“Digital wallet adoption and customer loyalty: The mediating role of satisfaction and moderating effects of regions in Vietnam”

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DIGITAL WALLET ADOPTION AND CUSTOMER LOYALTY: THE MEDIATING ROLE OF SATISFACTION AND MODERATING EFFECTS OF REGIONS IN VIETNAM

Abstract

Vietnam's rapid transition toward cashless payments offers a pertinent context for examining post-adoption behavior in digital finance. This study investigates the determinants of customer satisfaction and loyalty among MoMo e-wallet users, with particular attention to the mediating role of satisfaction and the moderating influence of the Urban-Rural Digital Divide. A cross-sectional survey of 1,015 active users across Vietnam's North, Central, and South regions was conducted from September 2023 to September 2024 using both online and offline methods. Integrating TAM, UTAUT2, SERVQUAL, and Expectation-Confirmation Theory, the model includes perceived usefulness, perceived ease of use, trust, service quality, social influence, hedonic motivation, and regulatory awareness as antecedents of satisfaction and loyalty. Covariance-based structural equation modeling and multi-group analysis were employed to test the hypothesized relationships.

The findings confirm the central mediating role of satisfaction: service quality, trust, perceived usefulness, hedonic motivation, and regulatory awareness significantly enhance satisfaction, which in turn strongly predicts loyalty. Loyalty is additionally shaped by service quality, trust, social influence, and perceived ease of use. Perceived ease of use and social influence do not significantly influence satisfaction, indicating that these factors diminish in importance as users gain experience. The Urban-Rural Digital Divide moderates several relationships, with rural users placing greater emphasis on trust and hedonic motivation, whereas urban users prioritize perceived usefulness and regulatory awareness. The study contributes to post-adoption FinTech research and provides context-specific implications for improving service performance, regulatory communication, and digital financial inclusion in Vietnam.

Keywords e-wallet adoption, customer satisfaction, customer loyalty, Urban-Rural Digital Divide, Vietnam

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INTRODUCTION

Vietnam's rapid shift toward a cashless economy, driven by expanding digital infrastructure, QR-based payment systems, and state-led initiatives, has transformed how individuals and businesses engage with financial services. E-wallets have become central to this transition, with MoMo holding a dominant market position and serving a broad user base across both urban and rural regions. As these platforms become embedded in daily transactions, ensuring sustained user satisfaction and loyalty has become increasingly critical amid concerns about service reliability, security, and regulatory transparency.

Yet, user experiences remain uneven due to persistent disparities in connectivity, financial literacy, and institutional access between urban and rural areas. These structural differences shape how individuals

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evaluate digital payment services and the extent to which they continue to rely on them. Understanding the determinants of satisfaction and loyalty in this context is therefore essential for strengthening Vietnam's digital financial ecosystem.

The empirical findings reveal that service quality, trust, perceived usefulness, hedonic motivation, and regulatory awareness significantly enhance customer satisfaction, which in turn strongly predicts loyalty. Loyalty is additionally supported by service quality, trust, social influence, and ease of use. Notably, the Urban-Rural Digital Divide moderates several of these relationships: rural users place greater emphasis on trust and hedonic motivation, whereas urban users prioritize perceived usefulness and regulatory clarity.

These insights highlight how experiential and contextual factors jointly shape post-adoption behavior in Vietnam's rapidly evolving FinTech landscape.

1. LITERATURE REVIEW AND HYPOTHESES

1.1. Post-adoption behavior in digital financial services

The rapid expansion of e-wallets in emerging markets has intensified scholarly interest in the determinants of consumer behavior within digital financial ecosystems. Much of this work draws on foundational technology adoption models, such as the Technology Acceptance Model (TAM) (Davis, 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT2) (Venkatesh et al., 2012), which highlight perceived usefulness, perceived ease of use, social influence, and hedonic motivation as key predictors of technology acceptance. While these models remain influential, their explanatory power in post-adoption contexts is limited, as continued usage involves dynamic o9expectations and the habitual integration of digital payment tools into daily routines.

Expectation-Confirmation Theory (ECT) (Bhattacherjee, 2001) provides a more suitable lens for examining post-adoption behavior by positioning satisfaction as the primary driver of continuance intention. Empirical studies in mobile payments corroborate this mechanism, demonstrating that satisfaction and perceived usefulness reinforce continued usage through iterative feedback loops as users accumulate experience (Park et al., 2017; Tam et al., 2020; Loh et al., 2022). However, existing research has predominantly focused on adoption or continuance intention rather than long-term loyalty. Moreover, studies often treat users as a homogeneous population, overlooking contextual factors that shape how different groups evaluate digital services (Huy & Huynh, 2023; Nguyen et al., 2024).

1.2. Service quality and trust in digital financial ecosystems

Beyond technology-specific perceptions, service quality offers a complementary explanation for user satisfaction and loyalty. The SERVQUAL framework conceptualizes service quality across reliability, responsiveness, assurance, empathy, and tangibles (Parasuraman et al., 1988). Evidence from banking and digital service contexts consistently shows that higher perceived service quality enhances satisfaction and strengthens loyalty intentions (Yesmin et al., 2023; Kaliraman & Narwal, 2023). In digital finance, users increasingly evaluate functional performance alongside interface usability, support responsiveness, and fairness of fee structures (Kim & Baker, 2020; Moksin et al., 2024). As mobile wallets expand into broader financial services, expectations related to uptime, dispute resolution, and system assurance have intensified (Hopalı et al., 2022; Kamis et al., 2024).

Trust, particularly relevant in contexts marked by privacy concerns and institutional uncertainty, is similarly critical in shaping post-adoption outcomes (Evans et al., 2021; Liébana-Cabanillas et al., 2020). Trust reduces perceived risks and legitimizes digital financial services, especially where regulatory systems are evolving (Saka et al., 2021). Other experiential factors such as so-

cial influence and hedonic motivation may also affect satisfaction and loyalty, though their effects vary by demographic and cultural contexts (C. Nguyen & T. Nguyen, 2020; Rafdinal & Senalasari, 2021). Despite growing evidence, few studies have explicitly linked the SERVQUAL-satisfaction-loyalty pathway to e-wallet ecosystems in emerging economies.

1.3. Urban-rural digital divide and consumer heterogeneity

The urban–rural digital divide (URDD) represents disparities in infrastructure, connectivity, digital literacy, and institutional access, all of which shape engagement with FinTech services (International Telecommunication Union, 2024; World Economic Forum, 2022). Although FinTech is often positioned as a tool for enhancing financial inclusion, uneven digital readiness can reinforce or even widen existing inequalities (World Bank, 2023; EY Vietnam, 2023). Evidence from Vietnam and comparable markets shows that urban users typically benefit from stronger infrastructure and greater exposure to formal financial systems, whereas rural users rely more heavily on interpersonal trust, social networks, and agent-based services (Truong et al., 2023; Jack & Suri, 2011).

Related to URDD is the concept of banking familiarity, which shapes users' ability to navigate interfaces, interpret regulatory information, and assess service value (Alba & Hutchinson, 1987; DataReportal, 2024). Variations in financial expertise may, therefore, produce divergent satisfaction and loyalty trajectories across regions. Although studies acknowledge these disparities, URDD and banking familiarity remain underexplored as moderating mechanisms that influence established theoretical relationships in post-adoption models (Setiawan et al., 2025; Wai, 2025).

