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Determinants of Digital Wallet Adoption among Electronic Money Users in Metro Manila: Basis for a Digital Payment Service Enhancement Framework

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ABSTRACT

This study examined the determinants of digital wallet adoption and usage among electronic money users in Metro Manila and developed a Digital Payment Service Enhancement Framework. A quantitative explanatory-correlational design was employed with 385 existing users selected through geographic quota sampling and purposive screening. Data from a validated, self-administered questionnaire were analyzed using descriptive statistics, structural equation modeling, and Bonferroni-adjusted Kruskal–Wallis tests. Respondents reported favorable adoption perceptions, strong behavioral intention (M = 3.53), and frequent self-reported usage (M = 3.52). Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions were all significantly associated with Behavioral Intention, collectively explaining 62.3% of its variance. Facilitating Conditions showed the strongest association with intention (β = .354, p < .001) and a stronger association with Actual Usage (β = .312, p < .001) than Behavioral Intention did (β = .174, p < .001). Age and occupation showed the broadest demographic differences, while security confidence and customer support received comparatively weaker assessments. The findings indicate that practical enabling conditions are central to reported digital wallet use alongside favorable perceptions and intentions. Providers should prioritize reliable infrastructure, accessible support, and security communication while maintaining transaction convenience. Nonprobability sampling, self-reported usage, and the correlational design limit generalizability and causal inference. The proposed framework offers evidence-based priorities for improving digital payment services and potentially advancing financial inclusion, supporting SDGs 8, 9, and 10 through socioeconomic and technological sustainability.

Keywords: *Actual Usage, Behavioral Intention, Digital Wallets, Electronic Money, Facilitating Conditions, Financial Inclusion*

1. INTRODUCTION

The rapid development of financial technology has transformed payment systems, with digital wallets becoming important platforms for electronic transactions, fund transfers, bill payments, and online purchases. In the Philippines, digital payments accounted for 57.4% of retail payment transactions by volume and 59.0% by value in 2024, reflecting the increasing integration of digital payment services into everyday financial activities (Bangko Sentral ng Pilipinas [BSP], 2025). However, the Klapper et al., (2025) reported that only approximately 50.2% of Filipino adults owned a financial institution or mobile money account in 2024, indicating that increasing digital payment activity does not necessarily ensure broader financial inclusion. Digital wallet adoption is influenced by technological, behavioral, social, and environmental factors. Research identifies perceived usefulness, ease of use, social influence, trust, security, and facilitating conditions as important considerations in consumers' acceptance and utilization of digital payment technologies (Bommer et al., 2022; Esawe, 2022; Belmonte et al., 2024). Furthermore, studies emphasize that sustained usage depends not only on initial acceptance but also on users' behavioral intentions, service experiences, and enabling conditions (Khan & Abideen, 2023; Kilani et al., 2023). Against this background, the present study examines the determinants of digital wallet adoption and usage among electronic money users in Metro Manila. Guided primarily by the Unified Theory of Acceptance and Use of Technology (UTAUT), it investigates the relationships among Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavioral Intention, and Actual Usage. The findings serve as the basis for developing a Digital Payment Service Enhancement Framework intended to strengthen service quality, accessibility, and sustained digital wallet utilization.

Research Problem

Despite the growing adoption of digital payment technologies in the Philippines, differences persist in consumers' acceptance, Behavioral Intention, and Actual Usage of digital wallets. Previous studies have primarily examined specific populations, including Generation X, Generation Z, millennials, and selected electronic money users (Cacas et al., 2022; Belmonte et al., 2024; Jimenez et al., 2024), leaving broader electronic money users in Metro Manila relatively underexamined. Existing literature identifies usefulness, ease of use, security, trust, and social influence as important adoption factors (Bacamante & Campos, 2024; Belmonte et al., 2024). However, favorable intentions do not necessarily translate into continued usage because of perceived risks, service quality, and enabling conditions (Khan & Abideen, 2023; Kilani et al., 2023; Jimenez et al., 2024; Catacutan, 2025). Accordingly, this study examines the associations of Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions with Behavioral Intention; the relationships of Behavioral Intention and Facilitating Conditions with Actual Usage; and demographic differences. The findings provide the basis for developing a Digital Payment Service Enhancement Framework.

