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Understanding Digital Wallet Continuance Intention: An Integrated TAM–ECT Perspective with Trust as a Serial Mediator

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Abstract

The rapid expansion of digital payment systems has increased the need to understand the factors that drive continued usage, particularly among small business users such as vendors, petty shop owners, and micro-retailers. Although the Technology Acceptance Model (TAM) provides a strong foundation for understanding technology adoption, post-adoption behaviour requires integrating additional constructs such as Trust and Customer Satisfaction. Therefore, the objective of this study is to examine how Perceived Ease of Use, Perceived Usefulness, Trust, and Customer Satisfaction influence Continuance Intention to Use digital payments. Data were collected from 284 business users and analysed using PLS-SEM. The findings reveal that Perceived Ease of Use, Perceived Usefulness, Trust, and Customer Satisfaction significantly predict continuance intention. Mediation results show that Trust and Customer Satisfaction partially mediate several relationships, while sequential mediation occurs only through the pathway beginning with Perceived Ease of Use. The results also indicate that Perceived Usefulness primarily affects continuance intention directly, without meaningful mediation. The novelty of this research lies in demonstrating that ease of use produces a stronger cognitive–emotional pathway than usefulness in shaping long-term digital payment usage among small business users. These findings offer practical insights for enhancing digital payment design, user experience, and trust-building strategies.

Keywords

Digital platforms, Technology Acceptance Model, Perceived Ease of Use, Perceived Usefulness, Trust, Customer Satisfaction, Continuance Intention to Use, Post-adoption behavior, Digital wallets

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Introduction

The rapid expansion of digital platforms for financial and service-related activities has made it essential to understand the factors that shape users' continued usage behavior, as long-term engagement, not just initial adoption, determines the true success of systems such as mobile banking, e-wallets, and online services. Recent studies (Aji, Berakon & Husin, 2020; Susanto et al., 2021) highlight that continuance intention is influenced by both cognitive and emotional factors, requiring a deeper exploration of what drives users to persist with technology over time. Although the Technology Acceptance Model remains foundational, research between 2020 and 2021 (Putra, Santoso & Handayani, 2020; Alalwan, 2020; Mailizar & Fan, 2020) consistently shows that Perceived Ease of Use enhances users' confidence and reduces effort barriers, while Perceived Usefulness strengthens their belief that technology offers performance benefits. However, recent findings (Febriani & Idris, 2021; Khan, Sutanto & Tan, 2021) emphasize that cognitive beliefs alone are insufficient, as Trust has become a central determinant of digital platform engagement, particularly where financial or sensitive information is involved. Trust reduces perceived risks, increases reliability, and reinforces user confidence. At the same time, Satisfaction has been shown to emerge from positive user experiences shaped by system performance and perceived usefulness, further influencing continuance intention (Aji et al., 2020; Susanto et al., 2021). Despite these insights, existing studies seldom integrate TAM constructs with Trust and Satisfaction into a unified post-adoption model, creating a gap in understanding how these variables interact to shape continuance intention. Therefore, the present study aims to develop and validate an integrated framework examining how Perceived Ease of Use influences Perceived Usefulness and Trust, how Perceived Usefulness contributes to both Trust and Satisfaction, and how Trust and Satisfaction ultimately drive Continuance Intention to Use, while also assessing the mediating roles of PU, Trust, and Satisfaction in these relationships. This integrated approach provides a comprehensive lens to explain sustained user behavior and offers practical insights for developers and service providers seeking to improve system design, build user confidence, and enhance satisfaction for long-term engagement.

Research methodology

This study adopted a quantitative, cross-sectional research design to examine the factors influencing the continuance intention to use digital payment systems among small business users. The target population consisted of petty shop owners, local vendors, kirana shop owners, and small merchants who actively use digital payment methods; however, since this population is large, informal, and not officially documented, the exact population size remains unknown. Therefore, a non-probability sampling approach was employed, combining purposive sampling to ensure only active digital payment users were included and convenience sampling to access respondents directly in marketplaces and business areas. A total of 300 questionnaires were distributed, and after data cleaning/removing incomplete responses and outliers 284 valid responses were retained for analysis. Data were collected using a structured questionnaire based on validated scales for Perceived Ease of Use and Perceived Usefulness (Davis, 1989), Trust (Gefen et al., 2003), Customer Satisfaction and Continuance Intention (Bhattacherjee, 2001), all measured on a 5-point Likert scale. The dataset was screened for missing values, univariate and multivariate outliers, and common method bias using Harman's single-factor test and full collinearity VIFs, all within

acceptable limits. Given its suitability for prediction-oriented models and non-normal data, Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0 was employed. The analysis included evaluation of the measurement model (indicator reliability, composite reliability, Cronbach's alpha, AVE, Fornell–Larcker criterion, and HTMT ratios) and the structural model (path coefficients, t-values, p-values, R^2), with significance tested using bootstrapping with 5,000 resamples. This comprehensive approach ensured the robustness and validity of the results in understanding the determinants of continuance intention to use digital payment systems among small business users.

