

Bridging the Digital Divide: The Mediating Role of Attitude in e-Wallet Acceptance Among Low-Income Users

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ARTICLE INFO

Article history:

Received 6 November 2025

Revised 1 January 2026

Accepted 23 February 2026

Online first

Published 1 September 2026

Keywords:

Behavioural Finance

e-Wallet

Fintech

Low-Income

Technology Acceptance Model

PLS-SEM

DOI:

10.24191/jcrinn.v1i12.629

ABSTRACT

This study examines the factors driving e-wallet acceptance among low-income users in Malaysia, with a particular focus on how attitude serves as a mediating factor. A quantitative research design was adopted, and data were gathered from 265 respondents across West Malaysia using a stratified random sampling technique. The analysis was performed using SmartPLS software, underpinned by the Technology Acceptance Model (TAM) as the theoretical foundation. The research framework comprises five independent variables—perceived ease of use, security, government intervention, social influence, and trust—with e-wallet acceptance as the dependent variable and attitude as the mediator. The findings indicate that perceived ease of use and trust both positively influence e-wallet acceptance. Moreover, attitude significantly mediates the relationships between perceived ease of use, social influence, trust, and acceptance. However, attitude does not mediate the effects of security or government intervention. These results offer valuable insights for policymakers, service providers, and marketers by underscoring the importance of building trust, enhancing usability, and cultivating positive user attitudes to boost adoption in low-income communities. By targeting these factors, the study contributes to the literature on financial technology adoption. It supports efforts to foster a cashless society in Malaysia, thereby promoting greater financial inclusion and reducing inequality.

1. INTRODUCTION

The rapid advancement of digital technologies has transformed the global financial landscape, giving rise to financial technology (fintech) as a powerful driver of innovation in financial services. Fintech is a fusion of finance and technology that encompasses a wide range of digital solutions designed to improve efficiency, accessibility, and customer experience in financial transactions. The growth of fintech in Malaysia, particularly in domains like online banking and electronic payments, has significantly enhanced the nation's technological progress (Kamis et al., 2023). Among these innovations, electronic wallets (e-wallets) have emerged as a particularly significant tool, allowing users to perform transactions

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<https://doi.org/10.24191/jcrinn.v1i12.629>

conveniently, securely, and in real time. By replicating the functions of a physical wallet in a digital environment, e-wallets enable users to make payments, transfer funds, and manage accounts with greater ease. Globally, e-wallet adoption has accelerated due to its potential to improve efficiency, reduce reliance on cash, and foster financial inclusion, especially in developing economies where access to traditional banking infrastructure remains limited.

In Malaysia, e-wallets have become an important component of the digital economy agenda, bolstered by government initiatives to promote a cashless society. Policies such as incentives, subsidies, and public awareness campaigns have sought to spur adoption across all income groups, with dual goals of enhancing economic productivity and narrowing inequality. Despite these efforts, e-wallet adoption remains uneven. While higher-income groups show strong uptake (usage rates exceed 67 percent), adoption among low-income households lags at around 55 percent (Trotman, 2021). This disparity is problematic, as government subsidies and financial assistance programs are increasingly delivered through digital platforms. Those who fail to adopt e-wallets risk exclusion from essential benefits and services. Thus, although promoting e-wallets is intended to support financial inclusion, low adoption among the most vulnerable groups risks reinforcing existing inequalities rather than alleviating them.

The reluctance of low-income groups to adopt e-wallets can be attributed to a combination of structural and behavioural barriers. Structural challenges include limited access to smartphones with advanced features, inconsistent internet connectivity, and lower levels of digital literacy. Behavioural factors, meanwhile, involve anxiety, lack of trust, and scepticism about the security of digital transactions (Kasirye et al., 2021). Previous studies suggest that while consumers are drawn to the convenience of e-wallets, their perceptions of risk, security, and government support may influence adoption differently across demographic segments (Al-Dmour et al., 2021; Shen et al., 2020). This highlights the importance of examining not only technological factors but also psychological dimensions, particularly attitude, which reflects users' overall evaluation of and disposition toward new technologies. This underscores the importance of examining not only technological factors but also psychological dimensions, particularly attitude, which reflects users' overall evaluation of and disposition toward new technologies.