The reviewed literature reveals three major gaps. First, empirical research on e-wallet post-adoption behavior remains limited, with most studies focusing on adoption or continuance intention rather than the full satisfaction-loyalty pathway (C. Nguyen & T. Nguyen, 2020; Huy & Huynh, 2023; Nguyen et al., 2024). Second, existing studies rarely integrate technology acceptance constructs with service quality and regulatory awareness, despite their combined relevance for understanding user evaluations of e-wallets (Parasuraman et al., 1988; Arli et al., 2024; Hopalı et al., 2022). Third, contextual moderators such as the Urban-Rural Digital Divide and banking familiarity are insufficiently incorporated into post-adoption models, limiting understanding of how socio-structural conditions shape user behavior (Truong et al., 2023; Setiawan et al., 2025).

Collectively, these gaps underscore the need for a comprehensive framework that captures both psychological and contextual determinants of satisfaction and loyalty. They also highlight the importance of examining heterogeneous user segments to better reflect the realities of digital financial engagement in emerging economies.

The theoretical framework guiding this study integrates key insights from technology acceptance research, service quality theory, and post-adoption behavior models to explain customer satisfaction and loyalty in Vietnam's e-wallet ecosystem. Given the country's rapid digital transformation and persistent regional disparities, the framework also incorporates the Urban-Rural Digital Divide (URDD) as a contextual moderator influencing user evaluations and behavioral responses.

1.4. Technology-related evaluations

Building on TAM and UTAUT2 (Davis, 1989; Venkatesh et al., 2012), perceived usefulness (PUSE) and perceived ease of use (PEREU) are conceptualized as central cognitive evaluations shaping users' assessments of e-wallet functionality. In post-adoption contexts, perceived usefulness remains a robust predictor of satisfaction, as users continuously evaluate whether digital payments improve convenience and efficiency. However, the role of perceived ease of use may diminish over time as users become more familiar with the service, leading to weaker post-adoption effects compared to initial adoption phases. Social influence (SOCIAL) and hedonic motivation (HEMOA), drawn from UTAUT2, capture socio-experiential dimensions that may enhance user engagement, although prior research suggests their influence varies across demographic and cultural contexts (C. Nguyen & T. Nguyen, 2020; Rafdinal & Senalasari, 2021).

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1.5. Service quality and trust

Consistent with SERVQUAL (Parasuraman et al., 1988), service quality (SERVQ) is included as a multidimensional construct reflecting reliability, responsiveness, assurance, empathy, and tangibles. In digital financial environments, service quality is linked to platform stability, interface usability, customer support responsiveness, and perceived fairness in dispute resolution (Kim & Baker, 2020; Moksin et al., 2024). Trust (TRUST) complements this perspective by addressing users' perceptions of security, privacy protection, and institutional reliability-factors that are particularly salient in emerging markets with evolving regulatory frameworks (Evans et al., 2021; Saka et al., 2021). Together, service quality and trust are theorized to enhance satisfaction directly and to strengthen loyalty through both direct and satisfaction-mediated pathways.

Regulatory awareness (RAGU) reflects users' understanding of government oversight, data protection measures, and consumer safeguards, aligning with research emphasizing the importance of institutional transparency for confidence in digital finance (EY Vietnam, 2023; Kamis et al., 2024). As awareness increases, users may perceive e-wallet services as more legitimate and secure, thereby enhancing satisfaction and loyalty.

1.6. Customer satisfaction as a mediating mechanism

In line with Expectation-Confirmation Theory (Bhattacherjee, 2001), customer satisfaction (CSATIS) is positioned as the central mediating variable connecting user evaluations to loyalty outcomes. Satisfaction reflects the extent to which users' experiences meet or exceed prior expectations and serves as a key determinant of continued engagement (Park et al., 2017; Tam et al., 2020). Within e-wallet ecosystems, satisfaction is influenced by both cognitive appraisals (e.g., usefulness, ease of use, regulatory understanding) and experiential or service-related factors (e.g., trust, service quality, enjoyment). The framework, therefore, proposes that satisfaction partially mediates the effects of these antecedents on loyalty (CLOYAL), while also exerting a strong direct influence.

1.7. Urban-rural digital divide as a moderating context

Given substantial disparities in infrastructure, digital literacy, and institutional exposure between urban and rural regions (International Telecommunication Union, 2024; World Economic Forum, 2022), the URDD is incorporated as a moderating variable. Prior evidence suggests that rural users rely more on interpersonal trust, social net-

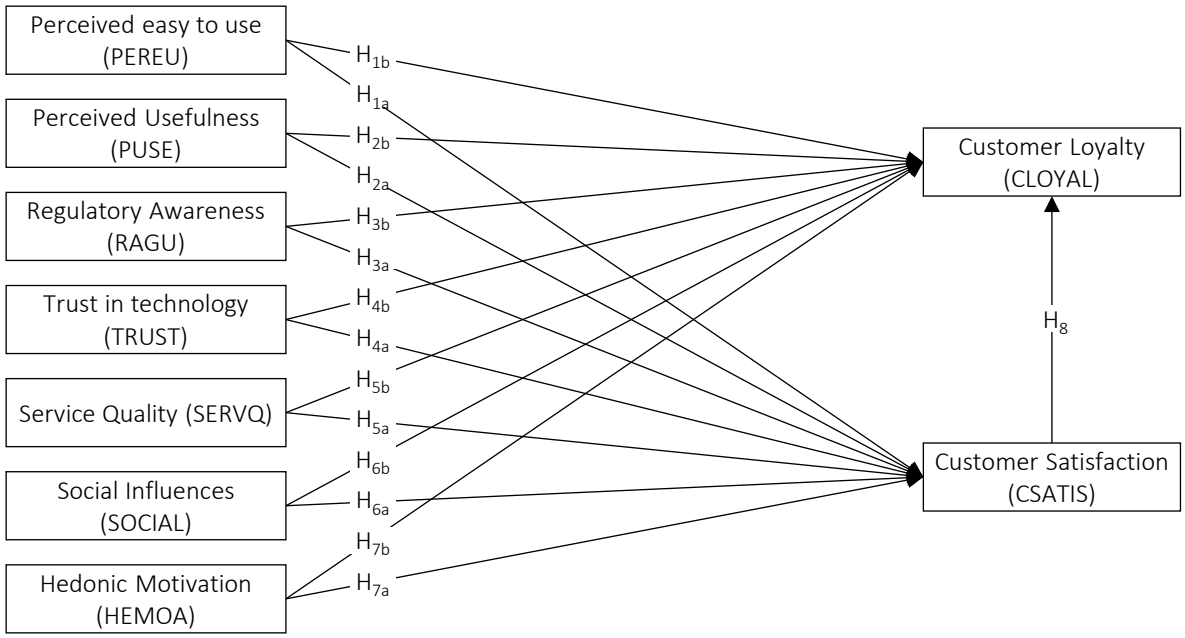

Figure 1. The research model

works, and experiential cues, whereas urban users place greater emphasis on efficiency, regulatory clarity, and technological performance (Truong et al., 2023; Setiawan et al., 2025). These distinctions imply that the relationships between antecedents, satisfaction, and loyalty may vary across regions.

