

Riding the UPI Wave: Trends and Growth in India's Digital Payments

AUTHOR – 1

PROF. MANIKANTH .HIREMATH

Department of commerce

K.L.E Society's J.G COLLEGE OF COMMERCE, HUBLI -21

KARNATAKA

AUTHOR – 2

PROF. SUNITA .GONAL

Department of commerce

K.L.E Society's J.G COLLEGE OF COMMERCE, HUBLI -21

KARNATAKA

Abstract

The Unified Payments Interface (UPI) has emerged as one of the most influential digital payment systems in India, transforming the way individuals and businesses conduct transactions. This study analyzes the trends and growth rate of UPI transactions from April 2024 to March 2025, focusing on monthly transaction volume, transaction value, and bank participation to understand growth patterns, seasonality, and system stability. Using secondary data from the National Payments Corporation of India, the study applies statistical tools such as mean, standard deviation, growth rate, correlation, and coefficient of variation. The findings reveal consistent growth in both transaction volume and value, along with expanding institutional participation. Noticeable spikes during festive months and the financial year-end indicate demand-driven increases, while a decline in average transaction value suggests greater reliance on small-value, high-frequency retail payments. Overall, the results suggest that UPI has moved into a mature phase of growth and now plays a central role in India's digital payment ecosystem, supporting financial inclusion and the country's transition toward a less-cash economy.

Key Words: UPI, Trend, Growth, Transactions, Digital Payments, Volume and Value.

Introduction

The rapid advancement of digital finance has fundamentally reshaped payment ecosystems worldwide, with real-time payment systems becoming key drivers of financial innovation, convenience, and inclusion. Among these, India's Unified Payments Interface (UPI) stands out as one of the most transformative digital payment platforms globally. UPI is a real-time payment system developed by the National Payments Corporation of India that enables interoperable, instant fund transfers between bank accounts through mobile applications, simplifying peer-to-peer and peer-to-merchant transactions and fostering unprecedented digital adoption across socioeconomic segments (NPCI data Unified Payments Interface). According to recent reports, UPI's share in India's total digital payment ecosystem surged from around 34% in 2019 to over 83% in 2024 (Kawale, Business Standard report, January 27, 2025), underscoring its dominance and rapid acceptance relative to traditional systems such as NEFT, RTGS, IMPS, and card payments.

In calendar terms, UPI has reached an extraordinary scale: monthly transactions have crossed 20 billion, with sustained year-on-year increases driven by festive demand and expanding usage across both urban and rural markets. Daily transaction values have risen above ₹90,000 crore, reflecting not only greater transaction frequency but increased market penetration beyond small-value transfers into broader retail and commercial payments. This growth aligns with broader shifts in India's payments landscape, where digital transactions accounted for 99.8% of total payment volume in the first half of 2025, illustrating how digital alternatives like UPI have supplanted cash and legacy modes. (IBEF Report 4/2/2026)

Despite these remarkable gains, UPI's growth is not uniform across months or seasons, with data indicating both peaks during festive periods and occasional softening in off-peak months. Such fluctuations highlight the importance of seasonality analysis to understand payment behavior patterns over a full year, especially as UPI transitions from rapid expansion to structural maturity. The current study therefore undertakes a monthly trend and growth rate analysis of UPI transactions over one year to identify patterns of seasonality, growth dynamics, and stability within India's payment ecosystem. This study analyzes monthly transaction volume and transaction value over a one-year period to measure growth rates, identify seasonal variations, and assess fluctuations in UPI transactions in order to understand recent trends and growth patterns in the system.

Scope of the Study

The study focuses on analyzing monthly transaction volume and value of the Unified Payments Interface in India from April 2024 to March 2025. It examines growth trends, patterns, and fluctuations in UPI usage during the selected period. The research evaluates key performance indicators such as average transaction value, growth rate, correlation, and volatility. The analysis is based on secondary data obtained from the National Payments Corporation of India. The study aims to assess the stability, maturity, and overall performance of UPI as a leading digital payment system in India.

Research Methodology

The study adopts a descriptive research design to analyze the trends and growth patterns of UPI transactions in India using secondary data obtained from the official website of the National Payments Corporation of India. The dataset comprises monthly transaction volume and value from April 2024 to March 2025, a period selected to capture both festive and non-festive variations in digital payment activity. To fulfill the objectives, the study applies statistical tools such as mean, standard deviation, correlation, and coefficient of variation. The mean measures the average monthly transaction level, while the standard deviation assesses the extent of fluctuation across months. Correlation analysis evaluates the relationship between transaction volume and value, and the coefficient of variation examines relative variability to identify peaks, troughs, and overall growth patterns during the study period.

Review of Literature

The existing literature consistently highlights the transformative role of the Unified Payments Interface (UPI), developed by the National Payments Corporation of India, in strengthening India's digital payment ecosystem.

