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THE ROLE OF FINTECH IN REVOLUTIOZING DIGITAL PAYMENT SYSTEMS

[1]G. SRILEKHA [2]DIDDI KEERTHANA

[1]Student, Department of Management studies, Geethanjali College of Engineering and Technology

[2]Assistant Professor, Department of Management studies Geethanjali College of Engineering and Technology

keerthanadiddi1991@gmail.com

ABSTRACT

Financial Technology (FinTech) has emerged as one of the most transformative forces in the financial services sector, fundamentally reshaping how individuals and businesses make payments. This article examines the role of FinTech in revolutionizing digital payment systems in India by analysing the growth of four major digital payment methods - Unified Payments Interface (UPI), National Electronic Funds Transfer (NEFT), Immediate Payment Service (IMPS), and mobile Wallets - over the period FY 2021-22 to FY 2025-26. Using secondary data sourced from the Reserve Bank of India and comparative, descriptive, and correlation analysis, the study finds that UPI recorded the highest transaction volume in every year of the study and grew more than five-fold over the period, establishing itself as India's dominant digital payment method. NEFT showed steady, consistent growth, while IMPS grew moderately before declining in later years, and Wallet transactions fluctuated before recovering strongly in FY 2025-26. Correlation analysis reveals a very strong positive relationship between UPI and NEFT (r = 0.9807), a moderately strong relationship between UPI and Wallets (r = 0.6872), and a very weak relationship between UPI and IMPS (r = 0.0769). The study concludes that FinTech-driven innovation, led by UPI, is the primary engine of India's shift toward a cashless, digitally inclusive economy, and offers suggestions for sustaining this growth.

Keywords

FinTech, Digital Payments, Unified Payments Interface (UPI), NEFT, IMPS, Mobile Wallets, Financial Inclusion, Correlation Analysis, Cashless Economy.

1. Introduction

Financial Technology (FinTech) has emerged as one of the most significant innovations in the financial sector, transforming the way individuals, businesses, and governments conduct financial transactions. FinTech refers to the integration of finance with advanced digital technologies - such as Artificial Intelligence, Blockchain, Cloud Computing, Big Data Analytics, and mobile applications - to provide financial services in a faster, simpler, and more efficient manner than traditional, paperwork-based banking.

One of the most visible contributions of FinTech is the transformation of digital payment systems. Payment platforms such as the Unified Payments Interface (UPI), mobile wallets, internet banking, QR code payments, contactless cards, and online payment gateways have reduced dependence on cash and traditional banking methods, allowing customers to transfer money, pay bills, and purchase goods within seconds, at any time and from anywhere.

The rapid growth of FinTech has been supported by widespread smartphone availability, affordable internet services, and improved digital infrastructure. It has also made a major contribution to financial inclusion: individuals in rural and remote areas can now open accounts, transfer money, receive government benefits, and make digital payments without visiting a physical bank branch. Government promotion of digital payments - reinforced during the COVID-19 pandemic, when contactless transactions became essential - has further accelerated this shift toward a cashless economy.

Security remains central to this transformation: data encryption, biometric authentication, multi-factor authentication, and AI-based fraud detection protect users' financial information and sustain confidence in digital platforms. Despite these advances, FinTech continues to face challenges relating to internet connectivity, digital literacy, regulatory compliance, and rising cybersecurity threats. Against this backdrop, this article analyses the growth of India's leading digital payment methods - UPI, NEFT, IMPS, and Wallets - over FY 2021-22 to FY 2025-26, comparing their transaction volumes and examining the statistical relationship between UPI and the other payment methods.

2. Literature Review

Chauhan and Sharma (2024) conducted a systematic review of digital payment research across countries and

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industries, identifying adoption behaviour, user satisfaction, technological infrastructure, security, trust, and government support as the major themes, and found the Technology Acceptance Model (TAM) and UTAUT to be the most widely used frameworks for explaining consumer adoption.

Agarwal and Zhang (2020) examined the growing role of FinTech in transforming global financial services through digital lending, online banking, mobile payments, and blockchain-based solutions, finding that FinTech has improved the efficiency, speed, transparency, and accessibility of financial services while reducing transaction costs, and that bank-FinTech collaboration has expanded financial inclusion.

Shalini and Sabitha (2024) studied the role of FinTech innovations in transforming India's digital payment systems, particularly UPI and other NPCI products, finding that UPI gained widespread acceptance due to its user-friendly interface, instant payment facility, low cost, and round-the-clock accessibility, driven by rising smartphone usage and government initiatives.

Kumar and Gupta (2023) analysed customer satisfaction with digital payment services, finding that transaction speed, convenience, ease of use, security, and reliability are the primary drivers of continued usage and customer loyalty toward digital payment platforms.

Sharma and Verma (2023) examined the impact of digital payments on consumer behaviour, finding a gradual decline in cash dependency as digital methods became more accessible, with cashback offers and discounts positively influencing purchasing decisions and spending patterns.