Assumptions of the Study

The study is guided by the theoretical assumption that digital wallet adoption and usage are associated with consumers' perceptions of technological usefulness, ease of use, social influence, and the availability of enabling resources. Contemporary UTAUT-based research supports examining these constructs in relation to technology acceptance and usage behavior (Bommer et al., 2022; Esawe, 2022). It is further assumed that Behavioral Intention is relevant to Actual Usage, while Facilitating Conditions may be associated with both intention and utilization, as specified in the study's conceptual model (Khan & Abideen, 2023; Kilani et al., 2023). The investigation also assumes that eligible electronic money users can meaningfully report their digital wallet perceptions, intentions, and usage experiences through a structured questionnaire. These assumptions provide the basis for examining the proposed relationships

and demographic differences; their statistical significance is determined through empirical analysis rather than presumed in advance.

Objectives of the Study

The primary objective of this study is to examine the determinants of digital wallet adoption and usage among electronic money users in Metro Manila and develop a Digital Payment Service Enhancement Framework based on the findings. Specifically, it aims to describe respondents' demographic characteristics in terms of age, gender, civil status, educational attainment, occupation, and monthly income; assess Performance Expectancy through convenience, transaction speed, and perceived security benefits; evaluate Effort Expectancy through learnability, interface simplicity, and ease of transaction processes; examine Social Influence through peer, family, merchant, and societal influence; and assess Facilitating Conditions through technical resources, infrastructure accessibility, and support availability. It further seeks to determine the associations of these adoption determinants with Behavioral Intention, examine the associations of Behavioral Intention and Facilitating Conditions with Actual Usage, identify significant differences across demographic groups, and formulate an evidence-based service enhancement framework to support digital payment accessibility, service improvement, and continued utilization.

Theoretical or Conceptual Basis

The study is anchored on the Unified Theory of Acceptance and Use of Technology (UTAUT), which identifies Performance Expectancy, Effort Expectancy, Social Influence, and Facilitating Conditions as key determinants of technology acceptance and usage (Bommer et al., 2022; Esawe, 2022; Jimenez et al., 2024). These determinants are examined in relation to Behavioral Intention, while Behavioral Intention and Facilitating Conditions are associated with Actual Usage. The relationship between Facilitating Conditions and Behavioral Intention represents a study-specific extension of UTAUT. Demographic characteristics serve as grouping variables for comparative analysis. Complementary theories include the Technology Acceptance Model (TAM), emphasizing usefulness and ease of use; the Theory of Planned Behavior (TPB), explaining subjective norms and perceived behavioral control; and Diffusion of Innovation (DOI) Theory, addressing technological advantages, compatibility, and complexity (Yamin & Abdalatif, 2024; Jimenez et al., 2024; Belmonte et al., 2024). Service-Dominant Logic (SDL) further supports value co-creation and customer-centered service improvement, providing a foundation for the proposed Digital Payment Service Enhancement Framework (Struwe & Slepniov, 2023).

The study supports SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), and SDG 10 (Reduced Inequalities) by examining digital financial inclusion, technological accessibility, and sustainable payment services. Its contribution to SDG 8, particularly Target 8.10, relates to improving access to financial services and supporting economic participation (National Economic and Development Authority, 2023; Klapper et al., 2025). For SDG 9, the study emphasizes reliable digital infrastructure, technological resources, and support mechanisms that facilitate sustained digital wallet usage (Jimenez et al., 2024; United Nations Department of Economic and Social Affairs [UN DESA], 2025). Its alignment with SDG 10 concerns identifying demographic differences and potential barriers to inclusive digital financial participation (Klapper et al., 2025). Overall, the research contributes to socio-economic, technological, and institutional sustainability by providing evidence-based recommendations for improving digital payment accessibility, service quality, and continued usage, rather than directly measuring SDG achievement.

2. METHODOLOGY

Research Design

A quantitative explanatory-correlational research design was employed to examine the associations among Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Behavioral Intention, and Actual Usage without manipulating the study variables. Structural Equation Modeling (SEM) was used to evaluate the proposed structural relationships, while the Kruskal-Wallis H test examined differences across demographic groups. This design enabled the systematic assessment of relationships among digital wallet adoption determinants, behavioral intention, and reported usage.