The Technology Acceptance Model (TAM) provides a useful theoretical foundation for analyzing e-wallet adoption. TAM posits that perceived usefulness and perceived ease of use are key predictors of technology acceptance (Davis, 1989). However, scholars have extended the model by incorporating additional variables such as trust, social influence, government intervention, and security to capture the complexity of user behaviour in digital finance. While these factors offer explanatory power, their effects may not be direct; instead, they could operate through the mediating role of attitude. Attitude represents an individual's predisposition to accept or reject technology, shaped by beliefs about ease of use, trustworthiness, and perceived social benefits. Yet despite the growing body of research on fintech adoption, few studies have examined how attitude mediates the relationship between these determinants and e-wallet acceptance among low-income groups.

This gap is significant for both theoretical and practical reasons. Theoretically, understanding the mediating role of attitude enriches the TAM framework by providing deeper insight into how psychological constructs translate structural enablers into actual technology adoption. Practically, uncovering the role of attitude is essential for designing policies and interventions that resonate with low-income users' lived realities. While government initiatives may offer financial incentives, these efforts are unlikely to succeed unless they are perceived positively and shape favourable attitudes toward adoption. Similarly, building trust and demonstrating ease of use must go beyond technical features to cultivate user confidence and willingness.

Accordingly, this study seeks to address two research questions: (RQ1) What are the determinants influencing e-wallet acceptance among Malaysia's low-income population? and (RQ2) Does attitude mediate the relationship between these determinants and e-wallet acceptance? By focusing on the B40 group in West Malaysia, this study contributes to the financial technology literature by highlighting how

socio-psychological factors interact with structural determinants to influence adoption. The findings provide practical implications for policymakers, e-wallet providers, and marketers, emphasizing the need to design strategies that enhance usability, build trust, and shape positive attitudes to promote wider adoption. Ultimately, this research advances the broader agenda of financial inclusion and supports national objectives to foster a cashless society that benefits all segments of the population.

2. CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The Technology Acceptance Model (TAM) offers a well-established theoretical foundation for understanding how individuals adopt and use technology. Originally proposed by Davis (1989), TAM argues that two perceptions—perceived usefulness and perceived ease of use—jointly determine an individual's attitude toward a technology, which subsequently shapes behavioural intention and actual usage. Over the years, scholars have expanded the model to include contextual factors that capture broader social, regulatory, and trust-related dynamics affecting adoption, particularly in digital finance.

In the context of e-wallets, traditional TAM constructs alone are insufficient. Financial technologies operate within trust-based systems that are highly sensitive to perceptions of security, institutional credibility, and peer norms. Therefore, this study extends TAM by incorporating five independent variables—Perceived Ease of Use (PEOU), Security (SC), Government Intervention (GI), Social Influence (SI), and Trust (TR)—and tests Attitude (ATT) as a mediating variable influencing E-Wallet Acceptance (eWA) among Malaysia's low-income users. This integrated framework acknowledges that technological factors (usability, security) and socio-psychological factors (trust, influence, and policy environment) jointly determine adoption outcomes.

2.1 Perceived ease of use (PEOU)

PEOU refers to the extent to which users believe that adopting a technology requires minimal effort. Within TAM, perceived ease of use directly influences both attitude toward the technology and the intention to use it. Numerous studies have demonstrated that systems perceived as intuitive and accessible significantly enhance adoption rates (Venkatesh & Davis, 2000). In digital payment contexts, ease of use translates to how easily users can install an app, navigate its features, and complete transactions without technical frustration.

Empirical evidence consistently supports PEOU as a strong driver of e-wallet adoption in developing economies (Malik & Annuar, 2021). For low-income users who often have limited exposure to fintech applications, complexity or technical jargon can quickly erode confidence. The more straightforward the interface and process, the greater the likelihood of repeated usage.