Sahoo, Patnaik, and Satpathy (2024) examined the rapid growth and adoption of UPI within India's digital payment ecosystem, attributing its success to a simple interface, instant fund transfer, and interoperability across banks, supported by government initiatives and growing smartphone and internet penetration in both urban and rural areas.

Bala and Sharma (2025) identified demographic characteristics, technological readiness, trust, perceived usefulness, and ease of use as key determinants of digital payment adoption among Indian consumers, alongside government initiatives and rising smartphone ownership.

Rahim et al. (2024), applying the UTAUT model to UPI adoption, found that performance expectancy, social influence, facilitating conditions, and positive user attitudes significantly affect the intention to use UPI, driven by its convenience, simplicity, and security.

Motheram and Buteau (2026) examined digital payment adoption across Indian districts, finding that digital infrastructure, internet connectivity, financial literacy, and socioeconomic conditions drive noticeable urban-rural differences in adoption, which government initiatives have helped narrow.

Dev, Gupta, Dharmavaram, and Kumar (2024) found that UPI usage increases the frequency of consumer purchases because transactions are instant and convenient, simplifying both small- and high-value payments, while noting that financial awareness and responsible spending remain important for sustainable digital financial behaviour.

Collectively, this literature establishes UPI's central role in India's digital payment ecosystem, the importance of trust, convenience, and infrastructure in driving adoption, and the inverse relationship between digital payment growth and cash dependency - providing the foundation for the present comparative, trend, and correlation analysis of UPI, NEFT, IMPS, and Wallet transactions.

3. Objectives of the Study

1. To study the growth of digital payment transactions in India during the period from FY 2021-22 to FY 2025-26.
2. To compare the transaction volumes of UPI, NEFT, IMPS, and Wallet payment methods over the study period.
3. To analyse the relationship between UPI transactions and other digital payment methods using correlation analysis.
4. To examine the changing pattern and performance of major digital payment methods in India.

The study is based on secondary data sourced from the Reserve Bank of India and research journals, and applies percentage analysis, comparative analysis, descriptive analysis, trend analysis, and correlation analysis - using tables

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and bar/line graphs - to draw meaningful and objective findings regarding the role of FinTech in India's digital payment ecosystem.

4. Analysis of Digital Payment Transactions

4.1 Year-wise Comparison of Digital Payment Transactions

Table 1: Digital Payment Transaction Volumes, FY 2021-22 to FY 2025-26 (₹ in lakhs)

Financial Year	UPI	NEFT	IMPS	Wallets
FY 2021-22	459,561.30	40,407.29	46,625.25	52,683.01
FY 2022-23	837,143.73	52,847.43	56,532.64	59,112.76
FY 2023-24	1,311,294.68	72,639.50	60,053.35	63,256.69
FY 2024-25	1,858,660.25	96,198.05	56,249.68	52,898.40
FY 2025-26	2,416,168.86	100,996.15	49,431.09	78,570.94