Accordingly, the framework posits that the strength of cognitive, experiential, and service-related predictors differs between urban and rural users, shaping distinct post-adoption trajectories. Incorporating the URDD advances understanding of heterogeneous user segments and reflects the realities of digital financial inclusion in emerging economies.

Based on the literature review and the related theoretical frameworks, the authors propose the following research model (Figure 1):

2. HYPOTHESES DEVELOPMENT

2.1. Technology-related evaluations

Perceived usefulness (PUSE) reflects the extent to which users believe that e-wallets enhance the efficiency and convenience of financial transactions. Consistent with TAM and UTAUT2 (Davis, 1989; Venkatesh et al., 2012), users who perceive higher utility are more likely to evaluate the service positively. In post-adoption contexts, this perceived utility translates into stronger satisfaction and favorable loyalty judgments, as digital financial services become embedded in routine payment behavior.

H1a: Perceived usefulness (PUSE) positively affects customer satisfaction (CSATIS).

H1b: Perceived usefulness (PUSE) positively affects customer loyalty (CLOYAL).

Perceived ease of use (PEREU) concerns users' evaluations of the effort required to operate the e-wallet. While its relevance may diminish as users gain experience, ease of use can still shape perceptions of convenience and influence loyalty intentions, particularly among technologically less experienced users.

H2a: Perceived ease of use (PEREU) positively affects customer satisfaction (CSATIS).

H2b: Perceived ease of use (PEREU) positively affects customer loyalty (CLOYAL).

Regulatory awareness (RAGU) – users' understanding of legal safeguards, consumer protection, and oversight mechanisms – reduces perceived risk and enhances confidence in digital transactions (EY Vietnam, 2023; Kamis et al., 2024). Heightened awareness of regulatory frameworks can therefore increase satisfaction and reinforce loyalty.

H3a: Regulatory awareness (RAGU) positively affects customer satisfaction (CSATIS).

H3b: Regulatory awareness (RAGU) positively affects customer loyalty (CLOYAL).

2.2. Service quality and trust mechanisms

Trust (TRUST) represents users' confidence in the security, reliability, and integrity of e-wallet services. Prior research emphasizes trust as a cornerstone of digital financial engagement, mitigating perceived risks and shaping both satisfaction and loyalty (Liébana-Cabanillas et al., 2020; Evans et al., 2021).

H4a: Trust in technology (TRUST) positively affects customer satisfaction (CSATIS).

H4b: Trust in technology (TRUST) positively affects customer loyalty (CLOYAL).

Service quality (SERVQ), derived from SERVQUAL, captures users' perceptions of reliability, responsiveness, assurance, empathy, and tangibles (Parasuraman et al., 1988). In digital payment ecosystems, high service quality enhances experiential value, strengthens user confidence, and encourages long-term engagement.

H5a: Service quality (SERVQ) positively affects customer satisfaction (CSATIS).

H5b: Service quality (SERVQ) positively affects customer loyalty (CLOYAL).

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2.3. Social and experiential influences

Social influence (SOCIAL) reflects normative pressure from family, peers, or social networks. Although its effect may weaken in later stages of technology adoption, social endorsement can still reinforce ongoing usage and shape loyalty intentions, especially in collectivist cultural contexts (C. Nguyen & T. Nguyen, 2020; Rafdinal & Senalasari, 2021).

H6a: Social influence (SOCIAL) positively affects customer satisfaction (CSATIS).

H6b: Social influence (SOCIAL) positively affects customer loyalty (CLOYAL).

Hedonic motivation (HEMOA) reflects enjoyment or pleasure derived from using the e-wallet. Prior evidence suggests that hedonic elements such as gamification and rewards can increase satisfaction and encourage continued engagement (Tam et al., 2020; Afonso Vieira et al., 2022).

H7a: Hedonic motivation (HEMOA) positively affects customer satisfaction (CSATIS).

H7b: Hedonic motivation (HEMOA) positively affects customer loyalty (CLOYAL).

2.4. Satisfaction as a mediating mechanism

In accordance with Expectation-Confirmation Theory (Bhattacherjee, 2001), satisfaction emerges as a central mechanism through which experiential and cognitive evaluations influence loyalty. Satisfied users – those whose expectations are confirmed or exceeded – are more likely to remain committed and recommend the service to others.

H8: Customer satisfaction (CSATIS) positively affects customer loyalty (CLOYAL).

2.5. Moderating effect of the Urban-Rural Digital Divide

Given disparities in infrastructure, digital literacy, and institutional exposure, the Urban-Rural Digital Divide (URDD) is expected to moderate several key relationships. Rural users may rely more heavily on trust and hedonic cues due to limited technological alternatives and greater dependence on interpersonal networks (Truong et al., 2023; Setiawan et al., 2025). In contrast, urban users may assign greater weight to perceived usefulness, regulatory clarity, and service quality.

H9a-H9n: The relationships between antecedent variables (PUSE, PEREU, TRUST, SERVQ, RAGU, SOCIAL, HEMOA), customer satisfaction (CSATIS), and customer loyalty (CLOYAL) are moderated by the urban–rural digital divide (URDD), such that the strength of these relationships differs between urban and rural users.

3. METHODOLOGY

3.1. Research design

This study adopts a quantitative, cross-sectional design to examine the determinants of customer satisfaction (CSATIS) and loyalty (CLOYAL) among MoMo e-wallet users in Vietnam, with emphasis on urban–rural differences. The model integrates established constructs from TAM, UTAUT2, SERVQUAL, and Expectation-Confirmation Theory, reflecting cognitive, experiential, and service-related factors relevant to post-adoption behavior.

Covariance-Based Structural Equation Modeling (CB-SEM) was employed due to its suitability for theory confirmation and analysis of latent variables (Hair et al., 2017; Kline, 2023). The approach was appropriate given the study's objective and the adequacy of the dataset (n = 1,015). Respondents were Vietnamese adults (≥18 years) who had used MoMo within the previous 12 months. MoMo was selected as the research context because of its dominant market share and extensive penetration across demographic segments.

Stratified purposive sampling strategy ensured coverage across Vietnam's major regions and both urban and rural areas. Data were collected between September 2023 and September 2024 using mixed online and offline survey administration to reach digitally active and less connected populations. After data cleaning, 1,015 valid

cases remained. Participation was voluntary and anonymous, and the study received ethical approval from the Institutional Ethics Committee of Thuyloi University.

3.2. Measurement instruments

All constructs were measured using established multi-item scales adapted from prior FinTech and information systems research. Perceived usefulness (PUSE) and perceived ease of use (PEREU) were based on TAM and UTAUT2 (Davis, 1989; Venkatesh et al., 2012). Trust (TRUST), service quality (SERVQ), regulatory awareness (RAGU), social influence (SOCIAL), and hedonic motivation (HEMOA) were adapted from relevant studies (Parasuraman et al., 1988; Liébana-Cabanillas et al., 2020; Evans et al., 2021; EY Vietnam, 2023; Tam et al., 2020). Satisfaction (CSATIS) and loyalty (CLOYAL) items were taken from ECT and customer behavior literature (Bhattacherjee, 2001; Park et al., 2017; Kim & Baker, 2020).