H1: Perceived ease of use has a positive relationship with e-wallet acceptance.

2.2 Security (SC)

Security represents the perceived ability of an e-wallet system to protect users' financial and personal information. Users must feel confident that their transactions and data are safe from fraud or misuse. Studies such as Liébana-Cabanillas et al. (2020) and AlKubaisi and Naser (2020) indicate that when users trust a platform's security mechanisms, adoption rises significantly. However, in contexts where users lack a technical understanding of encryption or privacy safeguards, abstract security assurances may not translate into true confidence. Among Malaysia's low-income communities, fear of scams and data theft often outweighs perceived convenience (Kasirye et al., 2021). Yet prior research also suggests that when trust in service providers exists, security concerns may recede in importance (Zhao, 2023). This implies that security might exert its influence indirectly—through trust and attitude—rather than via a direct path to acceptance.

H2: Security has a positive relationship with e-wallet acceptance.

2.3 Government intervention (GI)

Government intervention encompasses laws, regulations, incentives, and educational campaigns that promote the use of digital financial systems. Malaysia's government has been instrumental in encouraging e-wallet usage through measures such as the e-Tunai Rakyat program and the MyDIGITAL agenda. In several Asian countries, regulatory endorsement has been found to normalize the use of fintech products by increasing public confidence (Appiah et al., 2019; Huang et al., 2021). However, government initiatives can produce mixed outcomes. While incentives may stimulate temporary interest, sustained adoption depends on whether users perceive such programs as credible and personally beneficial (Abulehia et al., 2023; Muthusamy et al., 2024). In some cases, government intervention is viewed as bureaucratic or short-lived, diminishing its direct effect on behavioural intention.

H3: Government intervention has a positive relationship with e-wallet acceptance.

2.4 Social influence (SI)

Social influence describes how users' perceptions are shaped by family, friends, or peers. In collectivist societies such as Malaysia, social norms play an outsized role in technology adoption. Individuals are more likely to try new systems when they see trusted others using and endorsing them. This aligns with the Unified Theory of Acceptance and Use of Technology (UTAUT). Social influence is a core determinant of behavioural intention (Venkatesh & Davis, 2000). For low-income users, peer validation can be particularly persuasive (Kamis et al., 2024). Because this group may lack technical confidence, observing successful e-wallet use by friends or neighbours' helps reduce uncertainty. In this way, social acceptance strengthens positive attitudes toward the technology.

H4: Social influence has a positive relationship with e-wallet acceptance.

2.5 Trust (TR)

Trust is the belief that the service provider is reliable, honest, and competent. It is a fundamental prerequisite for engaging in any digital financial activity, as users must believe that the platform will safeguard their assets and privacy (Pal et al., 2020). Prior studies show that trust not only influences intention directly but also enhances perceived ease of use and attitude (Hariguna et al., 2020; Yang et al., 2021). In the e-wallet context, trust is built through user experience, brand reputation, transparent communication, and responsive customer support. Among Malaysia's low-income users, many of whom have limited experience with formal financial institutions. Trust in providers serves as a substitute for institutional familiarity.

H5: Trust has a positive relationship with e-wallet acceptance.

2.6 Attitude (ATT) as a mediator

Attitude represents an individual's positive or negative evaluation of performing a specific behavior. TAM and the Theory of Reasoned Action (Ajzen & Fishbein, 1980), highlighted that attitude serves as the psychological bridge between cognition and behavior. Numerous fintech studies highlight the mediating role of attitude in linking usability and trust perceptions with adoption intention (Chawla & Joshi, 2021; Latupeirissa et al., 2020). In the present study, attitude captures the emotional and cognitive appraisal of e-wallet use among low-income Malaysians. When individuals perceive e-wallets as easy to use, trustworthy, and socially endorsed, they are more likely to develop favorable attitudes that translate into acceptance. This extended TAM model thus integrates psychological and structural enablers to explain how low-income users form acceptance behaviors. By empirically validating the framework illustrated in Figure 1, this study

adds valuable insights to the literature on financial inclusion and behavioural fintech research. The following hypotheses are proposed:

- H6: The relationship between perceived ease of use and e-wallet acceptance is mediated by attitude.
- H7: The relationship between security and e-wallet acceptance is mediated by attitude.
- H8: The relationship between government intervention and e-wallet acceptance is mediated by attitude.
- H9: The relationship between social influence and e-wallet acceptance is mediated by attitude.
- H10: The relationship between trust and e-wallet acceptance is mediated by attitude.
- H11: Attitude has a positive relationship with e-wallet acceptance.