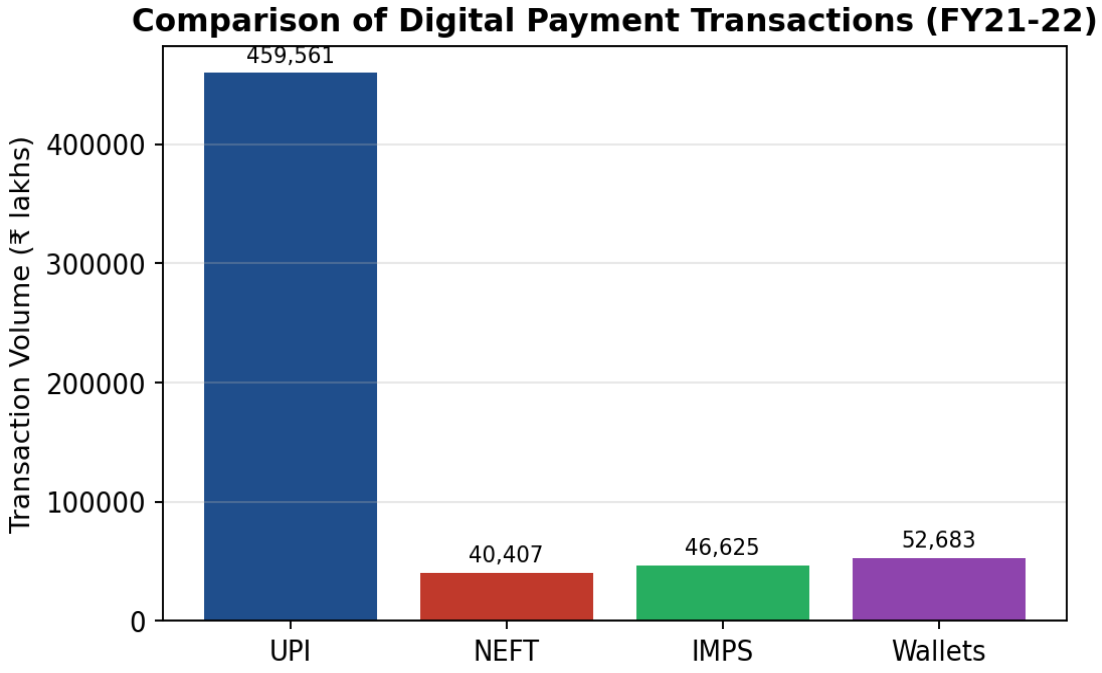


Figure 1: Comparison of digital payment transactions, FY 2021-22

UPI recorded the highest transaction volume at ₹459,561.30 lakhs, making it the most widely used digital payment method by a significant margin. Wallets recorded ₹52,683.01 lakhs, followed by IMPS at ₹46,625.25 lakhs, while NEFT recorded the lowest volume at ₹40,407.29 lakhs. The large gap in volumes shows the strong early preference for UPI due to its speed, convenience, and ease of use.

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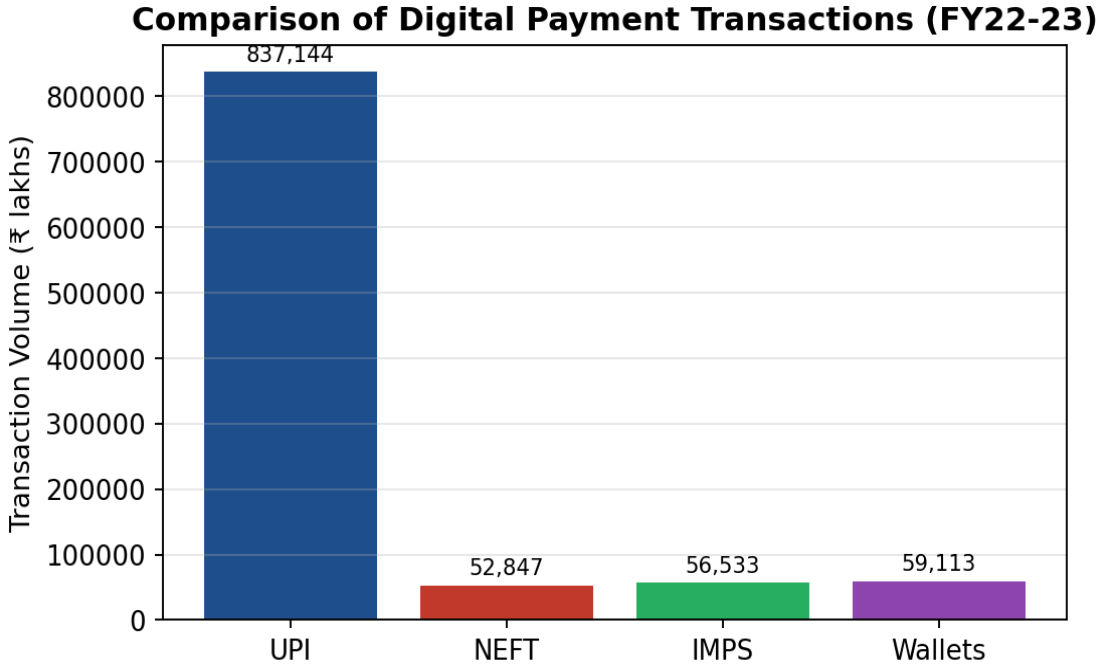


Figure 2: Comparison of digital payment transactions, FY 2022-23

UPI's transaction volume nearly doubled to ₹837,143.73 lakhs, remaining the clear leader. Wallets and IMPS also recorded meaningful growth, while NEFT stayed the lowest of the four methods. The data shows digital payment services continuing to gain popularity due to their speed and convenience.