All items used a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). A pilot test (n = 30) confirmed clarity and reliability. The final instrument consisted of 38 items across experiential constructs, satisfaction, loyalty, and demographics. No personal identifiers were collected, and data were stored and analyzed in aggregate form.

All analyses were conducted following a structured, multi-step procedure. SPSS 22.0 was used to generate descriptive statistics and assess internal consistency through Cronbach's α (≥0.70 acceptable; ≥0.80 good). Exploratory Factor Analysis (EFA) was employed to examine the factor structure, retaining items with loadings above 0.50, KMO values ≥0.50, and total variance explained above 50%.

Subsequent analyses were performed using AMOS 22.0. Confirmatory Factor Analysis (CFA) assessed measurement model fit based on established thresholds ($\chi^2/df \leq 3$, CFI/TLI/GFI ≥ 0.90, RMSEA ≤ 0.08). Convergent and discriminant validity were confirmed through the Average Variance Extracted (AVE > 0.50) and the Fornell-Larcker criterion. Structural Equation Modeling (SEM) was then applied to test the hypothesized relationships, including the mediating role of customer satisfaction (CSATIS).

A multi-group SEM (MGA) was conducted to compare urban and rural users and to evaluate the moderating influence of the Urban-Rural Digital Divide (URDD), with measurement invariance (configural, metric, scalar) established prior to group comparisons. Robustness checks addressed multicollinearity (VIF < 3) and common method bias in accordance with Podsakoff et al. (2003).

4. RESULTS

4.1. Descriptive statistics

After data cleaning, 1,015 valid responses were retained, providing an adequate sample size for CB-SEM and representing a broad cross-section of MoMo users nationwide. The demographic profile shows a balanced gender distribution (52.8% female and 47.2% male) and a wide age range, indicating adoption across generations. Income levels varied substantially, reflecting MoMo's appeal to users from diverse economic backgrounds. Geographically, the sample was nearly evenly divided between urban (52.4%) and rural (47.6%) areas, demonstrating the platform's extensive reach beyond major cities.

This demographic diversity reflects Vietnam's rapid digital transformation and highlights regional differences in access, digital literacy, and usage conditions. Such variation underscores the importance of examining post-adoption behavior across both urban and rural contexts and supports the need for differentiated strategies to strengthen satisfaction and loyalty among distinct user groups.

4.2. Results of scale validation

Reliability analysis showed that all constructs exceeded the acceptable Cronbach's Alpha threshold of 0.70, with items falling below a corrected item-total correlation of 0.30 removed prior to further analysis. Exploratory Factor Analysis (EFA), conducted using principal axis factoring with Promax rotation, confirmed the adequacy of the factor structure (KMO = 0.837; total variance explained > 63%; Bartlett's test $p < 0.001$).

Subsequent Confirmatory Factor Analysis (CFA) validated the measurement model. All constructs

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demonstrated composite reliability (CR > 0.70) and Average Variance Extracted (AVE > 0.50), and standardized loadings exceeded 0.50, confirming satisfactory convergent validity.

Table 1. Composite reliability and convergent validity of constructs

	Cronbach's Alpha	CR	AVE	MSV
CLOYAL	0.883	0.854	0.661	0.314
PEREU	0.898	0.873	0.633	0.053
RAGU	0.896	0.872	0.694	0.210
PUSE	0.887	0.848	0.652	0.210
TRUST	0.881	0.862	0.613	0.171
SERVQ	0.832	0.830	0.696	0.124
SOCIAL	0.858	0.863	0.679	0.061
CSATIS	0.797	0.872	0.697	0.314
HEMOA	0.775	0.829	0.620	0.064

The analysis results indicate that the Maximum Shared Variance (MSV) is less than the Average Variance Extracted (AVE) (Table 1). Furthermore, the diagonal values (square root of AVE) are greater than the absolute values of inter-construct correlations in the corresponding rows and columns (Table 2). Thus, according to the criteria established by Fornell and Larcker (1981), the scales satisfy the requirements for discriminant validity.

4.3. Model fit evaluation and hypothesis testing

The structural model fit indices in Table 4 indicate an overall acceptable fit. The chi-square to degrees of freedom ratio (CMIN/df) is 4.820, within the recommended limit of ≤ 5.0, showing moderate fit. The Comparative Fit Index (CFI) is 0.912, exceeding the 0.90 minimum threshold, indicating good fit. The Tucker-Lewis Index (TLI) is 0.896 and the Normed Fit Index (GFI) is 0.894, both acceptable for complex models (Baumgartner & Homburg, 1996). The RMSEA value of 0.061, with a 90% confidence interval of 0.059-0.064, is below the 0.08 cutoff, confirming a good approximation. This result suggests that the model is well-suited to the research data.

The CFA and SEM results met the recommended fit criteria, confirming the adequacy of the proposed model. Based on data from 1,015 MoMo users, the SEM analysis identifies key determinants of customer satisfaction (CSATIS) and loyalty (CLOYAL). Regulatory awareness (RAGU), perceived usefulness (PUSE), trust in technology (TRUST), service quality (SERVQ), and hedonic motivation (HEMOA) exert significant positive effects on satisfaction, whereas perceived ease of use (PEREU) and social influence (SOCIAL) do not–likely reflecting reduced reliance on ease-of-use cues and social pressure once users become familiar with the service.

Table 2. Fornell and Larcker criterion evaluation

	CLOYAL	PEREU	RAGU	PUSE	TRUST	SERVQ	SOCIAL	CSATIS	HEMOA
CLOYAL	0.813								
PEREU	0.218	0.796							
RAGU	0.374	0.202	0.833						
PUSE	0.330	0.199	0.458	0.807					
TRUST	0.376	0.231	0.330	0.413	0.783				
SERVQ	0.352	0.083	0.249	0.255	0.339	0.704			
SOCIAL	0.247	0.186	0.150	0.092	0.142	0.001	0.824		
CSATIS	0.560	0.117	0.377	0.350	0.347	0.277	0.048	0.835	
HEMOA	0.225	0.112	0.133	0.161	0.208	0.161	0.043	0.252	0.788

Table 3. Model fit evaluation results

Criterion	Results of CFA analysis		Results of SEM analysis	
	CFA result	Evaluation	SEM results	Evaluation
CMIN/df ≤ 5	4.820	Satisfied	4.673	Satisfied
CFI ≥ 0.90	0.912	Satisfied	0.918	Satisfied
TLI ≥ 0.90	0.896	Acceptable	0.903	Satisfied
GFI ≥ 0.90 (≥ 0.80 acceptable)	0.898	Acceptable	0.903	Satisfied
RMSEA ≤ 0.08	0.061	Satisfied	0.060	Satisfied