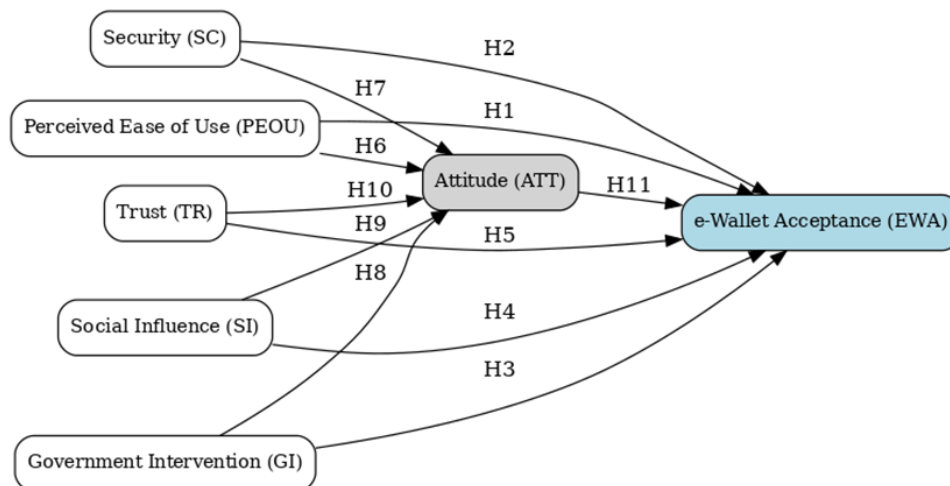


Fig. 1. Conceptual framework

Source: Developed for the current study

3. METHODOLOGY

3.1 Research design

A quantitative research design was employed to test the proposed relationships and mediation effects in a systematic manner. Using a structured questionnaire ensured consistency and replicability across respondents. Additionally, this approach enabled the use of Partial Least Squares Structural Equation Modeling (PLS-SEM), a robust analytical method well-suited for exploratory models and data that may not be normally distributed.

3.2 Population and sampling

The population of interest consisted of Malaysia's B40 group, defined as households earning less than RM4,850 per month. This segment represents the most financially vulnerable portion of society, making it a critical focus for digital inclusion studies. A stratified random sampling method was used to capture diversity in gender, age, and education level. Power analysis using G*Power (Cohen, 1992) suggested a minimum sample size of 204 respondents; the final dataset included 265 valid responses, meeting the

recommended statistical power. Data were collected online across various states in West Malaysia through community networks and social media groups targeting low-income participants.

3.3 Instrument development

Measurement items were adapted from previously validated scales to ensure construct validity and reliability. All items were rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). To ensure linguistic clarity, the questionnaire was translated into Malay and then back-translated into English to preserve meaning. Administering the survey bilingually improved accessibility for respondents with limited English proficiency. The main constructs and their sources are summarized in Table 1:

Table 1. Main constructs

Main Construct	Source of Items
Perceived Ease of Use (PEOU)	Davis et al. (1989) and Lew et al. (2020)
Security (SC)	Sabli et al. (2021) and Voronenko (2018)
Government Intervention (GI)	Aji et al. (2020)
Social Influence (SI)	Voronenko (2018) and Vy (2019)
Trust (TR)	Alshurideh et al. (2021)
Attitude (ATT)	Widayat et al. (2020)
e-Wallet Acceptance (eWA)	Voronenko (2018)

Source: Developed for the current study

In this study, attitude is operationally defined as the individual's overall positive or negative evaluation of using e-wallet technology—reflecting both emotional and cognitive appraisals of its convenience, trustworthiness, and perceived benefits. Attitude was measured using five items adapted from Widayat et al. (2020), for example, “Using an e-wallet is a good idea,” and “I have a positive feeling toward using e-wallets,” on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Higher mean scores indicate a more favorable disposition toward adoption.

