

E-Wallets and Cashless Payment Systems: Opportunities and Challenges in Vietnam

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Abstract: In the era of globalization and the Fourth Industrial Revolution, the transition from cash-based transactions to electronic payments has become an inevitable trend, fundamentally reshaping financial management and transactional practices. Vietnam, characterized by its young demographic structure, high smartphone adoption rate, and rapidly expanding digital infrastructure, has emerged as one of the most dynamic markets for cashless payment solutions, particularly e-wallets. The convenience, efficiency, and broad accessibility of financial services have positioned e-wallets as an indispensable instrument in the digital economy. Nevertheless, alongside the opportunities for fostering digital economic growth, this rapid expansion also entails a range of risks and regulatory challenges. This study examines the current landscape, opportunities, potential risks, and proposes policy recommendations aimed at ensuring the sustainable development of Vietnam's e-wallet and cashless payment ecosystem.

Keywords: E-Wallets, Cashless Payments, Digital Economy, Opportunities and Challenges, Financial Technology (Fintech).

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1. INTRODUCTION

Cashless payments (CLPs) are widely recognized as a critical catalyst for the development of the digital economy. The Government of Vietnam has implemented the *National Cashless Payment Development Strategy for the 2021–2025 period*, which aims to reduce the proportion of cash in total payment instruments to below 10% by 2025. Within this framework, e-wallets have emerged as a prevalent payment channel and a vital intermediary connecting financial institutions, enterprises, and consumers.

According to the State Bank of Vietnam (SBV), the total value of cashless transactions in 2024 exceeded VND 295.2 quadrillion, equivalent to approximately 26 times the national GDP. Concurrently, the proportion of adults aged 15 and

above with a formal financial account reached 86.97%, signifying substantial progress toward financial inclusion.

During the first quarter of 2025, the volume of cashless transactions continued to record robust growth, increasing by 44.43% year-on-year. Specifically, Internet-based payments rose by 40.41%, mobile payments by 39.82%, and QR code transactions surged by 81.64% (*Báo Đầu tư*, 2025).

In tandem with this upward trajectory, Vietnam's e-wallet market has experienced rapid expansion. Reports by *Vietnamnet* (2024) and *Globenewswire* (2025) indicate that by the end of 2024, the number of active e-wallet users in Vietnam could reach 50 million, representing an increase of nearly 40% year-on-year. Major market players

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include MoMo (approximately 31 million users), ZaloPay, ShopeePay, VNPAY, and Viettel Money (FiinGroup, 2024).

The significant expansion in both transaction volume and value not only creates opportunities to foster the digital economy and e-commerce ecosystem, but also introduces a spectrum of potential risks associated with cybersecurity threats, payment fraud, personal data breaches, and digital divide issues.

Hence, examining the opportunities and risks of e-wallets within the broader agenda of cashless payment promotion in Vietnam holds substantial importance for enhancing monetary policy frameworks, financial regulation, and consumer protection mechanisms, thereby contributing to the sustainable development of the digital financial ecosystem.

2. Research Content

2.1. Theoretical Foundations of E-wallets and Cashless Payments

Cashless payments (CLPs) are defined as the transfer of monetary value through non-physical means such as bank transfers, payment cards, Internet banking, mobile banking, or e-wallet platforms. According to the State Bank of Vietnam (SBV, 2024), CLPs represent payment transactions in which the payer and the payee do not physically exchange cash. This mechanism contributes to reducing transaction and currency circulation costs, enhancing financial transparency, and improving overall payment system efficiency—all of which are essential pillars for a modern, inclusive financial system.

An e-wallet (electronic wallet) is a digital payment instrument that stores electronic monetary value issued by licensed payment intermediaries, based on funds preloaded from users' bank accounts. It enables users to perform a wide range of financial activities such as peer-to-peer (P2P) transfers, bill payments, merchant transactions, and online fund reception. Prominent e-wallet operators in Vietnam include MoMo, ZaloPay, ShopeePay, Viettel Money, and VNPAY, which collectively account for more than 90% of total market share (SBV, 2025).

