most used e-wallet       | Dana                    | 120       | 45%        |
| Monthly e-wallet usage   | 2-3 times per month     | 178       | 67%        |

Note: Source: Author(s) work, processed from thesis data.

### Descriptive Results

Descriptive analysis shows that respondents had high objective financial literacy based on the Guttman questions, with an average correct answer rate of 74%. However, the application of financial literacy in e-wallet use was only in the medium category with a mean index of 167.50. Performance expectancy had a high mean index of 212.38, effort expectancy 229.25, perceived usefulness 215.55, and behavioral intention 210.00. Trust obtained a mean index of 205.00 and was categorized as medium. These results indicate that users strongly perceive e-wallets as easy and useful, while trust and the financial management application of e-wallets still require improvement.

### Measurement Model

The measurement model met the validity and reliability criteria. All loading factors were above 0.70, AVE values were above 0.50, Cronbach's Alpha values were above 0.70, and Composite Reliability values were above 0.80. The HTMT values were also below the threshold, indicating discriminant validity. Table 2 summarizes the measurement model results.

**Table 2.**  
*Measurement Model Results*

| Variable               | Loading Factor Range | AVE   | Cronbach's Alpha | Composite Reliability |
|------------------------|----------------------|-------|------------------|-----------------------|
| Behavioral Intention   | 0.772-0.827          | 0.631 | 0.709            | 0.837                 |
| Effort Expectancy      | 0.713-0.839          | 0.635 | 0.855            | 0.896                 |
| Financial Literacy     | 0.905-0.943          | 0.852 | 0.943            | 0.958                 |
| Perceived Usefulness   | 0.743-0.839          | 0.639 | 0.858            | 0.898                 |
| Performance Expectancy | 0.719-0.874          | 0.686 | 0.845            | 0.897                 |
| Trust                  | 0.793-0.876          | 0.697 | 0.782            | 0.873                 |

Source: Author(s) work, processed from thesis data.

### Structural Model and Hypothesis Testing

The structural model indicates that the adjusted R-square for behavioral intention is 0.398, meaning that 39.8% of the variance in behavioral intention is explained by financial literacy, performance expectancy, effort expectancy,

perceived usefulness, and trust. The Q-square value is 0.286, indicating adequate predictive relevance. VIF values ranged from 1.005 to 1.025, showing no multicollinearity issue. The goodness-of-fit index is 0.523, indicating that the model has a good overall fit. Effect size analysis shows medium effects for perceived usefulness (0.211), performance expectancy (0.181), and effort expectancy (0.174), while trust (0.102) and financial literacy (0.009) show smaller effects.

**Table 3.**  
*Hypothesis Testing Results*

| Hypothesis | Path     | Original Sample | T-statistics | P-values | Decision |
|------------|----------|-----------------|--------------|----------|----------|
| H1         | FL -> BI | 0.073           | 1.424        | 0.155    | Rejected |
| H2         | PE -> BI | 0.329           | 7.676        | 0.000    | Accepted |
| H3         | EE -> BI | 0.322           | 6.603        | 0.000    | Accepted |
| H4         | PU -> BI | 0.357           | 7.797        | 0.000    | Accepted |
| H5         | T -> BI  | 0.248           | 5.180        | 0.000    | Accepted |

Source: Author(s) work, processed from thesis data.

## Discussion

Financial literacy does not significantly affect behavioral intention to use e-wallets. This finding suggests that knowledge of financial concepts alone is not sufficient to motivate e-wallet use among Generation Z and Millennials in Surabaya. Although respondents demonstrated relatively high objective financial literacy, the application of such knowledge in e-wallet-based financial management remained moderate. In practice, respondents appear to use e-wallets mainly because of practical transaction benefits rather than because of financial literacy. This finding supports Amelia and Isbanah (2021), who found that financial literacy was not a significant determinant in digital financial service behavior.

Performance expectancy significantly affects behavioral intention. The more respondents believe that e-wallets improve payment efficiency, speed, and transaction effectiveness, the stronger their intention to use them. This result supports UTAUT, which argues that performance expectancy is a major predictor of technology acceptance (Venkatesh et al., 2003). It is also consistent with Junadi and Sfenrianto (2015) and Masudin et al. (2023), who found that expected performance benefits encourage digital payment adoption.

Effort expectancy significantly affects behavioral intention. Users are more willing to use e-wallets when the application interface, menu, registration process, balance top-up, and payment procedures are easy to understand. The highest descriptive index in this variable indicates that respondents perceive e-wallet menus and displays as understandable. This confirms that perceived ease of use lowers technology adoption barriers and increases intention (Chao, 2019; Venkatesh et al., 2003).

Perceived usefulness has the strongest coefficient among the significant predictors. This means that respondents are more likely to intend to use e-wallets when they perceive clear benefits, such as faster payments, flexibility, and practical support for daily financial activities. The result supports the Technology Acceptance Model, where perceived usefulness is a central determinant of technology acceptance (Davis, 1989), and it is in line with Keni et al. (2020) and Perwitasari (2022).

Trust significantly affects behavioral intention. Respondents are more willing to use e-wallets when they believe that providers are secure, reliable, and capable of protecting user data and transaction balances. This finding reinforces the view that trust reduces perceived uncertainty in digital finance services and encourages adoption (Chawla & Joshi, 2019; Fan et al., 2018). In the e-wallet context, strengthening system security, complaint handling, and data protection is essential to support continuous use.

## CONCLUSIONS

This study concludes that financial literacy does not significantly affect behavioral intention to use e-wallets in Surabaya. This means that the level of financial knowledge held by respondents is not the main factor shaping intention to use e-wallets. Instead, e-wallet use is more strongly influenced by practical considerations in digital transactions.

Performance expectancy, effort expectancy, perceived usefulness, and trust significantly affect behavioral intention. Users are more likely to intend to use e-wallets when they perceive that the service improves transaction effectiveness, is easy to understand and operate, provides practical benefits, and can be trusted in terms of security, reliability, and data protection.

Theoretically, the findings strengthen UTAUT and TAM in explaining financial technology adoption among Generation Z and Millennials. Practically, e-wallet providers should improve transaction speed, simplify user interfaces, strengthen useful features, and build trust through secure systems and transparent complaint handling. Financial education remains important, but it should be directed toward wise and controlled use of e-wallets, such as monitoring transaction history and avoiding impulsive spending due to promotions.

## LIMITATION & FURTHER RESEARCH

This study is limited to Generation Z and Millennial e-wallet users domiciled in Surabaya; therefore, the findings may not fully represent users in other cities or age groups. The research also examines e-wallets in general and does not distinguish between specific brands such as DANA, GoPay, OVO, ShopeePay, or LinkAja. Future research is recommended to expand the research area, compare specific e-wallet brands, increase the number of

respondents, and add other variables such as social influence, facilitating conditions, perceived risk, lifestyle, perceived security, habit, hedonic motivation, attitude, and user satisfaction.

#### **AUTHOR CONTRIBUTION**

**Alvian Risquallah Putra:** Conceptualisation and research design, data collection, methodology, data analysis, writing entire paper, editing, and layouting. The author has read the final version of the paper.

#### **Declaration of interest**

The author declares that there are no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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