3.4 Data collection and ethics

Data collection was conducted online due to logistical constraints and the widespread mobile connectivity among the B40 group. Participation was voluntary, and informed consent was obtained from all respondents. Ethical approval was granted by the university's Research Ethics Committee, ensuring compliance with institutional standards. Anonymity and confidentiality were assured throughout, in line with ethical guidelines for research involving human participants.

The data were analyzed using SmartPLS 4 following a two-step approach. First, the measurement model was assessed to evaluate reliability and convergent validity (via Average Variance Extracted, AVE), as well as discriminant validity using the Heterotrait-Monotrait (HTMT) ratio. Second, the structural model was examined by testing the hypotheses through bootstrapping with 5,000 resamples, which provided estimates of path coefficients, t-values, and p-values. Mediation effects were analyzed according to the procedure of Preacher and Hayes (2008), using bias-corrected confidence intervals to determine significance. R² value was calculated to assess the model's explanatory power, and f² values were computed to gauge the effect size of each predictor. These analyses demonstrate the robustness and clarity of the extended TAM in explaining e-wallet acceptance.

4. RESULTS AND DISCUSSION

4.1 Results

4.1.1. Common method variance

All data were collected via a self-reported questionnaire, common method bias was evaluated with a full collinearity test (Kock, 2015). All variance inflation factors (VIF) values were below 3.3, as shown in Table 2, indicating that common method bias is not a concern.

Table 2. Full collinearity test result (VIF)

	PEOU	SC	GI	SI	TR	ATT
VIF	2.575	2.620	1.734	1.695	3.264	3.24

Source: Developed for the current study

4.1.2. Measurement model

All indicator loadings exceeded the recommended 0.70 threshold (Hair et al., 2019), except for one slightly lower item (GI4 = 0.677), which was retained for theoretical consistency. Table 3 shows that the composite reliability (CR) values range from 0.89 to 0.96, while the average variance extracted (AVE) for all constructs is above 0.50. These results indicate strong internal consistency and good convergent validity across the measurement model. Discriminant validity was established using the HTMT criterion (Table 4), where all inter-construct ratios were below 0.85. This confirms that the constructs are distinct from one another. These results validate the reliability and construct integrity of the measurement model.

Table 3. Reflective measurement model

Construct	Items	Loadings	CR	AVE
Perceived Ease of Use	PEOU1	0.876	0.936	0.794
	PEOU2	0.885		
	PEOU3	0.887		
	PEOU4	0.891		
	PEOU5	0.971		
Security	SC1	0.844	0.929	0.678
	SC2	0.869		
	SC3	0.719		
	SC4	0.862		
	SC5	0.853		
	SC6	0.805		
	SC7	0.803		
Government Intervention	GI1	0.845	0.896	0.611
	GI2	0.876		
	GI3	0.804		
	GI4	0.677		
	GI5	0.752		
	GI6	0.720		
Social Influence	SI1	0.780	0.918	0.706
	SI2	0.812		
	SI3	0.868		

	SI4	0.896		
	SI5	0.804		
	SI6	0.873		
Trust	TR1	0.885	0.959	0.772
	TR2	0.898		
	TR3	0.726		
	TR4	0.931		
	TR5	0.868		
	TR6	0.926		
	TR7	0.890		
	TR8	0.886		
Attitude	ATT1	0.850	0.921	0.751
	ATT2	0.891		
	ATT3	0.864		
	ATT4	0.823		
	ATT5	0.902		
e-Wallet Acceptance	eWA1	0.805	0.917	0.668
	eWA2	0.813		
	eWA3	0.669		
	eWA4	0.862		
	eWA5	0.878		
	eWA6	0.858		