Within the broader digital financial ecosystem, e-wallets serve as a key enabler of financial inclusion by acting as an intermediary channel linking banks, fintech enterprises, and end-users. They play a critical role in expanding access to digital financial services (DFS) for unbanked and underbanked populations, thereby supporting the Government's strategic objective of universal financial inclusion.

By the end of 2024, Vietnam had approximately 58 million registered e-wallet accounts, including 38 million active wallets, contributing to a cashless payment ratio of around 42% in personal consumption. E-wallets also generate significant macroeconomic benefits by reducing cash-handling costs and improving monetary policy transmission. According to the State Bank of Vietnam (2025), the transition toward digital payments helps the national economy save an estimated VND 15 trillion annually in costs related to currency issuance, logistics, and cash storage.

In essence, e-wallets not only represent a modern payment solution in the era of digital transformation but also function as a strategic financial innovation that accelerates the transition toward a cashless economy, reinforces financial resilience, and contributes to sustainable digital economic growth.

2.2. Current Development of E-wallets in Vietnam

Between 2020 and 2025, Vietnam has experienced exponential growth in both cashless payments and e-wallet adoption, reflecting the country's ongoing commitment to digital financial transformation and economic modernization. This development has been driven by three major forces:

- 1) The implementation of the National Financial Inclusion Strategy to 2030, emphasizing equitable access to financial services;
- 2) The rapid penetration of smartphones and mobile broadband infrastructure, fostering digital connectivity;
- 3) The regulatory facilitation and policy incentives introduced by the State Bank of Vietnam and the Government to promote digital payments and fintech innovation.

According to the SBV (2025), the total value of cashless transactions in 2024 reached approximately VND 295.2 quadrillion, equivalent to 26 times Vietnam's GDP, marking a 39% year-on-year increase. By the first quarter of 2025, the volume of CLP transactions rose 44.43%, while the transaction value increased by 36.5% compared with the same period in 2024—demonstrating the deep integration of digital payments into socio-economic activities.

Within the spectrum of electronic payment methods, e-wallets have recorded the highest compound annual growth rate (CAGR). Data from the SBV Payment Department indicate that e-wallet transaction value expanded by an average of 40–45% annually during 2020–2024—substantially outpacing the growth of online bank transfers (25%) and card-based payments (15%). As of late 2024, 43 licensed e-wallet service providers were operational

in Vietnam, nearly double the number in 2019—reflecting a highly competitive and rapidly consolidating market structure.

Vietnam's e-wallet market is characterized by oligopolistic competition, with major incumbents such as MoMo, ZaloPay, ShopeePay, Viettel Money, VNPAY, Payoo, and Moca. Among these, MoMo remains the market leader, with over 31 million active users and an estimated 40% market share, followed by ZaloPay and ShopeePay (*Statista, 2025*). According to the Google e-Conomy SEA 2024 Report, Vietnam ranks as the second-fastest-growing digital payments market in Southeast Asia, after Indonesia. The total gross transaction value (GTV) of digital payments reached USD 27 billion in 2024 and is projected to rise to USD 45 billion by 2025.

Another structural driver is the increasing bank account penetration rate and digital financial inclusion among Vietnamese consumers. As of the end of 2024, 86.97% of adults possessed at least one bank account, and 45% of the adult population used at least one e-wallet—up from only 20% in 2020. With over 156 million mobile subscriptions, of which 75% are smartphones, the digital infrastructure

foundation has become a crucial enabler for mass-market fintech adoption.

The growth of e-commerce and e-government services has also acted as a demand-side accelerator for e-wallet usage. According to the Ministry of Industry and Trade (2024), Vietnam's e-commerce sector was valued at USD 20.5 billion in 2024, a 35% year-on-year increase, and is forecasted to reach USD 25 billion by 2025. Major e-commerce platforms such as Shopee, Tiki, and Lazada, along with the National Public Service Portal (NPSP), have integrated e-wallet payment systems—embedding digital payment habits across various demographic segments.

