

THE INFLUENCE OF E-WALLET UTILIZATION AND FINANCIAL LITERACY ON PERSONAL FINANCIAL MANAGEMENT: AN EMPIRICAL INVESTIGATION OF COMMUNITY HOUSEHOLDS IN MEDAN

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Keywords:

E-Wallet, Financial Literacy, Personal Financial Management, Financial Technology, Cashless Society, Behavioral Finance

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Abstract:

The rapid proliferation of digital financial technology (Fintech) and mobile electronic wallets (e-wallets) has transformed everyday consumer transaction mechanisms in emerging economies, presenting both operational efficiencies and behavioral spending challenges. This empirical study examines the simultaneous and partial effects of e-wallet utilization and financial literacy on personal financial management among productive-age community residents in Neighborhood 2, Amplas Urban Village, Medan City, Indonesia. Utilizing an explanatory quantitative survey design, empirical data were collected through structured Likert-scale questionnaires administered to a representative sample of 70 e-wallet users (selected via purposive sampling and calibrated using the Slovin formula from a target population of 232 residents aged 18–50). Measurement instruments were validated using Pearson Product-Moment correlation (all 30 items valid at $p < 0.05$) and Cronbach's Alpha reliability testing (e-wallet $\alpha = 0.716$; financial literacy $\alpha = 0.663$; personal financial management $\alpha = 0.782$). Classical assumption diagnostics confirmed residual normality (Kolmogorov-Smirnov $Z = 0.779$, $p = 0.578$) and the absence of multicollinearity (Tolerance = 0.802, VIF = 1.246). Multiple linear regression analysis yielded the empirical model: $Y = -0.161 + 0.141X_1 + 0.901X_2 + e$. Partial hypothesis testing (t -test) revealed that e-wallet utilization does not exert a statistically significant effect on personal financial management (t -count = 1.463 < t -table = 1.996; $p = 0.148 > 0.05$), indicating that digital payment instruments primarily serve as transactional facilitators rather than disciplined budgeting mechanisms. Conversely, financial literacy exerts a positive and statistically significant influence on personal financial management (t -count = 7.415 > t -table = 1.996; $p < 0.001$), underscoring cognitive financial competence as the decisive driver of

budgeting discipline, cash flow control, and savings allocation. Simultaneously, the ANOVA F-test confirmed that e-wallet usage and financial literacy jointly exert a highly significant effect on personal financial management ($F\text{-count} = 41.611 > F\text{-table} = 3.134$; $p < 0.001$). The coefficient of determination ($R^2 = 0.554$; Adjusted $R^2 = 0.541$; Pearson $R = 0.744$) demonstrates that 55.4% of the variance in personal financial management is explained by the joint predictors, with 44.6% governed by unmodeled exogenous factors such as household income levels and lifestyle orientation. These findings substantiate Behavioral Finance Theory, demonstrating that while Fintech offers transactional ease, cognitive financial literacy is essential to counteract impulse spending and ensure sound household wealth governance.

1. INTRODUCTION

The fourth industrial revolution and the accelerating digitalization of financial ecosystems have fundamentally restructured contemporary retail commerce, transitioning economic transactions from traditional fiat currency to sophisticated electronic payment platforms. In Indonesia, the development of digital financial infrastructure—championed by the central bank's National Non-Cash Movement (Gerakan Nasional Non-Tunai / GNNT) and the widespread deployment of the Quick Response Code Indonesian Standard (QRIS)—has catalyzed an unprecedented expansion in electronic wallet (e-wallet) adoption. Macroeconomic projections compiled by Databoks (2025) demonstrate that the annual gross transaction volume of e-wallets in Indonesia escalated consistently from approximately USD 25 billion in 2021 to USD 30 billion in 2022, USD 40 billion in 2023, and USD 55 billion in 2024, with projections surpassing USD 70 billion by 2025. Platforms such as DANA, ShopeePay, GoPay, and OVO have evolved into ubiquitous mobile utilities, facilitating peer-to-peer fund transfers, utility bill settlements, e-commerce checkouts, and micro-merchant point-of-sale payments with unparalleled speed and convenience.