Source: Developed for the current study

Table 4. Discriminant validity result (HTMT)

	ATT	GI	PEOU	SC	SI	TR	eWA
ATT							
GI	0.629						
PEOU	0.822	0.581					
SC	0.550	0.521	0.506				
SI	0.658	0.556	0.569	0.389			
TR	0.698	0.535	0.600	0.818	0.475		
eWA	0.767	0.546	0.692	0.504	0.562	0.649	

4.1.3. Structural model

The R^2 for e-wallet acceptance (EWA) was 0.566, indicating that approximately 56.6% of the variance in acceptance is explained by PEOU, SC, GI, SI, TR, and ATT. This represents moderate explanatory power, which is acceptable for behavioural studies in fintech contexts. As shown in Table 5, the structural model results indicate that perceived ease of use (PEOU $\rightarrow$ EWA) has a positive and significant direct effect on e-wallet acceptance ($\beta = 0.172$, $p < 0.01$). Trust (TR $\rightarrow$ EWA) similarly exhibits a strong positive effect ($\beta = 0.250$, $p < 0.01$), and attitude (ATT $\rightarrow$ EWA) has the largest influence of all ($\beta = 0.372$, $p < 0.01$). These three variables thus emerge as the primary predictors of e-wallet acceptance. In contrast, security (SC $\rightarrow$ EWA, $\beta = -0.053$, $p > 0.05$), government intervention (GI $\rightarrow$ EWA, $\beta = 0.056$, $p > 0.05$), and social influence (SI $\rightarrow$ EWA, $\beta = 0.077$, $p > 0.05$) do not have significant direct effects. Therefore, H1, H5, and H11 are supported, whereas H2, H3, and H4 are not. The effect sizes (f^2) for PEOU (0.027), TR

(0.045), and ATT (0.098) are modest but meaningful, underscoring their practical contribution to adoption behavior.

Table 5. Hypothesis testing results (direct effects)

Hypothesis	Path	β	t-value	p-value	Result	f ²
H1	PEOU $\rightarrow$ eWA	0.172	3.025	<0.01	Supported	0.027
H2	SC $\rightarrow$ eWA	-0.053	1.120	>0.05	Not supported	-
H3	GI $\rightarrow$ eWA	0.056	0.960	>0.05	Not supported	-
H4	SI $\rightarrow$ eWA	0.077	1.290	>0.05	Not supported	-
H5	TR $\rightarrow$ eWA	0.250	2.293	<0.01	Supported	0.045
H11	ATT $\rightarrow$ eWA	0.372	4.537	<0.01	Supported	0.098

Source: Developed for the current study

4.1.4. Mediation analysis

To examine the mediating role of attitude (ATT), a bootstrapping procedure with 5,000 resamples was applied. Table 6 reveals significant indirect effects for the paths PEOU $\rightarrow$ ATT $\rightarrow$ EWA ($\beta = 0.455$, $p < 0.01$), SI $\rightarrow$ ATT $\rightarrow$ EWA ($\beta = 0.197$, $p < 0.01$), and TR $\rightarrow$ ATT $\rightarrow$ EWA ($\beta = 0.308$, $p < 0.01$). The confidence intervals for these indirect effects did not cross zero, confirming full mediation for H6, H9, and H10. By contrast, the indirect effects of Security (SC $\rightarrow$ ATT $\rightarrow$ EWA) and Government Intervention (GI $\rightarrow$ ATT $\rightarrow$ EWA) were non-significant ($p > 0.05$), leading to the rejection of H7 and H8. In essence, perceived ease of use, social influence, and trust affect e-wallet acceptance primarily by shaping users' positive attitudes, whereas security and government measures exert minimal psychological impact on acceptance.