Table 4. Results of the model SEM

Relationship			Estimate	S.E.	CR	p	Results
CSATIS	←	PEREU	–.019	.035	–.534	.594	Not supported
CSATIS	←	PUSE	.120	.035	3.469	***	Supported
CSATIS	←	RAGU	.220	.039	5.683	***	Supported
CSATIS	←	TRUST	.135	.034	3.989	***	Supported
CSATIS	←	SERVQ	.114	.037	3.063	.002	Supported
CSATIS	←	SOCIAL	–.022	.028	–.787	.431	Not supported
CSATIS	←	HEMOA	.108	.023	4.701	***	Supported
CLOYAL	←	PEREU	.064	.031	2.077	.038	Supported
CLOYAL	←	RAGU	.076	.034	2.212	.027	Supported
CLOYAL	←	PUSE	.024	.030	.804	.421	Not supported
CLOYAL	←	TRUST	.060	.030	2.009	.045	Supported
CLOYAL	←	SERVQ	.189	.033	5.706	***	Supported
CLOYAL	←	SOCIAL	.152	.025	6.102	***	Supported
CLOYAL	←	HEMOA	.031	.020	1.515	.130	Not supported
CLOYAL	←	CSATIS	.385	.033	11.593	***	Supported

Customer satisfaction emerges as the strongest predictor of loyalty, consistent with Expectation–Confirmation Theory. Loyalty is additionally shaped by service quality, social influence, perceived ease of use, regulatory awareness, and trust. In contrast, perceived usefulness and hedonic motivation do not significantly influence loyalty, suggesting that as the Vietnamese fintech market matures, users increasingly prioritize functional reliability and service performance over novelty or enjoyment. These findings underscore the centrality of satisfaction and consistent service quality in sustaining user loyalty within Vietnam's evolving digital payment landscape.

4.4. Results of the multi-group analysis

The results of the analysis for both the unconstrained (variable) model and the constrained (invariant) model are presented in Table 5. A chi-square difference test, accounting for the degrees of freedom between the two models, produced a p-value of 0.029337 (< 0.05), leading to the rejection of the null hypothesis (H0). Accordingly, the variable model is retained, suggesting a statistically significant difference between the two URDD groups: 483 rural and 532 urban MoMo users in Vietnam. Among respondents of Urban, 10 out of 15 hypotheses were supported, whereas in the group of rural, only 7 out of 15 hypotheses received empirical support. The key findings from the multi-group analysis are summarized in Table 5.

In rural areas, CSATIS is significantly influenced by regulatory awareness (RAGU), perceived usefulness (PUSE), trust in technology (TRUST), and hedonic motivation (HEMOA). The strong role of TRUST underscores rural users' reliance on perceived technology reliability amid limited financial alternatives and infrastructural gaps. Additionally, HEMOA's significance suggests that gamification appeals to rural users by enhancing engagement despite technical unfamiliarity. However, perceived ease of use (PEREU), service quality (SERVQ), and social influence (SOCIAL) show no significant effect on satisfaction, likely due to habituation and the diminishing role of social pressure post-adoption in tight-knit communities.

Regarding loyalty, service quality, social influence, and satisfaction significantly drive customer loyalty in rural groups, highlighting the importance of dependable service and peer endorsement in resource-constrained areas. Conversely, factors like PEREU, RAGU, PUSE, TRUST, and HEMOA do not significantly impact loyalty, indicating rural users' focus on tangible service outcomes.

In urban contexts, CSATIS is driven by RAGU, PUSE, SERVQ, and HEMOA, reflecting urban users' emphasis on efficiency and regulatory knowledge supported by better infrastructure. PEREU, TRUST, and SOCIAL are not significant predictors of satisfaction, possibly due to increased user familiarity and reduced social influence in individualistic urban settings. For urban loyalty, PEREU,

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Table 5. Results of the model differences between the urban and rural

H	Relationships	Countryside			Cities		
		Estimate	p	Hypothesis results	Estimate	p	Hypothesis results
H1a	CSATIS ← PEREU	–.053	.254	Not supported	.009	.862	Not supported
H2a	CSATIS ← PUSE	.102	.018	Supported	.154	.006	Supported
H3a	CSATIS ← RAGU	.182	***	Supported	.265	***	Supported
H4a	CSATIS ← TRUST	.209	***	Supported	.047	.356	Not supported
H5a	CSATIS ← SERVQ	.064	.177	Not supported	.168	.003	Supported
H6a	CSATIS ← SOCIAL	.001	.985	Not supported	–.020	.640	Not supported
H7a	CSATIS ← HEMOA	.127	***	Supported	.082	.008	Supported
H1b	CLOYAL ← PEREU	.004	.920	Not supported	.116	.011	Supported
H2b	CLOYAL ← PUSE	.050	.277	Not supported	.118	.017	Supported
H3b	CLOYAL ← RAGU	.031	.432	Not supported	.026	.578	Not supported
H4b	CLOYAL ← TRUST	–.002	.970	Not supported	.113	.008	Supported
H5b	CLOYAL ←SERVQ	.258	***	Supported	.094	.046	Supported
H6b	CLOYAL ← SOCIAL	.162	***	Supported	.150	***	Supported
H7b	CLOYAL ← HEMOA	.054	.088	Not supported	.009	.719	Not supported
H8	CLOYAL ← CSATIS	.458	***	Supported	.339	***	Supported

RAGU, TRUST, SERVQ, SOCIAL, and CSATIS are significant, demonstrating a broader spectrum of motivational factors influencing retention.

Overall, the MGA validates the impactful URDD in Vietnam's FinTech landscape, showing rural users prioritize trust and engagement, while urban users emphasize utility and regulatory assurance. These insights support tailored strategies to enhance digital financial inclusion across diverse Vietnamese populations.

5. DISCUSSION

This study examined the determinants of customer satisfaction and loyalty in Vietnam's e-wallet market and explored how these relationships differ between urban and rural users. The findings reveal several important patterns that deepen understanding of post-adoption behavior in emerging digital finance ecosystems.

First, customer satisfaction plays a central role in shaping loyalty, consistent with Expectation-Confirmation Theory (Bhattacherjee, 2001) and prior FinTech research emphasizing satisfaction as the primary conduit linking user evaluations to continued engagement (Park et al., 2017; Tam et al., 2020). In Vietnam, satisfaction is strongly influenced not only by performance-related factors but also by trust and regulatory reassurance. This reflects the country's regulatory push toward cashless payments, which enhances perceived legitimacy and strengthens satisfaction's effect on loyalty.

Second, perceived ease of use (PEREU) and social influence (SOCIAL) do not significantly affect satisfaction, diverging from early adoption studies (Davis, 1989; Venkatesh et al., 2012). As MoMo has become widely adopted, users appear less influenced by ease-of-use considerations or social pressure. This finding suggests a transition to a mature usage stage in which personal experience and perceived reliability overshadow initial adoption drivers–an emerging trend also observed in other developing FinTech markets (Nguyen et al., 2024).

Third, performance-related drivers – perceived usefulness (PUSE), service quality (SERVQ), and regulatory awareness (RAGU) – exert strong positive effects on satisfaction, highlighting the growing importance of functional value and institutional clarity. These results align with studies showing that service reliability and regulatory assurance are critical for FinTech adoption in emerging economies (Hopalı et al., 2022; EY Vietnam, 2023). Notably, neither PUSE nor hedonic motivation (HEMOA) directly predicts loyalty, reinforcing the notion that long-term commitment is shaped primarily through accumulated satisfaction rather than through isolated experiential

attributes. Similar patterns have been reported in competitively evolving FinTech environments where sustained loyalty depends more on reliable service delivery and trust than on novelty or promotional incentives (Rafdinal & Senalasari, 2021).