At the macroeconomic and household levels, effective personal financial management represents a cornerstone of economic stability and long-term socio-economic welfare. Personal financial management encompasses the comprehensive, systematic discipline of planning, budgeting, monitoring, controlling, and allocating individual or family monetary resources across essential expenditures, debt servicing, emergency liquidity buffers, and investment vehicles (Chairil Afandy et al., 2019; Shaffiyah et al., 2025). In an increasingly cashless digital ecosystem, the structural ease and promotional incentives associated with e-wallets—such as instant merchant cashbacks, discount vouchers, and algorithmically driven gamification—drastically reduce transaction friction. However, psychological research in consumer finance indicates that the detachment from physical cash diminishes the cognitive 'pain of paying,' frequently inducing impulsive spending, unbudgeted micro-transactions, and

hedonistic lifestyle inflation if unanchored by sound financial discipline (Atsila Imanda & Ali, 2025; Azzahra et al., 2026).

To navigate the complexities of digital financial innovations, financial literacy serves as a vital cognitive competency. According to the Financial Services Authority of Indonesia (OJK) and the Central Bureau of Statistics (BPS), findings from the National Financial Literacy and Inclusion Survey (SNLIK 2025) indicate that Indonesia's financial literacy index reached 66.46% with an inclusion index of 80.51%, reflecting marked improvements from SNLIK 2024 benchmarks (literasi: 65.43%; inklusi: 75.02%). Nevertheless, a significant structural gap remains between financial access (inclusion) and financial capability (literacy). Many community members embrace digital payment apps strictly for convenience without mastering foundational budgeting principles, emergency reserve planning, or risk-return evaluation (Elsa & Dasilah, 2024; Distian & Septiani, 2024).

Medan, as the primary metropolitan hub and economic engine of Western Indonesia, exhibits extensive retail digital payment penetration. Within Medan City, Neighborhood 2 (Lingkungan II) of Amplas Urban Village, Medan Amplas District, represents a vibrant, high-density community centered around commercial transport hubs, bustling traditional markets, and thriving Micro, Small, and Medium Enterprises (MSMEs). Preliminary field observations and interviews with local community leadership (Bapak Abdul Manaf Lubis) revealed that over 70% of productive-age residents actively execute daily transactions via mobile e-wallets—predominantly DANA, followed by ShopeePay and GoPay. However, widespread digital usage has coincided with budgeting imbalances, where effortless digital access often leads to unmonitored discretionary expenditures.

Prior empirical literature on the nexus between digital payments, financial literacy, and financial behavior reveals contrasting findings (research gap). Studies by Wiwik & Syahrudin (2023), Maulana & Zoraya (2024), and Annisa et al. (2025) concluded that financial literacy and e-wallet adoption positively and significantly enhance financial management and rational decision-making. Conversely, investigations by Ramadhani et al. (2023), Waty et al. (2021), and Aliya Ramadhani et al. (2023) documented that e-wallet adoption predominantly stimulates consumerism and hedonistic spending rather than savings behavior, with financial literacy occasionally failing to show statistically significant direct effects. Given these divergent empirical insights, this study examines the partial and simultaneous effects of e-wallet usage and financial literacy on personal financial management among community residents in Neighborhood 2, Amplas Urban Village, Medan.

2. RESEARCH METHOD

2.1 Research Site, Population, and Sampling Design

This research utilized an explanatory associative quantitative survey design. The study was conducted in Neighborhood 2 (Lingkungan II), Amplas Urban Village, Medan Amplas District, Medan City, North Sumatra. The target population comprised all active e-wallet users aged 18 to 50 residing within Neighborhood 2, totaling 232 individuals. Sample size determination was executed using the Slovin formula with a 10% margin of error ($e = 0.10$):

$$n = N / (1 + N(e)^2) = 232 / (1 + 232(0.10)^2) = 232 / 3.32 = 69.87 \approx 70 \text{ respondents.}$$

A purposive sampling technique was applied with inclusion criteria: (1) Permanent resident of Neighborhood 2 Amplas; (2) Aged between 18 and 50 years; (3) Active smartphone owner; and (4) Regularly executing transactions via primary e-wallet platforms (DANA, ShopeePay, or GoPay).

2.2 Operational Definitions and Measurement Matrix

Variables were operationalized into structured questionnaire indicators evaluated on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), summarized in Table 1.