Research Locale or Study Setting

The study was conducted in Metro Manila, Philippines, a highly urbanized economic and financial center characterized by extensive commercial activities and access to digital payment services. Geographic coverage included Quezon City, the City of Manila, Makati City, Taguig City, and a combined group comprising the remaining Metro Manila cities and the Municipality of Pateros. These locations provided access to electronic money users engaged in diverse financial transactions and digital payment activities.

Participants or Data Sources

The study involved 385 electronic money users selected through geographic quota sampling with purposive respondent selection. The target sample size was determined using the Raosoft Sample Size Calculator based on a 95% confidence level, 5% margin of error, and 50% response distribution. Geographic quotas allocated 77 respondents to Quezon City, 68 to the City of Manila, 68 to Makati City, 68 to Taguig City, and 104 to the remaining Metro Manila cities and Pateros. Eligible respondents were at least 18 years old, resided in, worked in, studied in, or regularly conducted financial transactions within Metro Manila, and had used at least one digital wallet for a financial transaction within the preceding six months. Individuals who did not meet these criteria were excluded. Because nonprobability sampling was employed, the findings were interpreted within the characteristics of the study sample rather than generalized as probability-based estimates of all electronic money users in Metro Manila.

Research Instruments or Materials

A researcher-developed structured questionnaire served as the primary data-gathering instrument, comprising four parts: eligibility screening and demographic profile, digital wallet adoption determinants, Behavioral Intention, and Actual Usage. The adoption determinants included Performance Expectancy (convenience, transaction speed, and perceived security benefits), Effort Expectancy (learnability, interface simplicity, and ease of transaction processes), Social Influence (peer, family, merchant, and societal influence), and Facilitating Conditions (technical resources, infrastructure accessibility, and support availability). Behavioral Intention and self-reported Actual Usage were measured using seven items each. A four-point Likert scale was employed, interpreted as Strongly Disagree (1.00–1.74), Disagree (1.75–2.49), Agree (2.50–3.24), and Strongly Agree (3.25–4.00). Negatively worded items were reverse-coded before analysis. The questionnaire underwent expert content validation and pilot testing among 30 electronic money users excluded from the final sample. Reliability testing yielded a Cronbach's alpha of .86, indicating good internal consistency.

Data Gathering Procedure

Data collection was conducted through a structured, self-administered online questionnaire distributed to eligible electronic money users across the designated geographic areas. Prospective respondents first received information regarding the study and provided informed

consent before completing screening questions verifying their eligibility. Qualified participants subsequently answered the demographic and study-variable items. Completed questionnaires were reviewed for completeness and compliance with the inclusion criteria. Valid responses were coded, organized, and prepared for statistical analysis. Negatively worded statements were reverse-coded to maintain consistent score interpretation. The resulting dataset was used to examine adoption determinants, Behavioral Intention, Actual Usage, and demographic differences, with the findings informing the proposed Digital Payment Service Enhancement Framework.

Data Analysis

Data were analyzed using descriptive and inferential statistical techniques at a significance level of $\alpha = .05$. Frequency counts and percentages summarized demographic characteristics, while weighted means and standard deviations described responses concerning adoption determinants, Behavioral Intention, and Actual Usage. Structural Equation Modeling using Maximum Likelihood Estimation (MLE) examined the relationships among the study constructs. Model adequacy was assessed using the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and chi-square statistic. The Kruskal-Wallis H test examined differences in adoption determinants, Behavioral Intention, and Actual Usage across demographic groups. The Bonferroni correction was applied to address the risk of Type I error associated with multiple comparisons, while epsilon squared (ε^2) was reported to indicate effect sizes. Specific subgroup differences were not inferred because pairwise post hoc comparisons were not conducted. The combined statistical findings served as the basis for formulating the proposed service enhancement framework.

Ethical Consideration

Ethical principles were observed throughout data collection and analysis. Respondents received an informed consent statement explaining the study's purpose, voluntary participation, confidentiality measures, and right to withdraw without penalty. Only individuals who voluntarily consented and satisfied the eligibility requirements participated. Survey information was handled securely, and personally identifiable information was excluded from the reporting and interpretation of findings to protect respondent privacy and confidentiality.