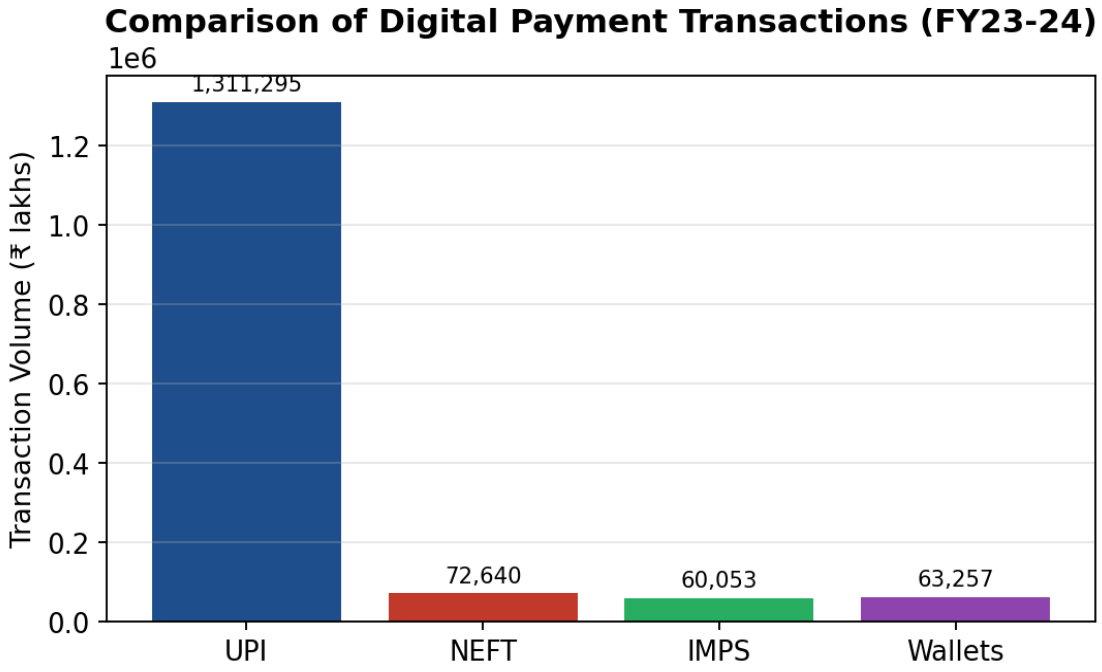


Figure 3: Comparison of digital payment transactions, FY 2023-24

UPI crossed ₹1.3 million lakhs, a significant increase over the previous year, cementing its position as the dominant digital payment method. NEFT, IMPS, and Wallets recorded steady volumes, with NEFT edging ahead of the other two. The findings show consistent growth in digital payment usage.

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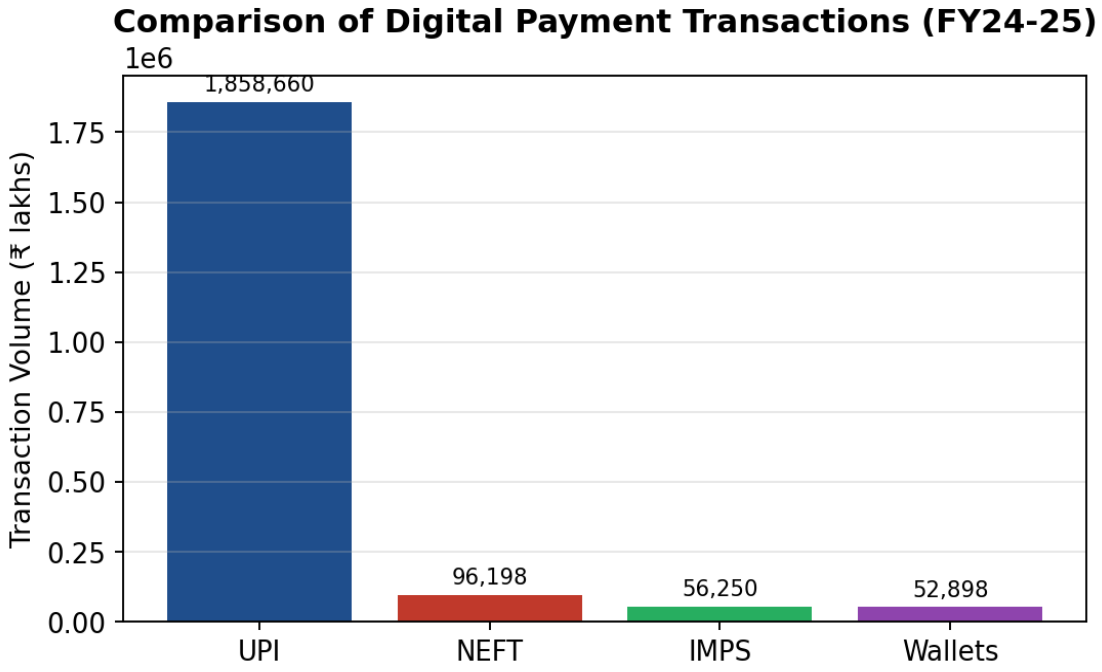


Figure 4: Comparison of digital payment transactions, FY 2024-25

UPI's transaction volume rose further to ₹1,858,660.25 lakhs, clearly indicating its widespread acceptance. NEFT ranked second, while Wallets and IMPS both recorded a mild decline relative to the previous year. The data reflects the continued, steady dominance of UPI.