The multi-group analysis confirms substantial differences between urban and rural users. Among rural respondents, trust (TRUST) and hedonic motivation (HEMOA) exert stronger effects on satisfaction, suggesting that perceived security and engaging service features are particularly valuable in contexts with infrastructural constraints. However, trust alone does not translate directly into loyalty for rural users; instead, loyalty appears to depend on consistent service quality, agent network performance, and community-level support-patterns consistent with collectivist norms and evidence from mobile money ecosystems such as M-PESA (Jack & Suri, 2011).

For urban users, satisfaction is primarily driven by perceived usefulness, service quality, and regulatory awareness. This reflects higher technological literacy and greater exposure to national campaigns promoting cashless payments (State Bank of Vietnam, 2024). Ease of use predicts loyalty but not satisfaction, suggesting that convenience continues to matter for retention even after users become fully familiar with the service interface. Across both segments, social influence affects loyalty but not satisfaction, indicating that peer endorsement reinforces habitual use without substantially shaping emotional evaluations – a dynamic consistent with collectivist cultural contexts (Yesmin et al., 2023).

Overall, the findings suggest that Vietnam is shifting from an adoption-oriented FinTech market toward a performance- and trust-driven digital economy. While previous studies highlighted incentives and social cues as key adoption triggers (C. Nguyen & T. Nguyen, 2020; Huy & Huynh, 2023), this study shows that sustained loyalty increasingly depends on reliable service, institutional transparency, and consistent user satisfaction. These results emphasize the need for differentiated strategies: strengthening reliability, trust-building communication, and offline service points in rural areas, and enhancing service performance, regulatory clarity, and seamless user experience in urban markets. Across both contexts, loyalty is best sustained by ensuring stable satisfaction rather than relying on interface design enhancements or short-term promotional offers.

Given the cross-sectional design, future studies could adopt longitudinal approaches to track evolving satisfaction and loyalty determinants as Vietnam's digital finance landscape matures. Comparative studies with other platforms and markets (e.g., Indonesia, India) and the inclusion of additional moderators such as digital literacy, risk tolerance, or income volatility would offer deeper insights into how FinTech loyalty evolves within transitional economies.

CONCLUSION

This study examined the determinants of customer satisfaction and loyalty toward MoMo and assessed how these relationships vary across urban and rural users in Vietnam. Using data from 1,015 active users and an integrated post-adoption framework grounded in technology acceptance, service quality, and expectation–confirmation theories, the findings demonstrate that satisfaction is the central mechanism linking user perceptions to loyalty. Satisfaction is primarily shaped by perceived usefulness, service quality, trust in technology, and regulatory awareness, whereas ease of use and social influence no longer exert meaningful influence in the post-adoption stage. These results reflect a maturing e-wallet environment in which users prioritize functional reliability, institutional credibility, and transparent regulatory communication.

The multi-group analysis further highlights the moderating role of the urban–rural digital divide. Rural users derive satisfaction largely from trust and hedonic engagement but base their loyalty on tangible service performance and agent network support. Urban users, in contrast, emphasize usefulness, service quality, and regulatory clarity, reflecting higher digital literacy and stronger exposure to state-led

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cashless initiatives. These differentiated patterns indicate that uniform engagement strategies are unlikely to sustain long-term loyalty. Instead, enhancing infrastructural reliability and community-level support is critical for rural markets, while strengthening transparency, privacy safeguards, and high-quality service delivery is essential for urban users.Despite its contributions, this study is subject to several limitations. First, the cross-sectional design restricts the ability to capture temporal changes in satisfaction and loyalty as Vietnam's digital payment landscape evolves. Future longitudinal studies would provide deeper insight into shifting user expectations. Second, the focus on a single platform – MoMo– limits generalizability across different e-wallet providers and FinTech ecosystems; comparative studies across platforms or countries would help validate the proposed framework. Third, while urban–rural status was examined as a key moderator, other sources of heterogeneity, such as digital literacy, risk tolerance, or income volatility, were not incorporated and may further refine understanding of post-adoption behavior. Addressing these limitations would enhance theoretical precision and offer a more comprehensive view of how dependable service, credible institutions, and inclusive digital infrastructure jointly foster sustainable loyalty in emerging financial markets.

AUTHOR CONTRIBUTIONS

Conceptualization: Minh Huong To, Thu Thi Nguyen.
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Software: Huyen Thi Nguyen.
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APPENDIX A

Table A1. Variable codebook

Variable code	Variable name	Description	Measurement scale	Number of items
PUSE	Perceived Usefulness	User's belief that the e-wallet enhances task efficiency and productivity.	5-point Likert (1 = strongly disagree → 5 = strongly agree)	4
PEREU	Perceived Ease of Use	User's perception of how effortless it is to use the e-wallet.	5-point Likert	4
TRUST	Trust in Technology	User's confidence in the e-wallet's reliability, security, and privacy.	5-point Likert	4
SERVQ	Service Quality	Assessment of the e-wallet's tangibles, reliability, responsiveness, assurance, and empathy.	5-point Likert	5
SOCIAL	Social Influence	Extent to which important others believe the user should use the e-wallet.	5-point Likert	3
RAGU	Regulatory Awareness	User's knowledge of policies, legal protections, and oversight in digital finance.	5-point Likert	3
HEMOA	Hedonic Motivation	Pleasure or enjoyment derived from using the e-wallet.	5-point Likert	3
CSATIS	Customer Satisfaction	User's overall fulfillment with the e-wallet experience post-adoption.	5-point Likert	4
CLOYAL	Customer Loyalty	User's behavioral intentions to continue using and recommend the e-wallet.	5-point Likert	4

APPENDIX B

Table B1. Measurement scales and constructs

Construct code	Item code	Item statement	Source(s)	Scale (5-point Likert)
PUSE	PUSE1	Using MoMo improves my performance in managing payments.	Davis (1989)	1 = strongly disagree → 5 = strongly agree
	PUSE2	Using MoMo enables me to accomplish financial tasks more quickly.	Davis (1989)	1-5
	PUSE3	Using MoMo increases my productivity in daily transactions.	Davis (1989)	1-5
	PUSE4	Overall, MoMo is useful for my financial needs.	Davis (1989)	1-5
PEREU	PEREU1	Learning to use MoMo is easy for me.	Davis (1989)	1-5
	PEREU2	I find MoMo clear and understandable.	Davis (1989)	1-5
	PEREU3	It is easy for me to become skillful at using MoMo.	Davis (1989)	1-5
	PEREU4	Overall, MoMo is easy to use.	Davis (1989)	1-5
TRUST	TRUST1	MoMo is trustworthy in handling my transactions.	Pavlou, P. A. (2003; Liébana-Cabanillas et al. (2020)	1-5
	TRUST2	MoMo keeps its promises regarding security and privacy.	Pavlou, P. A. (2003; Liébana-Cabanillas et al. (2020)	1-5
	TRUST3	MoMo is competent and reliable in its operations.	Pavlou, P. A. (2003; Liébana-Cabanillas et al. (2020)	1-5
	TRUST4	I trust MoMo to protect my personal information.	Pavlou, P. A. (2003; Liébana-Cabanillas et al. (2020)	1-5