Table 1. Operational Definitions and Measurement Indicators

Variable	Conceptual Definition	Measurement Indicators	Item Count & Scale
E-Wallet Usage (X1)	Intensity, habit, and functionality of digital wallet adoption for transactions (Gosal & Linawati, 2018)	1. Perceived ease of use; 2. Perceived usefulness; 3. Perceived security; 4. Social influence; 5. Behavioral intention	10 items (Likert 1-5)
Financial Literacy (X2)	Cognitive capacity and understanding to manage personal finances effectively (Pritzahara & Sriwidodo, 2015)	1. Financial knowledge; 2. Financial behavior; 3. Financial attitude; 4. Financial planning; 5. Financial decision-making	10 items (Likert 1-5)
Personal Financial Management (Y)	Ability to plan, budget, control, and allocate individual/household funds systematically (Obago, 2014; Widiawati, 2020)	1. Purchase deliberation; 2. Expense tracking; 3. Cash flow balance; 4. Budgeting discipline; 5. Savings & investment allocation	10 items (Likert 1-5)

2.3 Econometric Model and Statistical Protocol

Data were processed using IBM SPSS Statistics software through sequential econometric procedures: (1) Instrument testing via Pearson Product-Moment correlation validity and Cronbach's Alpha reliability; (2) Classical assumption diagnostics, including One-Sample Kolmogorov-Smirnov normality, Tolerance/VIF multicollinearity, and Glejser heteroscedasticity tests; (3) Multiple Linear Regression Analysis using the structural equation:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + e$$

and (4) Hypothesis testing comprising the partial t-test, simultaneous ANOVA F-test, and Coefficient of Determination (R^2) evaluated at $\alpha = 0.05$.

3. DISCUSSION

3.1 The Transactional-Facilitator Role of E-Wallets

The finding that e-wallet usage does not significantly influence personal financial management ($t = 1.463$, $p = 0.148$) provides critical empirical insight into digital consumer behavior in urban communities. While platforms like DANA, ShopeePay, and GoPay provide operational convenience, speed, and real-time transaction history, community residents utilize these apps almost exclusively as transactional conduits for consumer payments rather than as disciplined financial tracking tools. E-wallets streamline purchases, on-demand transport, and mobile recharges, but they do not automatically impart the behavioral discipline required to formulate monthly budgets, limit impulse spending, or allocate funds toward long-term savings.

Furthermore, frequent promotional campaigns (cashbacks, flash sales, free shipping vouchers) encourage spontaneous, unplanned purchases. This aligns with findings by Ramadhani et al. (2023), Waty et al. (2021), and Suci Ramadhani et al. (2025), who documented that e-wallets often exacerbate hedonistic spending rather than promoting structured savings behavior. Digital payment adoption alone is insufficient to elevate financial management capabilities unless guided by cognitive financial literacy.

3.2 Financial Literacy as the Foundational Pillar of Wealth Management

In stark contrast to e-wallet adoption, financial literacy demonstrated a highly significant positive effect on personal financial management ($t = 7.415$, $p < 0.001$, $b_2 = 0.901$). Residents possessing stronger financial literacy consistently demonstrated superior budgeting discipline, actively evaluated purchase necessities against wants, maintained positive cash flow balances, and systematically set aside funds for emergency reserves and savings. Understanding fundamental economic concepts—such as compound interest, inflation risks, and debt burdens—enables individuals to make rational, forward-looking financial decisions.

These results strongly support Behavioral Finance Theory (Nadia & Wijaya, 2021; Cuandra, 2022) and corroborate empirical findings by Wiwik & Syahrudin (2023), Titin Kartini & Mashudi (2022), and Liwanto & Setyani (2025). Cognitive financial capability serves as the primary internal regulator governing how individuals allocate resources and resist impulsive consumerism in digital retail environments.

3.3 Synthesis of Joint Digital and Cognitive Dynamics

The simultaneous model ($F = 41.611$, $p < 0.001$, $R^2 = 0.554$) underscores that technology and human capability function synergistically. E-wallets provide modern operational infrastructure, while financial literacy provides strategic behavioral direction. When financially literate individuals adopt e-wallets, they utilize digital records constructively to

track outflows, capture legitimate discounts, and optimize cash management without succumbing to promotional-driven overspending.

4. CONCLUSION

1. E-wallet usage partially does not have a statistically significant effect on personal financial management among residents in Neighborhood 2, Amplas Urban Village, Medan (t-count = 1.463, $p = 0.148 > 0.05$). Digital wallets function primarily as transactional conveniences rather than structural budgeting tools.

2. Financial literacy partially exerts a positive and statistically significant effect on personal financial management (t-count = 7.415, $p < 0.001$). Cognitive financial understanding is the primary driver of budgeting discipline and long-term financial health.

3. E-wallet usage and financial literacy simultaneously exert a highly significant effect on personal financial management (F-count = 41.611, $p < 0.001$), explaining 55.4% of the variance ($R^2 = 0.554$; Adjusted $R^2 = 0.541$).

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