Table 6. Hypothesis Testing Result (Indirect Effects)

Hyphothesis	Relationship	β	Std. Error	t-value	p-value	Result
H6	PEOU $\rightarrow$ ATT $\rightarrow$ eWA	0.455	0.024	8.316	0.001	Supported
H7	SC $\rightarrow$ ATT $\rightarrow$ eWA	-0.060	0.021	1.067	0.351	Not Supported
H8	GI $\rightarrow$ ATT $\rightarrow$ eWA	0.105	0.027	1.543	0.124	Not Supported
H9	SI $\rightarrow$ ATT $\rightarrow$ eWA	0.197	0.023	6.341	0.001	Supported
H10	TR $\rightarrow$ ATT $\rightarrow$ eWA	0.308	0.028	7.621	0.001	Supported

4.2 Discussion

The empirical findings reaffirm the validity of the extended TAM model in explaining fintech adoption among low-income users. The strong effect of perceived ease of use underscores that simplicity remains a cornerstone of technology acceptance. For low-income users with limited digital exposure, even minor usability challenges can deter engagement. Thus, an intuitive and seamless interface is a powerful enabler of acceptance. The results also confirm that trust plays an indispensable role. In digital finance, where users lack physical contact and must rely on institutional integrity, trust compensates for perceived risks. This aligns with prior studies (Hariguna et al., 2020; Yang et al., 2021) showing that credibility, transparency,

and reliability are pivotal for adoption. For Malaysia's low-income users, trust is not just transactional but also emotional: users need to believe that providers are genuinely safeguarding their interests.

Attitude emerged as the strongest direct predictor of e-wallet acceptance, demonstrating its critical mediating function. Attitude converts belief into behavior; when users perceive a technology as beneficial, safe, and socially approved, they develop an intrinsic motivation to use it. This finding extends TAM by confirming that attitude is not merely an outcome of cognitive evaluation but a transformative mechanism linking beliefs to behavioural intention. Interestingly, security and government intervention were not significant either directly or indirectly. This suggests that once baseline trust and usability are established, users may not consciously weigh technical security features or policy influences. In other words, the psychological comfort derived from trust can overshadow technical assurances. Similarly, top-down interventions may lack resonance unless they are communicated in relatable, user-centric terms. Government programs like e-Tunai Rakyat might spark initial interest, but sustained usage depends on personal conviction rather than incentives alone. Social influence had no direct effect on acceptance but a strong indirect effect via attitude, indicating that community endorsement shapes perceptions rather than behavior directly. In Malaysia's collectivist B40 communities, behavioural contagion occurs through social validation where users adopt e-wallets not simply to comply with others, but because acceptance signifies belonging and modernity.

Although security and government intervention were hypothesized to influence e-wallet acceptance through attitude, their mediating effects were not significant. One explanation lies in the baseline expectations of users: when trust and usability are already established, users may consider security as an implicit feature rather than a differentiating factor influencing their emotions or attitudes. For low-income users, who often rely on peer experiences and visible reliability rather than technical specifications, security assurances may not evoke stronger positive feelings toward adoption. Similarly, the non-significant mediation of government intervention suggests that top-down initiatives, such as subsidies or awareness campaigns, may not translate into psychological commitment. Many respondents perceive these programs as temporary or bureaucratic, lacking personal relevance. This detachment limits the ability of government efforts to shape attitudes. Future policies could, therefore, emphasize participatory and localized engagement, such as community ambassadors and cooperative digital literacy programs to ensure that interventions resonate emotionally as well as structurally.

Overall, the findings demonstrate that adoption behavior is driven more by emotional confidence and social assurance than by institutional guarantees. Perceived ease of use and trust catalyze a positive attitude, and that attitude in turn drives commitment to using technology.

5. IMPLICATIONS

5.1 Theoretical contributions

This study extends TAM by integrating socio-psychological and contextual factors and empirically validating the mediating role of attitude among low-income users. Whereas traditional TAM emphasizes cognitive evaluation (usefulness and ease of use), this research shows that attitude functions as a central conversion mechanism linking usability, social trust, and eventual acceptance behavior. Furthermore, by focusing on a financially constrained population, this study broadens TAM's applicability beyond affluent or digitally literate users. The results demonstrate that adoption in low-income contexts follows a distinct path—driven by interpersonal trust, community endorsement, and emotional assurance rather than technical or regulatory factors. This insight enriches the fintech adoption literature by highlighting context-sensitive behavioural dynamics that differ from those in higher-income or more tech-savvy groups.