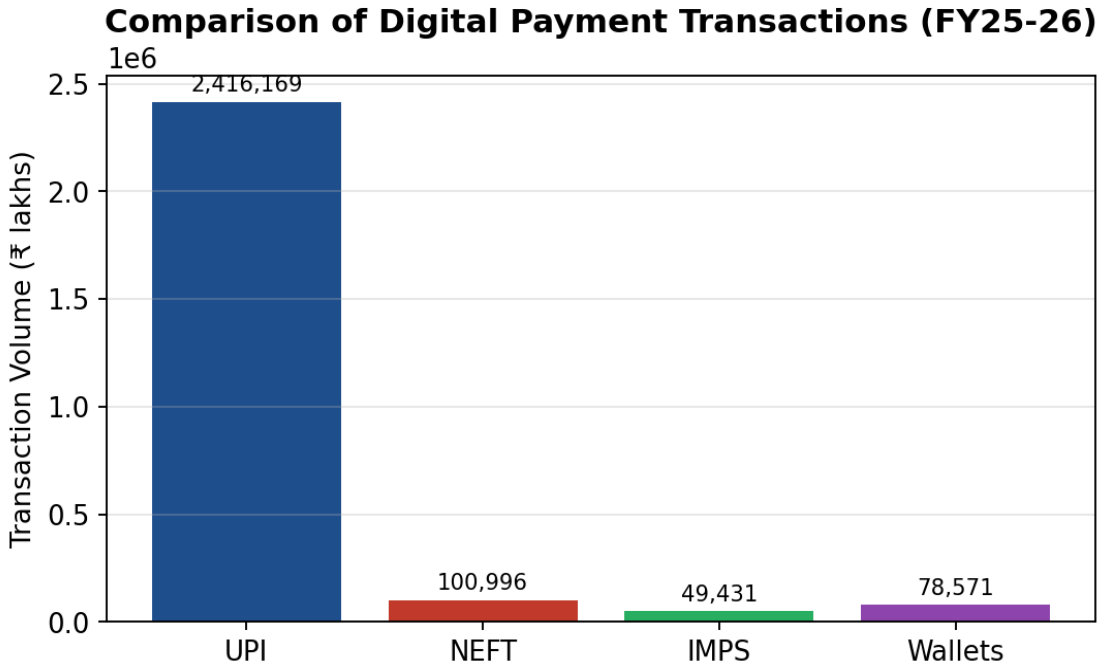


Figure 5: Comparison of digital payment transactions, FY 2025-26

UPI reached ₹2,416,168.86 lakhs, its highest recorded volume, remaining the most preferred digital payment method by a wide margin. NEFT ranked second, followed by a recovering Wallets segment, while IMPS recorded the lowest volume of the four methods. The data shows a strong upward trend in digital payments overall.

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4.2 Overall Growth Trend (FY 2021-22 to FY 2025-26)

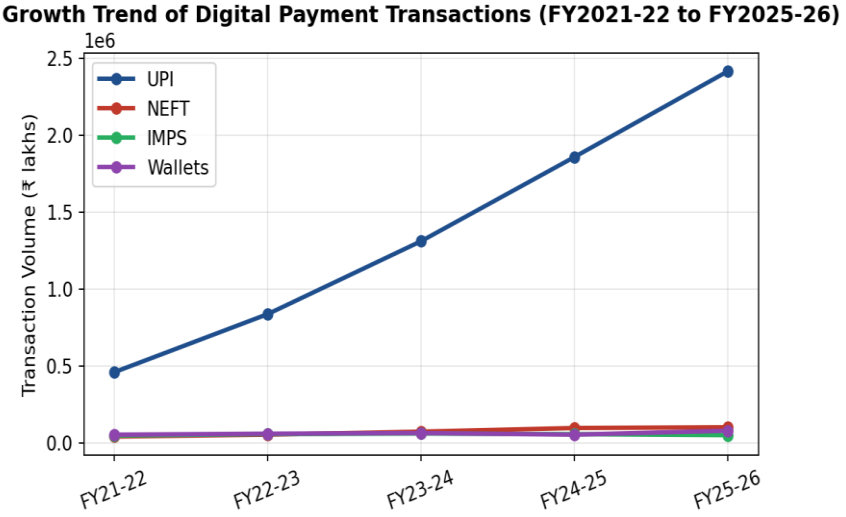


Figure 6: Growth trend of UPI, NEFT, IMPS, and Wallet transactions

Across the five-year period, UPI's transaction volume grew more than five-fold, from ₹459,561.30 lakhs to ₹2,416,168.86 lakhs, far outpacing every other payment method. NEFT grew steadily and consistently throughout the period. IMPS grew moderately until FY 2023-24 before declining in the following two years. Wallet transactions grew initially, dipped in FY 2024-25, and then recovered sharply in FY 2025-26. The trend confirms UPI's position as the primary driver of India's digital payment growth.