3. RESULTS AND DISCUSSION

3.1 Demographic Profile of Respondents

3.1.1 Age and Gender

The largest age group comprised respondents aged 25–34 years (26.0%), followed by those aged 45–54 years (25.2%), 35–44 years (24.9%), and 18–24 years (20.5%). Overall, 96.6% were between 18 and 54 years old. Female respondents constituted 54.8% of the sample, followed by males (42.6%), while 2.6% preferred not to disclose their gender. The predominance of working-age adults provides a relevant context for examining digital payment technologies used in everyday financial transactions. Recent Philippine research involving different demographic groups demonstrates the importance of considering user characteristics when investigating behavioral intention and actual electronic money usage (Medina et al., 2025). However, the sample distribution should not be interpreted as representative of all digital wallet users in Metro Manila.

3.1.2 Civil Status and Educational Attainment

Most respondents were single (59.2%), followed by married and widowed respondents (17.9% each), while 4.9% were separated. Regarding educational attainment, 74.5% were college graduates, followed by vocational or senior high school graduates (9.4%), postgraduate degree holders (6.2%), high school graduates (6.0%), and college undergraduates (3.9%). These characteristics indicate that the sample included users with different personal circumstances and educational backgrounds, although college graduates predominated. Belmonte et al. (2024) demonstrated the relevance of technological perceptions and consumer characteristics in Philippine e-wallet adoption research. The present distribution provides a basis for examining whether respondents' digital wallet perceptions and behaviors differ across civil-status and educational groups.

3.1.3 Occupation and Monthly Income

Self-employed individuals and entrepreneurs represented 30.6% of respondents, followed by private-sector employees (28.3%), government employees (25.2%), freelancers or part-time workers (12.7%), and retirees (3.1%). Most respondents reported monthly incomes of ₱30,000–₱49,999 (59.5%), followed by ₱50,000–₱79,999 (19.5%) and ₱15,000–₱29,999 (14.5%). Smaller proportions earned ₱150,000 and above (3.6%) or ₱80,000–₱149,999 (2.9%). The concentration of economically active respondents highlights the relevance of digital wallets to personal and commercial financial activities. Alonzo et al. (2025) found that consumer priorities in digital wallet adoption may differ according to the population and context examined, while Medina et al. (2025) investigated electronic money usage among Filipino respondents from different demographic backgrounds. These studies reinforce the importance of evaluating adoption behavior within the characteristics of the population studied.

3.2 Digital Wallet Adoption Determinants, Behavioral Intention, and Actual Usage

3.2.1 Performance Expectancy

Performance Expectancy obtained a grand weighted mean of 3.40 (Strongly Agree). Transaction Speed received the highest rating (M = 3.83), followed by Convenience (M = 3.60), while Perceived Security Benefits received a comparatively lower rating (M = 2.76, Agree). Respondents therefore evaluated digital wallets more favorably in terms of transaction efficiency and convenience than security-related benefits. These findings indicate that speed and accessibility are prominent functional advantages of digital wallets, while security confidence remains a comparatively weaker dimension. Bommer et al. (2022) established the relevance of technology adoption determinants in explaining e-wallet use intention. Matar and Aloqaily (2025) likewise demonstrated the importance of perceived usefulness and trust in consumers' intentions to adopt e-wallet services. The results suggest that maintaining transaction efficiency while strengthening security confidence is relevant to digital wallet service improvement.

3.2.2 Effort Expectancy

Effort Expectancy obtained a grand weighted mean of 3.46 (Strongly Agree), indicating favorable perceptions of digital wallet usability. Interface Simplicity received the highest rating (M = 3.52), followed by Learnability (M = 3.48) and Ease of Transaction Processes (M = 3.37). These results indicate that respondents generally found digital wallet applications understandable, accessible, and manageable for routine transactions. The favorable assessment highlights the relevance of intuitive interfaces and simplified transaction procedures. Belmonte et al. (2024)

identified perceived ease of use as a significant consideration in Philippine e-wallet adoption, while Alonzo et al. (2025) reported that perceived ease of use was an important predictor in their Philippine study. These findings support maintaining user-friendly applications and minimizing unnecessary transaction complexity to encourage continued engagement.