In summary, the period 2020–2025 marks a transformative phase in the evolution of Vietnam's digital payment infrastructure and e-wallet industry. The robust growth in user base, transaction volumes, and service diversification demonstrates that e-wallets have evolved beyond being a convenience-driven payment channel to becoming a core component of the national digital financial architecture. This evolution plays a strategic role in advancing financial inclusion, enhancing monetary efficiency, and realizing Vietnam's long-term vision of a cashless, digitally empowered economy.

Table 1: Growth of Vietnam's E-wallet Market, 2020–2025

Economic Indicator	2020	2021	2022	2023	2024	The first quarter of 2025
Number of licensed e-wallet service providers (approved by the State Bank of Vietnam – SBV)	26	30	37	41	43	43
Number of e-wallet users (Million users)	12	18	25	30	38	42
E-wallet ownership rate among the population (%)	20	27	34	39	45	47
Total transaction value via e-wallets (VND billion)	170.000	250.000	400.000	610.000	870.000	1.100.000
Transaction value growth rate (%)	-	47,1	60,0	52,5	42,6	36,5

Source: State Bank of Vietnam (SBV, 2025); Financial and Monetary Market Newspaper (2025); Ministry of Information and Communications (MIC, 2025)

Table 1 illustrates the continuous growth of Vietnam's e-wallet market during the 2020–2025 period in terms of scale, coverage, and transaction value. The number of e-wallet service providers licensed by the State Bank of Vietnam increased from 26 in 2020 to 43 in 2024, reflecting both the rapid expansion of payment intermediary firms and the strong attractiveness of the digital financial market. Concurrently, the number of e-wallet users more than tripled, rising from 12 million in 2020 to approximately 42 million by Q1 2025, representing nearly half of the adult population. This indicates that

e-wallets have become a widely adopted payment instrument, gradually substituting cash in everyday consumer transactions.

E-wallets not only contribute to reducing social costs associated with cash circulation but also enhance financial inclusion, particularly for residents in rural and remote areas. However, the rapid growth of the sector underscores the urgent need to ensure data security, prevent fraud, and strengthen risk management capacity within the digital payment ecosystem.

Table 2: Estimated Market Shares of Leading E-Wallets in Vietnam, 2020–2025

E-wallet	2020 (%)	2021 (%)	2022 (%)	2023 (%)	2024 (%)	2025 (%)
MoMo	45	42	40	40	40	38
Zalopay	15	18	20	23	25	28
ShopeePay	10	12	14	15	15	15
Viettel Money	5	8	10	10	10	10
VNPay	5	5	5	5	5	5
Moca (Grab)	8	6	4	3	2	1
Other e-wallets	12	9	7	4	3	3
Total	100	100	100	100	100	100

Source: *Compiled and estimated by the author based on reports from Statista (2024), FiinGroup (2024), Vietnamnet (2024), and Google & Temasek (e-Conomy SEA Reports, 2020–2024)*

Table 2 illustrates that the e-wallet market in Vietnam is experiencing intense competition, with a clear trend of concentration among major players. MoMo maintains its leading position; however, its market share appears to stabilize and may slightly decline in 2025, reflecting mounting pressure from competitors. ZaloPay and ShopeePay have shown strong growth, leveraging their native ecosystem advantages to significantly expand their user bases. Meanwhile, Viettel Money and VNPay have maintained stable market shares, whereas Moca (Grab) and other smaller e-wallets are witnessing a decline, indicating increasing market consolidation and the elimination of less competitive players.

2.3. Opportunities and Challenges of E-Wallets in Vietnam

The rapid development of e-wallets in Vietnam during the period 2020–2025 has opened significant opportunities for the national economy, while simultaneously posing considerable challenges for the management and operation of the digital payment ecosystem.