5.2 Practical implications

For practitioners, the findings underscore the importance of designing trust-driven and user-friendly e-wallet experiences. Providers should prioritize simplified interfaces that minimize the number of steps and cognitive effort required from users. Additionally, transparent communication about data protection policies and transaction reliability is essential to build user confidence. Establishing responsive and empathetic customer support channels can further reinforce a sense of security and trust. Collectively, these measures help foster positive user attitudes, which in turn encourage loyalty and sustained usage of e-wallet services.

From a policy perspective, government agencies need to move beyond one-off subsidies and incentives toward initiatives focused on digital literacy and trust-building. Public awareness programs should demystify security concepts and demonstrate tangible benefits that are relevant to the daily lives of low-income citizens. Collaborations with local community leaders, NGOs, and cooperatives can amplify credibility and ensure that government initiatives are perceived as inclusive rather than top-down mandates. Social influence can be leveraged through peer advocacy and community demonstration programs. For example, encouraging satisfied users to share their experiences within their social networks can create powerful word-of-mouth momentum, particularly in close-knit B40 communities. From a broader policy standpoint, interventions should move beyond promotional campaigns toward institutional frameworks that foster sustained digital confidence. This includes transparent grievance mechanisms, standardized security certifications for fintech providers, and community-level education programs co-developed with NGOs and microfinance organizations. By integrating behavioral insights with regulatory planning, policymakers can ensure that digital-finance inclusion becomes both equitable and emotionally empowering for low-income citizens.

6. CONCLUSION

This study provides novel insights into how psychological and contextual factors jointly shape e-wallet acceptance among Malaysia's low-income users. The results highlight that perceived ease of use and trust are the most influential determinants, while attitude acts as a key mediating bridge transforming these beliefs into behavioural acceptance. Social influence reinforces this process indirectly, whereas government intervention and security have weaker explanatory power once trust and usability are in place. The implications are clear: digital inclusion cannot rely solely on infrastructure or financial incentives. Sustainable adoption emerges from building trust, providing positive user experiences, and ensuring users are emotionally ready to embrace technology. For fintech providers and policymakers alike, the path to a truly cashless society lies in human-centered digital transformation—building systems that people not only use but genuinely believe in. By empirically validating the mediating power of attitude within an extended TAM framework, this study contributes both theoretical depth and practical direction. It underscores that the success of Malaysia's digital economy depends not merely on technological deployment but also on cultivating the right mindset among its most economically vulnerable citizens.

Despite its contributions, this study is constrained by several limitations. The cross-sectional design captures perceptions at a single point in time, which restricts the ability to infer causality or track attitudinal changes as digital-finance ecosystems evolve. Future research could employ longitudinal or mixed method approaches to explore how attitudes and trust develop over time. Additionally, while the sample of 265 respondents across West Malaysia provides valuable insights, it may not fully represent the diversity of Malaysia's low-income population, particularly rural, East Malaysian, or unbanked communities. Broader and more stratified sampling would strengthen generalizability. Addressing these limitations could enhance both theoretical robustness and the practical impact of future studies.

7. ACKNOWLEDGEMENTS/FUNDING

The authors would like to acknowledge the support of Universiti Teknologi Mara (UiTM), Cawangan Melaka, Kampus Bandaraya Melaka, for providing the facilities for this research.

8. CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

9. AUTHORS' CONTRIBUTIONS

Rohaiza Kamis: Conceptualisation, literature review components, methodology, data analysis, and writing-original draft; **Shafinar Ismail:** Conceptualisation, methodology, supervision, validation; **Nurhayati Abd Rahman:** Conceptualisation, methodology, supervision, writing- review and editing, and validation. The final manuscript was reviewed and approved by all the authors.

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