Reliability and validity

The measurement model demonstrates satisfactory reliability and convergent validity across all constructs. First, all factor loadings exceed the recommended threshold of 0.70 (Hair et al., 2019), except PEOU-1 (0.677), which is still acceptable as loadings above 0.60 may be retained when overall construct reliability is strong. Perceived Usefulness (PU) shows high loadings ranging from 0.788 to 0.959, indicating strong indicator reliability. Perceived Ease of Use (PEOU) also demonstrates acceptable loadings between 0.677 and 0.851. Trust exhibits strong loadings (0.791–0.820), while Customer Satisfaction (CS) shows excellent indicator reliability with loadings between 0.717 and 0.925. Continuance Intention to Use (CIU) also displays strong loadings (0.824–0.881), supporting the robustness of the indicators.

In terms of internal consistency reliability, Cronbach's Alpha values for all constructs exceed the recommended 0.70 threshold: PU (0.885), PEOU (0.701), Trust (0.727), CS (0.893), and CIU (0.813). These results confirm high internal consistency among items within each construct. Composite Reliability (CR) values also meet the minimum requirement of 0.70, further supporting reliability: PU (0.891), PEOU (0.712), Trust (0.728), CS (0.924), and CIU (0.820). The CR values being higher than Alpha values indicate that the constructs are measured reliably under PLS-SEM.

Convergent validity is supported by Average Variance Extracted (AVE) values, all of which exceed the recommended cutoff of 0.50. AVE values are: PU (0.820), PEOU (0.626), Trust (0.647), CS (0.761), and CIU (0.727). These results confirm that each construct explains more than 50% of the variance in its indicators, demonstrating strong convergent validity. Customer Satisfaction and Perceived Usefulness present particularly high AVE values, indicating excellent construct validity.

Hypothesis No.	Hypothesis type	Path	B	T-Statistics	P values	Hypothesis Decisions
H1	H1a	PEOU → CONINT	0.292	4.228	0.000	Supported
	H1b	PU → CONINT	0.205	3.456	0.001	Supported
H2	H2a	Trust→ CONINT	0.179	2.538	0.011	Supported
	H2b	PEOU → Trust → CONINT	0.085	2.320	0.020	Supported
	H2c	PU → Trust → CONINT	0.033	1.891	0.059	Not Supported
H3	H3a	CUSAT → CONINT	0.351	7.817	0.000	Supported
	H3b	PEOU → CUSAT→ CONINT	0.112	4.033	0.000	Supported
	H3c	PU → CUSAT→ CONINT	-0.004	0.175	0.861	Not Supported
	H3d	CUSAT → Trust → CONINT	0.037	2.291	0.022	Supported
H4	H4	PEOU → CUSAT→ Trust → CONINT	0.012	1.965	0.049	Supported
H5	H5	PU → CUSAT→ Trust → CONINT	0.000	0.162	0.871	Not Supported
R-Square		Continuance intention to use	0.579			
		Trust	0.463			
		Customer satisfaction	0.099			

Table 1: Direct and serial mediation analysis of PU, PEOU,Trust,CS, and CIU

The mediation analysis shows that Perceived Ease of Use (PEOU) influences Continuance Intention both directly and indirectly through Trust and Customer Satisfaction, indicating partial mediation in both cases. In contrast, Perceived Usefulness (PU) affects Continuance Intention mainly through its direct effect, since the indirect paths through Trust and Customer Satisfaction are not significant, demonstrating no mediation. Customer Satisfaction also exerts a significant direct effect on Continuance Intention, while Trust carries part of this relationship, resulting in partial mediation. The sequential mediation involving PEOU, Customer Satisfaction, Trust, and Continuance Intention is significant, confirming partial sequential mediation because both the direct and indirect effects remain meaningful. However, the corresponding sequential mediation originating from Perceived Usefulness is not supported, indicating no mediation. Overall, the findings suggest that PEOU operates through multiple mediated pathways, PU operates mostly through direct influence, and Trust and Customer Satisfaction play complementary but not universal mediating roles.