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Table B1 (cont.). Measurement scales and constructs

Construct code	Item code	Item statement	Source(s)	Scale (5-point Likert)
SERVQ	SERVQ1	MoMo has up-to-date and visually appealing features (Tangibles).	Parasuraman et al. (1988); Moksin et al. (2024)	1-5
	SERVQ2	MoMo performs services reliably and as promised (Reliability).	Parasuraman et al. (1988); Moksin et al. (2024)	1-5
	SERVQ3	MoMo provides prompt and helpful support (Responsiveness).	Parasuraman et al. (1988); Moksin et al. (2024)	1-5
	SERVQ4	MoMo inspires confidence and security (Assurance).	Parasuraman et al. (1988); Moksin et al. (2024)	1-5
	SERVQ5	MoMo shows empathy and individualized attention (Empathy).	Parasuraman et al. (1988); Moksin et al. (2024)	1-5
SOCIAL	SOCIAL1	People who influence my behavior think I should use MoMo.	Venkatesh et al. (2012)	1-5
	SOCIAL2	People important to me believe I should use MoMo.	Venkatesh et al. (2012)	1-5
	SOCIAL3	In my social circle, using MoMo is seen as positive.	Venkatesh et al. (2012)	1-5
RAGU	RAGU1	I am aware of government regulations on e-wallet data protection.	Aljaafreh et al. (2021), EY Vietnam (2023)	1-5
	RAGU2	I know the legal safeguards for e-wallet transactions.	Aljaafreh et al. (2021), EY Vietnam (2023)	1-5
	RAGU3	I understand oversight mechanisms for FinTech like MoMo.	Aljaafreh et al. (2021), EY Vietnam (2023)	1-5
HEMOA	HEMOA1	Using MoMo is fun.	Venkatesh et al. (2012); Afonso Vieira et al. (2022)	1-5
	HEMOA2	Using MoMo is enjoyable.	Venkatesh et al. (2012); Afonso Vieira et al. (2022)	1-5
	HEMOA3	Using MoMo is entertaining.	Venkatesh et al. (2012); Afonso Vieira et al. (2022)	1-5
CSATIS	CSATIS1	I am satisfied with my decision to use MoMo.	Bhattacherjee (2001)	1-5
	CSATIS2	My choice to use MoMo was wise.	Bhattacherjee (2001); Oliver & Burke (1999)	1-5
	CSATIS3	I am pleased with MoMo's performance.	Bhattacherjee (2001); Oliver & Burke (1999)	1-5
	CSATIS4	MoMo meets my expectations overall.	Bhattacherjee (2001); Oliver & Burke (1999)	1-5
CLOYAL	CLOYAL1	I will say positive things about MoMo to others.	Zeithaml et al. (1996),	1-5
	CLOYAL2	I will recommend MoMo to someone seeking advice.	Zeithaml et al. (1996)	1-5
	CLOYAL3	I will encourage friends/family to use MoMo.	Zeithaml et al. (1996)	1-5
	CLOYAL4	I will continue using MoMo as my primary e-wallet.	Zeithaml et al. (1996)	1-5

APPENDIX C

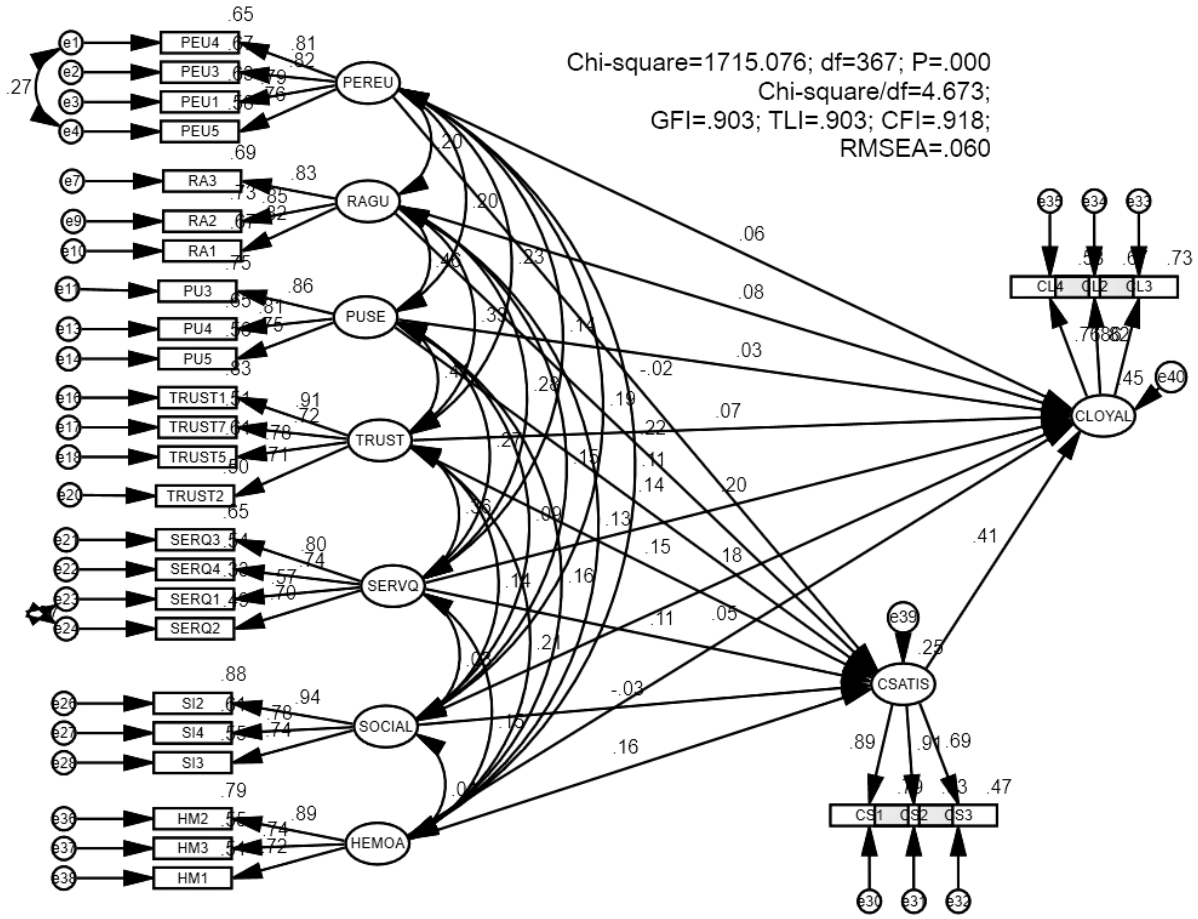

Figure C1. SEM result

APPENDIX D

Table D1. Respondent demographics

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	532	52.4
	Female	483	47.6
Age group	18-24	345	34.0
	25-34	402	39.6
	35-44	198	19.5
	≥45	70	6.9
Education	Bachelor's degree	608	59.9
	Postgraduate	221	21.8
	High school or lower	186	18.3
Income (per month)	<10 million VND	338	33.3
	10-20 million VND	450	44.3
	>20 million VND	227	22.4
Region	North	351	34.6
	Central	303	29.9
	South	361	35.5
Residence	Urban	532	52.4
	Rural	483	47.6

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APPENDIX E: Questionnaire

MOMO E-WALLET USER SATISFACTION AND LOYALTY SURVEY

Dear Respondent,

We are conducting a research study titled:

"factors influencing customer satisfaction and loyalty toward the MoMo e-wallet in Vietnam."