4.3 Correlation Analysis

Table 2: UPI vs NEFT Transactions (FY 2021-22 to FY 2025-26, ₹ in lakhs)

Financial Year	UPI	NEFT
2021-22	459,561.30	40,407.29
2022-23	837,143.73	52,847.43
2023-24	1,311,294.68	72,639.50
2024-25	1,858,660.25	96,198.05
2025-26	2,416,168.86	100,996.15

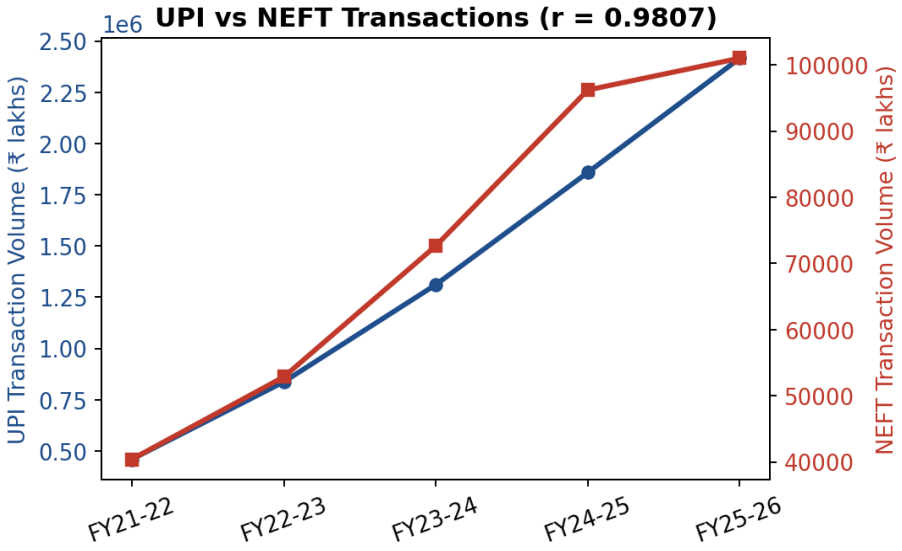


Figure 7: UPI vs NEFT transaction trend (r = 0.9807)

The correlation between UPI and NEFT is very strong and positive (r = 0.9807). Both payment methods started at

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relatively low volumes in FY 2021-22 and increased steadily thereafter; UPI grew rapidly in FY 2024-25 and FY 2025-26 while NEFT continued to rise, though at a slower rate. This consistent, parallel upward movement explains the very strong correlation observed.

Table 3: UPI vs IMPS Transactions (FY 2021-22 to FY 2025-26, ₹ in lakhs)

Financial Year	UPI	IMPS
2021-22	459,561.30	46,625.25
2022-23	837,143.73	56,532.64
2023-24	1,311,294.68	60,053.35
2024-25	1,858,660.25	56,249.68
2025-26	2,416,168.86	49,431.09

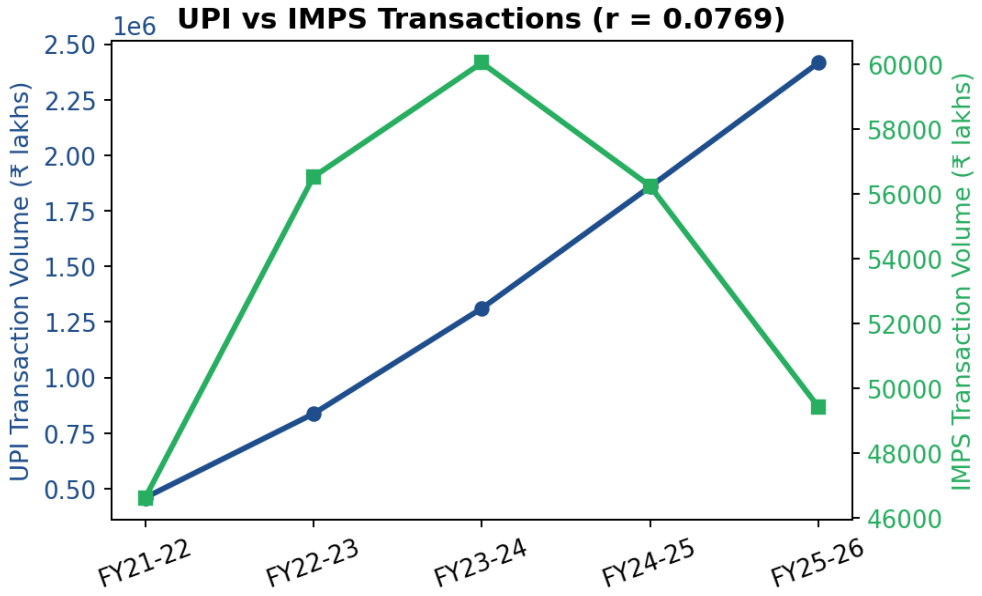


Figure 8: UPI vs IMPS transaction trend (r = 0.0769)

The correlation between UPI and IMPS is very weak (r = 0.0769). While UPI grew rapidly throughout the period, IMPS rose only slightly until FY 2023-24 and then declined in FY 2024-25 and FY 2025-26. These diverging growth patterns explain the near-absence of correlation between the two payment methods.