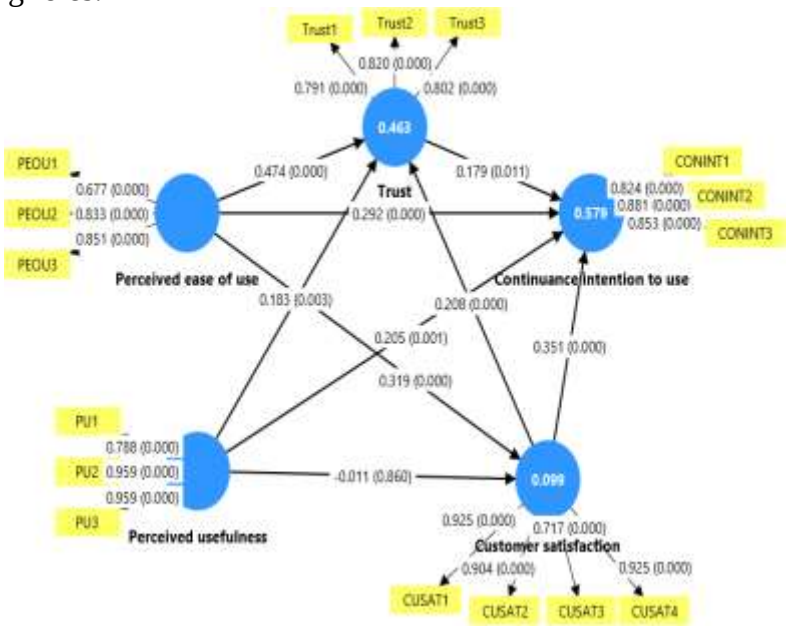

Fig:1 Analysed model

Result and discussion

The results of the structural model demonstrate strong explanatory power, with the model accounting for 57.9% of the variance in Continuance Intention, 46.3% in Trust, and 9.9% in Customer Satisfaction. The direct effects show that Perceived Ease of Use, Perceived Usefulness, Trust, and Customer Satisfaction significantly influence continuance intention, confirming the robustness of TAM constructs within the digital payment context for small business users. These findings align with previous studies (Putra et al., 2020; Alalwan, 2020), which emphasize that ease of operation and performance benefits remain essential even after initial adoption. Mediation analyses reveal that PEOU has significant indirect effects through both Trust and Customer Satisfaction, indicating partial mediation and suggesting that ease of use not only directly enhances user attitudes but also shapes positive emotional responses. Customer Satisfaction further mediates the relationship between Trust and Continuance Intention, reinforcing the expectation-confirmation perspective that positive post-usage experiences strengthen long-term engagement

(Aji et al., 2020; Susanto et al., 2021). Moreover, the supported serial mediation pathway where PEOU improves Satisfaction, which then strengthens Trust, ultimately influencing Continuance Intention highlights the intertwined cognitive and emotional processes underlying sustained digital payment usage. Conversely, PU operates primarily through a direct pathway, with non-significant mediation effects through Trust and Satisfaction, indicating that usefulness may be perceived more cognitively and less emotionally among small business users. Overall, PEOU emerges as the most influential predictor across multiple pathways, while PU contributes predominantly through its direct impact, underscoring the need for digital payment providers to optimize both functionality and user experience to enhance long-term adoption.

Conclusion

This study provides a comprehensive understanding of the factors influencing small business users' continuance intention to use digital payment systems by integrating TAM, Trust, and Satisfaction. The results show that PEOU, PU, Trust, and Satisfaction significantly predict continuance intention, with PEOU demonstrating the strongest overall influence through both direct and mediated pathways. Trust and Customer Satisfaction play meaningful but selective mediating roles, while sequential mediation occurs only in the pathway originating from PEOU. These findings indicate that system simplicity, performance value, positive experiences, and trustworthiness are essential for long-term digital payment adoption. Practically, platform designers should focus on enhancing ease of use, building secure and trustworthy environments, and improving overall user experience to increase satisfaction and sustain user engagement. Policymakers and financial service providers should prioritize awareness and digital literacy among small business owners to further strengthen continued usage. Future studies may expand the model to include risk perception, service quality, or habit to deepen understanding of post-adoption behavior in digital financial ecosystems.

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