The purpose of this study is to examine how factors such as perceived usefulness, ease of use, service quality, trust, regulatory awareness, social influence, and experiential motivation shape customer satisfaction and loyalty, as well as how these relationships differ between urban and rural users.

Your participation is highly valuable. The information you provide will contribute significantly to the accuracy and quality of this academic research.

We **guarantee** that:

- All information you provide will remain **confidential**;
- Your responses will be used **solely for academic and research purposes**;
- All reported results will be **aggregated** and will not identify any individual participant.

Thank you sincerely for your cooperation!

A. SCREENING QUESTION

A1. In the **past 12 months,** have you used the MoMo e-wallet for payments or financial transactions?

☐ **Yes** → Please continue with the questionnaire.
☐ **No** → Thank you. You do not need to complete the remaining questions.

B. MAIN SECTION

B1. General information about MoMo usage

How did you first learn about the MoMo e-wallet?

☐ Friends/family
☐ Internet (websites, social media, etc.)
☐ Mass media (TV, newspapers, radio, etc.)
☐ Other:

Through which channels do you usually learn about MoMo's promotions or special offers? (You may choose more than one option.)

☐ In-store (offline)

☐ Online stores/e-commerce platforms
☐ Friends/family
☐ TV advertisements
☐ Notifications from the MoMo app
☐ I am not interested in promotions
☐ Other:

What is the main reason you continue to use the MoMo e-wallet?

☐ Convenience and time savings
☐ Attractive promotions and discounts
☐ Security and reliability
☐ Easy-to-use interface
☐ Other:

How often do you use MoMo in a typical week?

☐ Less than once per week
☐ About once per week
☐ About 2-3 times per week
☐ Almost every day
☐ Other:

For which types of transactions do you commonly use MoMo? (You may choose more than one option.)

☐ Mobile top-up
☐ Utility payments (electricity, water, Internet, etc.)
☐ Online/offline shopping payments
☐ Movie tickets, entertainment services, digital services
☐ Sending/receiving money
☐ Bank-to-bank transfers
☐ Other:

B2. Likert scale evaluation

Instructions:

Please indicate the extent to which you agree with the following statements regarding your use of the MoMo e-wallet.

Use the following scale:

1 – strongly disagree
2 – disagree
3 – neutral
4 – agree
5 – strongly agree

The following sections measure: Perceived Usefulness (PUSE), Perceived Ease of Use (PEREU), Trust (TRUST), Service Quality (SERVQ), Social Influence (SOCIAL), Regulatory Awareness (RAGU), Hedonic Motivation (HEMOA), Customer Satisfaction (CSATIS), and Customer Loyalty (CLOYAL).

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Perceived Usefulness (PUSE)

Source: Davis (1989)

Code	Item	Scale
PUSE1	Using MoMo improves my performance in managing payments.	1-5
PUSE2	Using MoMo enables me to accomplish financial tasks more quickly.	1-5
PUSE3	Using MoMo increases my productivity in daily transactions.	1-5
PUSE4	Overall, MoMo is useful for my financial needs.	1-5

Perceived Ease of Use (PEREU)

Source: Davis (1989)

Code	Item	Scale
PEREU1	Learning to use MoMo is easy for me.	1-5
PEREU2	I find MoMo clear and understandable.	1-5
PEREU3	It is easy for me to become skillful at using MoMo.	1-5
PEREU4	Overall, MoMo is easy to use.	1-5

Trust (TRUST)

Sources: Pavlou (2003), Liébana-Cabanillas et al. (2020)

Code	Item	Scale
TRUST1	MoMo is trustworthy in handling my transactions.	1-5
TRUST2	MoMo keeps its promises regarding security and privacy.	1-5
TRUST3	MoMo is competent and reliable in its operations.	1-5
TRUST4	I trust MoMo to protect my personal information.	1-5

Service Quality (SERVQ)

Sources: Parasuraman et al. (1988), Moksin et al. (2024)

Code	Item	Scale
SERVQ1	MoMo has up-to-date and visually appealing features (Tangibles).	1-5
SERVQ2	MoMo performs services reliably and as promised (Reliability).	1-5
SERVQ3	MoMo provides prompt and helpful support (Responsiveness).	1-5
SERVQ4	MoMo inspires confidence and security (Assurance).	1-5
SERVQ5	MoMo shows empathy and individualized attention (Empathy).	1-5

Social Influence (SOCIAL)

Source: Venkatesh et al. (2012)

Code	Item	Scale
SOCIAL1	People who influence my behavior think I should use MoMo.	1-5
SOCIAL2	People important to me believe I should use MoMo.	1-5
SOCIAL3	In my social circle, using MoMo is viewed positively.	1-5

Regulatory Awareness (RAGU)

Sources: Aljaafreh et al. (2021), EY Vietnam (2023)

Code	Item	Scale
RAGU1	I am aware of government regulations on e-wallet data protection.	1-5
RAGU2	I know the legal safeguards for e-wallet transactions.	1-5
RAGU3	I understand the oversight mechanisms for FinTech services like MoMo.	1-5

Hedonic Motivation (HEMOA)

Sources: Venkatesh et al. (2012), Afonso Vieira et al. (2022)

Code	Item	Scale
HEMOA1	Using MoMo is fun.	1-5
HEMOA2	Using MoMo is enjoyable.	1-5
HEMOA3	Using MoMo is entertaining.	1-5

Customer Satisfaction (CSATIS)

Sources: Bhattacherjee (2001), Oliver and Burke (1999)

Code	Item	Scale
CSATIS1	I am satisfied with my decision to use MoMo.	1-5
CSATIS2	My choice to use MoMo was wise.	1-5
CSATIS3	I am pleased with MoMo's performance.	1-5
CSATIS4	MoMo meets my expectations overall.	1-5

Customer Loyalty (CLOYAL)

Source: Zeithaml et al. (1996)

Code	Item	Scale
CLOYAL1	I will say positive things about MoMo to others.	1-5
CLOYAL2	I will recommend MoMo to someone seeking advice.	1-5
CLOYAL3	I will encourage friends and family to use MoMo.	1-5
CLOYAL4	I will continue using MoMo as my primary e-wallet.	1-5

Demographic information

1. Gender:

☐ Male
☐ Female
☐ Other

2. Age:

☐ 18-24
☐ 25-34
☐ 35-44
☐ 45 or above

3. Education level:

☐ High school or below
☐ Bachelor's degree
☐ Postgraduate

4. Monthly income (VND):

☐ < 10 million
☐ 10-20 million
☐ > 20 million

5. Place of residence:

☐ Urban
☐ Rural

6. Region:

☐ North
☐ Central
☐ South

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