3.2.3 Social Influence

Social Influence recorded the highest grand weighted mean among the four adoption determinants (M = 3.58, Strongly Agree). Peer Influence and Merchant and Societal Influence obtained identical weighted means of 3.60, followed by Family Influence (M = 3.53). Merchant acceptance received particularly strong agreement, with a mean of 3.90, indicating widespread perceived acceptance of digital wallets within respondents' commercial environments. The results suggest that digital wallet adoption occurs within a social environment in which recommendations, family experiences, and merchant acceptance contribute to technology acceptance. Bommer et al. (2022) identified Social Influence among the important antecedents of e-wallet use intention, while Belmonte et al. (2024) found social influence relevant to adoption intentions among Filipino consumers. Nevertheless, the high descriptive rating does not necessarily indicate that Social Influence is the strongest statistical predictor of Behavioral Intention.

3.2.4 Facilitating Conditions

Facilitating Conditions obtained a grand weighted mean of 3.22 (Agree), the lowest among the four adoption determinants. Infrastructure Accessibility received the highest rating (M = 3.50, Strongly Agree), followed by Technical Resources (M = 3.18, Agree) and Support and Assistance (M = 2.97, Agree). These results indicate favorable perceptions of payment infrastructure but comparatively lower assessments of personal technical resources and customer assistance. The findings emphasize the importance of accessible payment infrastructure, reliable connectivity, compatible devices, and responsive support services. Priandito et al. (2024) found facilitating conditions relevant to mobile wallet usage in emerging markets, while Medina et al. (2025) identified enabling conditions among the significant factors associated with electronic money adoption and utilization in the Philippines. The comparatively lower ratings for technical resources and support suggest potential areas for service enhancement.

3.2.5 Behavioral Intention

Behavioral Intention obtained a weighted mean of 3.53 (Strongly Agree). All seven indicators received favorable ratings, with the highest mean recorded for respondents' intention to recommend digital wallets to others (M = 3.76). Respondents also expressed strong intentions to use digital wallets regularly (M = 3.60) and increase their usage across different transactions (M = 3.40). The results demonstrate favorable intentions toward continued digital wallet use and recommendation. Khan and Abideen (2023) established a significant relationship between Behavioral Intention and digital wallet usage behavior. Similarly, Diep and Cuong (2026) identified Behavioral Intention as an important correlate of actual e-wallet usage. These findings support examining consumer intention as a distinct component of digital wallet adoption while recognizing that intention does not independently establish actual or sustained utilization.

3.2.6 Actual Usage

Actual Usage obtained a weighted mean of 3.52 (Strongly Agree), indicating frequent self-reported digital wallet use across financial activities. The highest-rated indicator concerned the importance of digital wallets in daily financial activities (M = 3.68), followed by reliance on digital wallets for routine transactions (M = 3.56) and their use for different financial transactions (M = 3.54). The findings indicate that respondents reported integrating digital wallets into routine payments, fund transfers, and bill settlements. Khan and Abideen (2023) highlighted the relationship between Behavioral Intention and usage behavior, while Medina et al. (2025) examined determinants of actual electronic money usage among Filipino consumers. Because the present study measured usage through self-reported survey responses rather than transaction records, the findings reflect perceived and reported usage patterns rather than independently verified transaction frequencies.

3.3 Structural Relationships Among Digital Wallet Adoption Variables

3.3.1 Structural Model Fit

The Structural Equation Model demonstrated satisfactory overall fit, with a Comparative Fit Index of .968, Tucker-Lewis Index of .961, Standardized Root Mean Square Residual of .034, and Root Mean Square Error of Approximation of .041, with a 95% confidence interval of [.025, .056]. Although the chi-square statistic was significant, $\chi^2(96) = 128.47$, $p = .018$, the remaining indices supported the adequacy of the model for examining the specified relationships. These results indicate that the proposed UTAUT-based model provided an acceptable representation of the observed relationships among adoption determinants, Behavioral Intention, and Actual Usage. The model's adequacy supports interpretation of the estimated structural associations but does not establish causality, particularly because the study employed a nonexperimental explanatory-correlational design.