Opportunities

First, e-wallets contribute to accelerating the national digital transformation and modernizing the financial system. Cashless payments significantly reduce social costs associated with printing, circulating, and safeguarding physical currency. According to estimates from the State Bank of Vietnam, a 10% increase in cashless payments could save the country approximately VND 15 trillion per year. Moreover, the widespread adoption of e-wallets has facilitated the expansion of e-government and online public services. By the end of 2024, over 90% of administrative agencies nationwide had implemented fee collection, bill payment, and other financial transactions through e-wallets or integrated payment portals.

Second, e-wallets provide opportunities to expand financial inclusion for unbanked populations. Their simplicity, ease of use, and minimal procedural requirements enable rural and remote residents to access basic financial services. According to the

Vietnam Financial Inclusion Report (WB, 2024), approximately 37% of rural residents have used at least one form of digital payment, with e-wallets accounting for over 60% of these transactions. Expanding e-wallet usage not only supports consumption but also promotes micro-businesses, rural e-commerce, and remittance transfers.

Third, e-wallets play a critical role in fostering the growth of the digital economy. The e-Conomy SEA 2024 report (Google & Temasek, 2024) estimates that Vietnam's digital economy reached USD 45 billion, with digital financial transactions accounting for approximately 27% of the total value, nearly doubling since 2021. Alongside the growth of e-commerce, e-wallets such as MoMo, ZaloPay, ShopeePay, and Viettel Money have become the primary payment bridge between consumers and online enterprises. Micro and small enterprises (MSMEs) benefit from reduced transaction costs, with online revenues increasing by an average of 25–30% due to support for e-wallet payments (VCCI, 2025).

Additionally, e-wallets stimulate fintech innovation and competition. Fintech companies are incentivized to develop new products, including investment wallets, savings wallets, and micro-insurance wallets. A clear digital financial services ecosystem is emerging, combining banks, technology firms, and regulatory agencies. According to the Vietnam Fintech Association (VNBA, 2025), over 240 fintech enterprises operate in the payments sector, representing approximately 60% of all fintechs in the country, with e-wallets as the dominant segment.

Challenges

However, alongside these opportunities, Vietnam's e-wallet market faces significant challenges.

First, cybersecurity risks and payment fraud are major concerns. Rapid user growth increases the risk of online scams, counterfeit applications, and personal data theft. According to the Ministry of Public Security (2025), more than 13,000 online

fraud cases were recorded in 2024 alone, with around 35% related to e-wallet or fast transfer transactions. Common schemes include impersonating bank staff, sending fake links, or stealing OTP codes, undermining consumer trust—particularly among older adults or less tech-savvy individuals.

Second, intense competition and profitability pressures pose operational challenges. Although over 40 e-wallets are licensed in Vietnam, the market is concentrated among the leading providers (MoMo, ZaloPay, ShopeePay, Viettel Money). Smaller e-wallets often rely on promotional spending to attract users. According to VNBA (2025), more than 70% of e-wallet providers have yet to break even due to high infrastructure, security, and marketing costs. Fierce competition makes market survival difficult without substantial financial backing.

Third, regulatory frameworks and user data governance remain incomplete. Vietnam currently lacks a dedicated legal framework for open banking, resulting in e-wallet–bank linkages relying on bilateral agreements. Additionally, risks of personal data leakage persist, as many e-wallets collect user information without standardized security protocols.

Finally, cash usage habits remain prevalent among certain population segments, particularly in rural areas and low-income groups. Visa (2024) reports that over 40% of Vietnamese consumers still prefer cash for small transactions under VND 100,000, indicating that the full transition to digital payments will require time and supportive policies.

In summary, Vietnam’s e-wallet sector stands at a critical juncture with immense growth potential. Sustainable development requires coordinated efforts among enterprises, banks, and regulatory authorities. Key enablers include strengthening cybersecurity, completing the legal framework, developing open data infrastructure, and enhancing consumer awareness. These measures are essential to foster a stable e-wallet market and contribute meaningfully to building a digital economy and cashless society in the coming years.