Table 4: UPI vs Wallets Transactions (FY 2021-22 to FY 2025-26, ₹ in lakhs)

Financial Year	UPI	Wallets
2021-22	459,561.30	52,683.01
2022-23	837,143.73	59,112.76
2023-24	1,311,294.68	63,256.69
2024-25	1,858,660.25	52,898.40
2025-26	2,416,168.86	78,570.94

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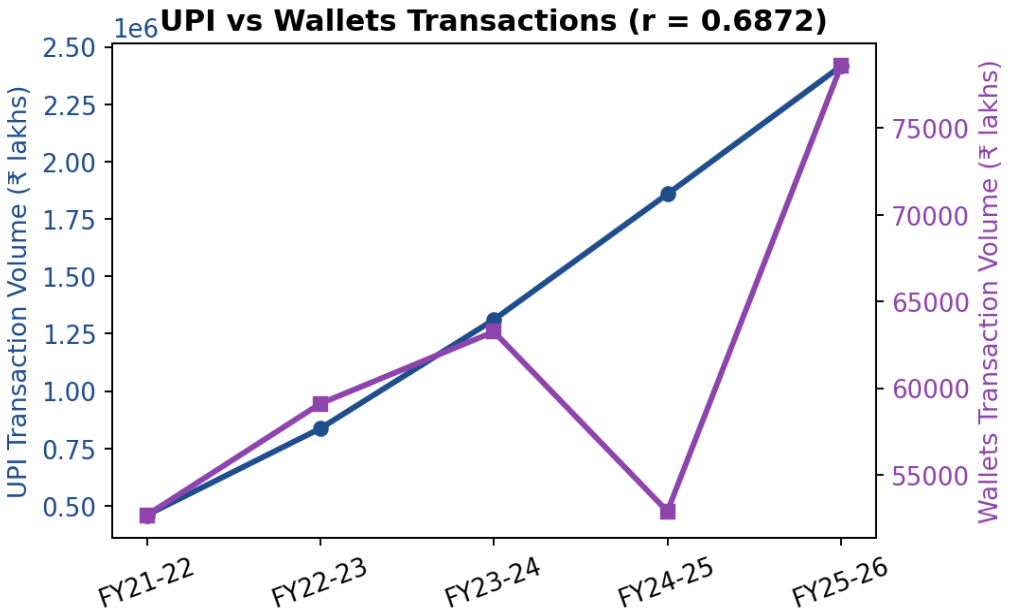


Figure 9: UPI vs Wallets transaction trend (r = 0.6872)

The correlation between UPI and Wallet transactions is moderately strong and positive (r = 0.6872). Both grew steadily from FY 2021-22 to FY 2023-24; Wallet transactions dipped slightly in FY 2024-25 even as UPI continued its rapid rise, before recovering strongly in FY 2025-26 alongside UPI's peak volume. The generally shared, though not identical, growth pattern explains the moderate correlation.