3.3.2 Associations of Adoption Determinants with Behavioral Intention

All four adoption determinants demonstrated significant positive associations with Behavioral Intention. Facilitating Conditions exhibited the strongest association ($\beta = .354$, $p < .001$), followed by Performance Expectancy ($\beta = .231$, $p = .002$), Effort Expectancy ($\beta = .169$, $p = .020$), and Social Influence ($\beta = .137$, $p = .028$). Collectively, these determinants explained 62.3% of the variance in Behavioral Intention ($R^2 = .623$). These findings indicate that access to enabling resources and perceived functional benefits showed stronger associations with Behavioral Intention than ease of use and social influence within the present model. Bommer et al. (2022) identified Facilitating Conditions and Social Influence among the important antecedents of e-wallet intention, while Medina et al. (2025) emphasized the relevance of facilitating conditions and other behavioral factors among Filipino electronic money users. Diep and Cuong (2026) likewise demonstrated significant relationships involving Performance Expectancy, Social Influence, and Facilitating Conditions, although their findings differed regarding Effort Expectancy. Such differences illustrate how the relative importance of adoption determinants may vary across contexts.

3.3.3 Associations of Behavioral Intention and Facilitating Conditions with Actual Usage

Behavioral Intention and Facilitating Conditions were both significantly and positively associated with Actual Usage. Facilitating Conditions demonstrated the stronger standardized association ($\beta = .312$, $p < .001$), compared with Behavioral Intention ($\beta = .174$, $p < .001$). These results indicate

that respondents with stronger intentions and more favorable enabling conditions tended to report higher digital wallet usage. The findings suggest that motivational readiness and practical enabling conditions represent distinct but relevant aspects of digital wallet utilization. Khan and Abideen (2023) identified Behavioral Intention as a significant correlate of digital wallet usage, while Diep and Cuong (2026) found that both Behavioral Intention and Facilitating Conditions were significantly associated with actual e-wallet use. The stronger association of Facilitating Conditions in the present study reinforces the importance of accessible infrastructure and support in facilitating continued digital payment transactions.

3.4 Differences in Adoption Determinants, Behavioral Intention, and Actual Usage Across Demographic Groups

3.4.1 Differences According to Age and Occupation

After applying the Bonferroni-adjusted significance level of $\alpha = .0083$, age showed significant differences in Performance Expectancy, Effort Expectancy, Facilitating Conditions, Behavioral Intention, and Actual Usage, but not Social Influence. Facilitating Conditions exhibited the largest age-related effect size ($\chi^2 = 90.86$, $p < .001$, $\varepsilon^2 = .237$). Occupation showed significant differences in Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, and Actual Usage, but not Behavioral Intention. The largest effect size across the demographic analyses was observed for Facilitating Conditions by occupation ($\chi^2 = 137.70$, $p < .001$, $\varepsilon^2 = .359$). These results indicate that age and occupation were associated with the broadest patterns of differences in respondents' digital wallet perceptions and reported behaviors. Philippine research by Medina et al. (2025) supports examining electronic money adoption across diverse demographic groups, while Alonzo et al. (2025) illustrates how adoption considerations differ across specific consumer contexts. However, because pairwise post hoc tests were not conducted, the present results do not establish which particular age or occupational groups significantly differed from one another.

3.4.2 Differences According to Gender and Civil Status

Gender showed no statistically significant differences across the six study variables after Bonferroni adjustment. Although Social Influence produced an unadjusted p-value of .020, it did not satisfy the adjusted threshold. Civil status demonstrated significant differences in Effort Expectancy ($\chi^2 = 29.11$, $p < .001$), Facilitating Conditions ($\chi^2 = 87.76$, $p < .001$), and Behavioral Intention ($\chi^2 = 65.25$, $p < .001$). The remaining outcomes were not significant under the adjusted criterion. These findings suggest that the measured digital wallet experiences were relatively comparable across gender groups, whereas selected perceptions and intentions differed across civil-status categories. The broader research literature emphasizes that digital payment adoption depends on technological, behavioral, and contextual conditions rather than demographic characteristics alone (Bommer et al., 2022; Belmonte et al., 2024). The observed group differences should therefore be interpreted as statistical variations rather than evidence of demographic causation.