2.4. The Impact of E-Wallets on Consumer Behavior and the Financial System

The rapid expansion of e-wallets in Vietnam between 2020 and 2025 has not only transformed payment methods but also exerted profound effects on consumer behavior, financial market structure, and the country’s digital economic transition.

Impact on Consumer Behavior

E-wallets have positively influenced individual consumption patterns. The convenience and speed of mobile payments significantly reduce transaction time and costs. According to a Visa Vietnam survey (2024), 83% of Vietnamese users believe that e-wallet payments provide greater spending flexibility, while 72% report a willingness to spend more when using digital payment applications instead of cash. This indicates that e-wallets function not merely as payment instruments but also as consumption stimulators, particularly in e-commerce, food and beverage services, tourism, and modern retail sectors.

In practice, Vietnamese consumers increasingly prefer digital shopping experiences. The share of online purchases conducted via e-wallets rose from 35% in 2021 to 68% in 2024. Promotional campaigns such as cashback, loyalty points, and discounts for e-wallet payments have become effective tools for retailers to attract customers and maintain loyalty. Furthermore, the prevalence of “super apps” integrating multiple services—such as MoMo, ZaloPay, and ShopeePay—has contributed to the formation of a comprehensive digital consumption ecosystem, allowing users to pay bills, shop, book tickets, invest, and donate within a single platform.

Impact on Financial Inclusion and System Efficiency

Beyond altering consumer behavior, e-wallets enhance financial inclusion and improve the operational efficiency of the financial system. By using e-wallets to receive, send, and pay funds digitally, the public increases deposits in the banking system and reduces cash circulation, thereby supporting monetary stability and inflation control. According to the State Bank of Vietnam (NHNN, 2025), the proportion of cash in total payment instruments declined from 11.33% in 2020 to 7.1% in 2024—the lowest level in history—highlighting the positive spillover effects of e-wallet adoption on the financial system.

For businesses, e-wallets facilitate transparency in cash flow and more effective revenue management. Digital transactions simplify recording, monitoring, and reporting, reducing leakage and fraud. A survey by VCCI (2024) found that 63% of SMEs in Vietnam reported a 10–30% increase in revenue after adopting e-wallet payments, while administrative costs decreased by an average of 15%. Notably, integrating digital payments with accounting software and ERP systems is gradually becoming a standard practice among small and medium-sized enterprises.

From a macroeconomic perspective, the proliferation of e-wallets improves governmental financial management. First, digital payments enhance the traceability of funds, supporting efforts against tax evasion, money laundering, and informal economic activities. The Ministry of Finance (2025) estimates that expanding e-payments could increase annual state revenue by 1.2–1.5% through reduced losses from the informal sector. Second, e-wallets strengthen monetary policy management, as digital transaction data allows the NHNN to forecast consumption trends and adjust interest rates more flexibly.

Challenges and Risks

Despite these positive impacts, e-wallets also introduce certain risks. The ease and speed of digital payments may encourage overspending, exposing users to personal financial risks. The Vietnam Digital Consumption Report (Q&Me, 2024) indicates that 27% of e-wallet users admit to spending more than planned each month due to promotional campaigns or “buy now – pay later” behaviors. Additionally, the growing collection and analysis of user spending data by digital platforms raise concerns regarding personal data security and financial privacy.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1. Conclusions

In the context of national digital transformation and global economic integration, e-wallets and cashless payments have emerged as key pillars of Vietnam’s modern financial system. Between 2020 and 2025, the electronic payment market in general, and e-wallets in particular, has experienced remarkable growth, as reflected in transaction volume, user numbers, and payment value. According to the State Bank of Vietnam (2025), the total value of cashless transactions reached over VND 295 million billion in 2024, an increase of more than 44% compared to the previous year. E-wallets were the fastest-growing channel, with over 42 million users and transaction values exceeding VND 1.1 million billion.