4.4 Summary of Correlation Results

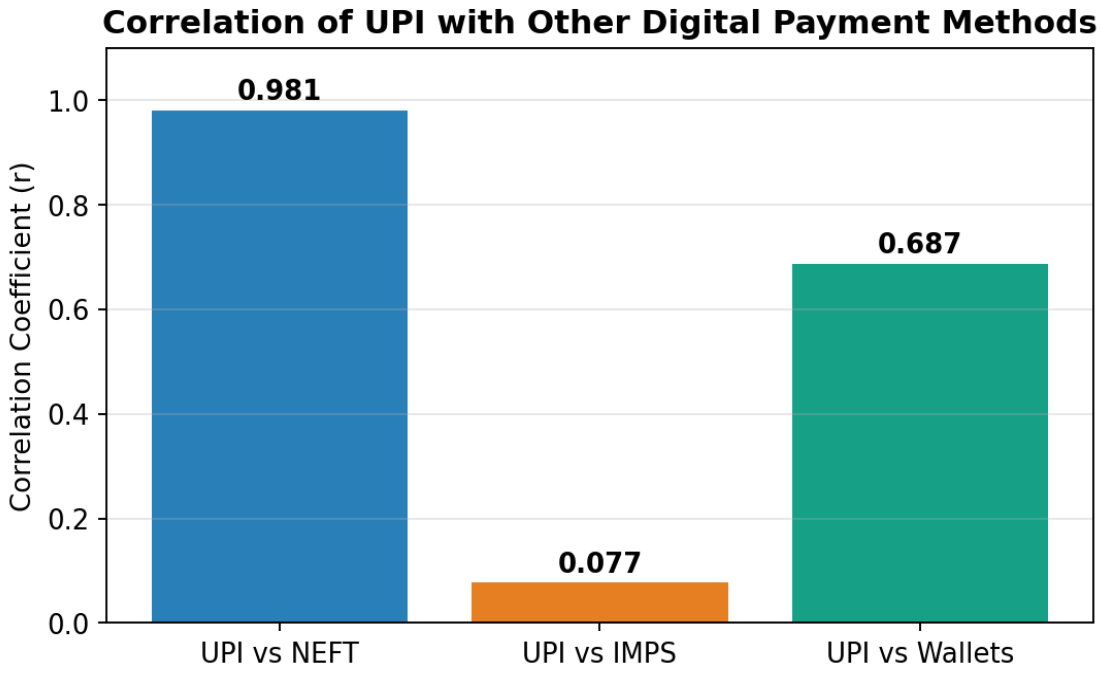


Figure 10: Correlation of UPI with NEFT, IMPS, and Wallets

Of the three payment methods compared with UPI, NEFT shows the strongest statistical relationship (r = 0.9807), Wallets show a moderate relationship (r = 0.6872), and IMPS shows almost no relationship (r = 0.0769). This indicates that UPI and NEFT have grown in close tandem, likely reflecting a shared base of digitally active users and

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overlapping use cases for larger transfers, while IMPS usage has been increasingly substituted by UPI for time-critical, low-value transactions.

5. Findings

1. UPI recorded the highest transaction volume in every financial year of the study and experienced consistent, rapid growth throughout the period, rising more than five-fold from FY 2021-22 to FY 2025-26.
2. NEFT transactions increased steadily from FY 2021-22 to FY 2025-26, indicating stable and consistent usage over the years.
3. IMPS transactions showed moderate growth until FY 2023-24, after which transaction volume declined in the following two years.
4. Wallet transactions increased during the initial years, declined slightly in FY 2024-25, and recovered with higher transaction volumes in FY 2025-26.
5. The correlation analysis revealed a very strong positive relationship between UPI and NEFT ($r = 0.9807$), indicating that both payment methods followed a similar growth trend.
6. The relationship between UPI and IMPS was very weak ($r = 0.0769$), showing that changes in UPI transactions had little influence on IMPS transactions.
7. The correlation between UPI and Wallet transactions was moderately positive ($r = 0.6872$), indicating that both payment methods generally increased over the study period, although their growth patterns differed in some years.
8. UPI's dominance across all five years and its rapid, sustained growth confirm it as the primary engine of FinTech-led transformation in India's digital payment landscape.

6. Suggestions

1. People should be made aware of digital payment systems through educational and awareness programs, especially in rural communities.
2. Training programs should be conducted to help people learn how to use digital payment apps safely and effectively.
3. Better internet connectivity should be provided to ensure smooth and uninterrupted digital transactions.
4. Strong security measures should be introduced to protect users from online fraud and cyber threats.
5. Government and financial institutions should promote the use of digital payments for everyday transactions.
6. Banks and FinTech companies should continuously improve digital payment platforms by introducing user-friendly features and faster transaction services.
7. Small businesses and local merchants should be encouraged to adopt digital payment systems by providing financial support and technical assistance.
8. Customer support services should be strengthened to resolve digital payment issues and complaints quickly and efficiently.
9. Digital payment service providers should regularly update their security systems to ensure safe and reliable transactions for users.
10. Continuous innovation in FinTech should be encouraged to develop advanced, secure, and efficient digital payment solutions that meet the changing needs of consumers, and IMPS providers in particular should examine why usage is being substituted by UPI and respond with sharper positioning.

7. Conclusion

The study concludes that FinTech has fundamentally transformed India's digital payment ecosystem by making financial transactions faster, more secure, transparent, and convenient. The analysis clearly shows that UPI has

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emerged as the most preferred digital payment method, recording the highest transaction volume every year and growing more than five-fold over the study period, while other payment systems such as NEFT, IMPS, and digital wallets continue to support the broader growth of the country's digital economy in different ways - NEFT through steady, consistent growth, and Wallets through a recovering, fluctuating trend, while IMPS usage has gradually declined as UPI absorbs a growing share of time-critical transactions.

The increasing adoption of smartphones, affordable internet services, government initiatives, and technological innovations has significantly accelerated this growth. FinTech has also played an important role in promoting financial inclusion by providing banking and payment services to people who previously had limited access to formal financial institutions. Advanced technologies such as Artificial Intelligence, blockchain, encryption, and biometric authentication have improved the security and efficiency of digital transactions. Although challenges such as cyber threats, data privacy concerns, and digital illiteracy still exist, continuous technological development and effective regulatory support can help address them. Overall, the study demonstrates that FinTech is not only changing the way people make payments but is also contributing to economic growth, financial transparency, and the development of a cashless economy, and that with continued innovation, improved digital infrastructure, stronger security measures, and increasing public awareness, FinTech will continue to play a vital role in shaping the future of India's financial system.

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