3.4.3 Differences According to Educational Attainment and Monthly Income

Educational attainment showed significant differences in Performance Expectancy ($\chi^2 = 34.58$, $p < .001$), Facilitating Conditions ($\chi^2 = 17.49$, $p = .004$), and Behavioral Intention ($\chi^2 = 16.13$, $p = .006$), but not in Effort Expectancy, Social Influence, or Actual Usage. Monthly income showed significant differences only in Social Influence ($\chi^2 = 40.01$, $p < .001$) and Facilitating Conditions

(χ^2 = 14.16, p = .007). Other comparisons were not significant after adjustment. These findings indicate that educational and income groups differed selectively in perceptions of technological benefits, social influence, enabling conditions, and intention. The importance of these dimensions is consistent with research emphasizing financial technology accessibility, usefulness, and consumer circumstances in digital payment adoption (Medina et al., 2025; Matar & Aloqaily, 2025). Nevertheless, the results do not establish the direction of differences among specific demographic categories. They indicate the need for further examination of user experiences before developing demographic-specific interventions.

3.5 Implications for the Digital Payment Service Enhancement Framework

The findings provided the empirical basis for the proposed Digital Payment Service Enhancement Framework, organized around five strategic pillars: Performance and Reliability, Security and Consumer Confidence, User Experience and Support, Access and Enabling Ecosystem, and Inclusive and Sustainable Usage. Access and Enabling Ecosystem was identified as the highest strategic priority because Facilitating Conditions demonstrated the strongest association with Behavioral Intention and a stronger association with Actual Usage than Behavioral Intention itself. The proposed framework includes a three-year implementation approach involving baseline establishment, service improvements, and subsequent performance evaluation. These implementation targets are proposed managerial benchmarks rather than outcomes empirically tested in the study. The framework emphasizes maintaining transaction efficiency while strengthening security confidence, customer support, payment accessibility, and continued user engagement. Rahman et al. (2024) demonstrated the relevance of user experience and continued-engagement considerations in mobile wallet services, while Alonzo et al. (2025) highlighted the importance of understanding context-specific adoption priorities. Overall, the present findings support a service enhancement approach that considers both users' intentions and the practical conditions enabling digital wallet utilization. The proposed framework remains subject to organizational implementation and further evaluation.

4. CONCLUSIONS AND RECOMMENDATIONS

The study concludes that digital wallet adoption and reported usage among 385 electronic money users in Metro Manila are associated with a combination of perceived benefits, ease of use, social influence, and enabling conditions. Respondents generally evaluated digital wallets favorably, particularly for transaction speed, convenience, and interface simplicity, and reported strong intentions and regular usage. However, security confidence and support services received comparatively lower assessments. All four adoption determinants were positively and significantly associated with Behavioral Intention, while Behavioral Intention and Facilitating Conditions were significantly associated with Actual Usage. Facilitating Conditions exhibited the strongest association with intention and a stronger association with usage than intention itself, underscoring the importance of accessible infrastructure, resources, and assistance. Differences across demographic groups were selective, especially by age and occupation, rather than universal. Collectively, the findings provide a context-specific basis for the proposed Digital Payment Service Enhancement Framework without establishing causal relationships or population-wide patterns.

Digital wallet providers and electronic money issuers should prioritize improvements in technical support, accessible customer-service channels, user guidance, and timely resolution of transaction concerns, while preserving the transaction speed and usability valued by respondents. They should strengthen security communication, fraud awareness, authentication

guidance, and dispute-resolution procedures to address comparatively weaker confidence in security benefits. Financial institutions, merchants, and payment-system partners should improve interoperability, connectivity, merchant acceptance, and transaction reliability, as enabling conditions showed the strongest relationships with intention and usage. Government and regulatory authorities should reinforce consumer protection, digital financial capability, and inclusive payment infrastructure. The proposed Digital Payment Service Enhancement Framework may guide these coordinated improvements, with implementation outcomes assessed against established service and engagement indicators. Because age and occupation showed broad differences, providers should investigate user needs before tailoring interventions rather than assuming which groups require assistance. Future studies should examine demographic subgroup differences and changes in usage over time.

The study was limited to 385 existing electronic money users connected to Metro Manila, selected through geographic quotas and purposive screening rather than probability sampling; therefore, its findings cannot be generalized statistically to all users or nonusers. Data came from a self-administered questionnaire, and Actual Usage was self-reported rather than independently verified through transaction records. The nonexperimental explanatory-correlational design establishes associations, not causal effects. Pairwise post hoc tests were not conducted, so specific demographic subgroup differences remain unidentified. Broader regulatory and industry factors were outside the study scope, and the proposed service enhancement framework was not implemented or evaluated.

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