This growth has generated multiple positive impacts on the economy, including:

1. Reducing social costs associated with cash circulation;
2. Enhancing transparency and efficiency in financial management;
3. Expanding financial inclusion for rural populations;
4. Driving e-commerce and digital economic growth;
5. Providing a foundation for digital public services and financial digitization.

Simultaneously, e-wallets have reshaped consumer behavior, enabling faster access to modern, convenient, and secure payment methods.

However, this rapid development also faces challenges, such as cybersecurity risks, payment fraud, personal data breaches, fierce competition among service providers, and gaps in the legal framework governing data management and consumer protection. Additionally, cash usage remains prevalent among certain segments of the population, particularly in rural areas, which hinders the short-term achievement of a fully cashless society.

Overall, e-wallets have proven to be an indispensable component of Vietnam’s digital financial ecosystem, serving both as an effective payment tool and a catalyst for innovation in fintech. Sustainable development of the e-wallet market will directly contribute to achieving the national strategy for comprehensive financial development by 2030, as well as the objectives of the National Digital Transformation Program (Decision No. 749/QĐ-TTg, 2020).

3.2. Recommendations

To maximize opportunities and mitigate risks in the coming period, a coordinated approach involving policymakers, regulators, e-wallet providers, and consumers is required, specifically:

- 1) Enhance the legal framework for electronic payments and personal data protection. The government should enact a revised Electronic Transactions Law and related implementing decrees, particularly covering open banking, electronic identification (eKYC), and user data security. A flexible licensing mechanism for innovative e-wallet models should be established, accompanied by risk-based supervisory regulations.
- 2) Strengthen system security and prevent financial fraud. A unified information security standard should be developed for all payment intermediaries, including data encryption, multi-factor authentication, and real-time anomaly detection systems. The State Bank of Vietnam, Ministry of Public Security, and Ministry of Information and Communications should coordinate to establish a national financial fraud monitoring center to respond promptly to cybersecurity incidents involving e-wallets.
- 3) Develop a modern, interoperable, and open payment infrastructure. The deployment of the Real-Time Retail Payment System (RT-RPS) should be accelerated to ensure seamless connectivity among banks, e-wallets, and fintech platforms. Integration

between e-wallets and government payment systems, such as the National Public Service Portal, electronic tax, and social insurance systems, should also be expanded to promote digital payments in public services.

- 4) Enhance public-private cooperation and support fintech enterprises. The government should encourage fintech sandboxes to allow controlled experimentation with new payment products within a safe legal framework. Policies on tax incentives, credit support, and fintech workforce training should be implemented to enhance the competitiveness of domestic e-wallet providers against international corporations.
- 5) Promote financial literacy and consumer awareness. National campaigns should educate users—especially the elderly, rural residents, students, and small merchants—about safe digital payments. Improving understanding of security, fraud detection, and personal financial management via e-wallets is crucial for sustainable development.
- 6) Expand the use of e-wallets in public services and social welfare. Social benefits, pensions, scholarships, and health insurance payments could be increasingly delivered via e-wallets, enabling faster access for citizens and reducing administrative costs. This approach supports both digital payment adoption and the goals of financial inclusion.
- 7) Encourage the development of multifunctional e-wallets with value-added services. Providers should aim for the “super app” model—integrating financial services, shopping, investment, insurance, and bill payments. Such integration enhances user experience, expands revenue sources, and reduces reliance on traditional transaction fees.

E-wallets are becoming central to Vietnam’s digital economy and cashless society. By 2030, with

supportive legal, technological, and social awareness frameworks, e-wallets are expected to achieve nationwide coverage and become a ubiquitous payment tool across all aspects of daily life. Achieving this vision requires a careful balance between promoting innovation and managing risks, ensuring both user convenience and national financial security. The development of e-wallets is not only a technological issue but also a strategic financial and social endeavor, contributing to a transparent, efficient, and sustainable economy.

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