- Sahu, Sahu, and Patra (2023) demonstrate that UPI has significantly enhanced transparency and ease of cashless transactions, with nearly equal participation from public and private sector banks, indicating broad institutional acceptance and long-term potential for financial inclusion.
- Tyagi, Jagadale, and Anute (2022) further explain user preferences across leading UPI applications such as Google Pay, PhonePe, Paytm, BHIM, and Amazon Pay, finding that ease of use and cashback rewards significantly influence adoption, though concerns regarding server reliability, fraud risks, and limited awareness persist.
- Kumar and Unnisa (2022) establish a positive relationship between internet penetration and UPI transaction growth, emphasizing the role of smartphone usage, government support, and digital infrastructure in accelerating adoption.
- Mukherjee and Banerjee (2023) observe a sharp rise in UPI transactions during and after the COVID-19 pandemic, concluding that UPI has consolidated India's position as a global leader in digital payments.
- Kakade and Veshne (2017) situates UPI within the broader shift toward a cashless economy following demonetization, highlighting interoperability, low transaction costs, and supportive schemes such as Pradhan Mantri Jan Dhan Yojana, while also noting challenges of digital literacy and technical barriers.

- Goyat and Nandal (2024), through a comprehensive review of secondary data, confirm the exponential growth of UPI in both transaction volume and value, identifying financial inclusion, infrastructure, security, and consumer awareness as critical growth drivers.
- David and Lusia (2023) and Hiwase and Shirke (2023) provide empirical evidence of increasing transaction volume, value, and bank participation, along with comparative analyses of major apps, concluding that continuous innovation and feature enhancement are necessary to sustain UPI's rapid expansion. Collectively, these studies affirm that UPI has emerged as a robust, scalable, and inclusive digital payment system central to India's economic and technological advancement.

Objectives of the Study

1. To examine the monthly trends in UPI transaction volume and value in India from April 2024 to March 2025.
2. To assess the patterns and growth in total UPI transaction volume and value during the study period.
3. To identify key fluctuations, peaks, and troughs in UPI usage over the selected months.

Limitations of the Study

- The study relies solely on secondary data published by NPCI; no primary data has been collected.
- The analysis is descriptive in nature and does not establish cause-and-effect relationships.
- The study is limited to the time period from April 2024 to March 2025 and may not capture future developments in digital payments.

Data Analysis and Interpretation

- **Trend analysis of UPI transactions.**

Trend in Bank Participation, Transaction Volume and Value (Apr 2024 – Mar 2025)

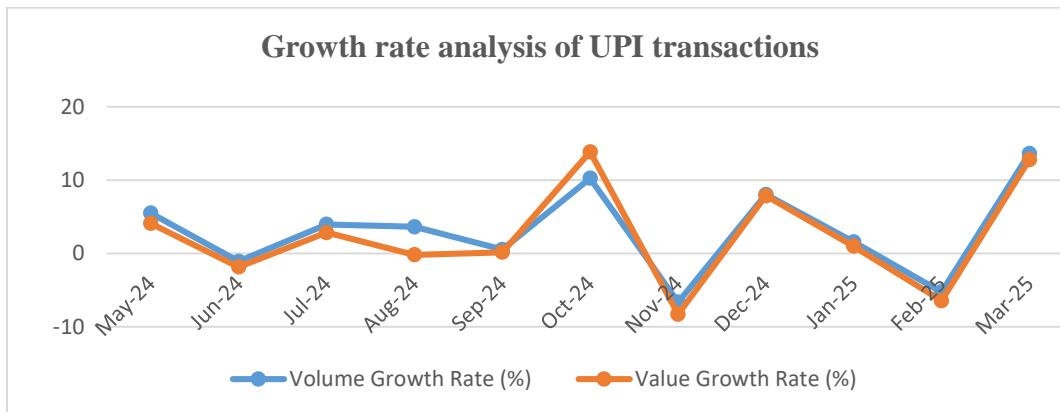
Month	No of Banks Live On UPI	Volume (Million)	Value (Crore)
Apr-24	583	13,303.99	19,64,464.52
May-24	598	14,035.84	20,44,937.05
Jun-24	602	13,885.14	20,07,081.20
Jul-24	605	14,435.55	20,64,292.41
Aug-24	608	14,963.05	20,60,735.57
Sep-24	622	15,041.75	20,63,994.71
Oct-24	632	16,584.97	23,49,821.46
Nov-24	637	15,482.02	21,55,187.40
Dec-24	641	16,730.01	23,24,699.91
Jan-25	647	16,996.00	23,48,037.12
Feb-25	653	16,106.19	21,96,481.69
Mar-25	661	18,301.51	24,77,221.61

Interpretation:

The continuous rise in the number of participating banks indicates the growing institutional strengthening and widespread acceptance of UPI within the formal banking system. The simultaneous increase in both transaction volume and transaction value reflects a shift from initial adoption to deeper structural integration within India's payment ecosystem. A notable surge observed in October 2024 highlights the significant influence of festive-season demand on digital payment activity. Overall, the findings reveal consistent expansion in UPI usage, greater transaction frequency, and an increasing scale of digital financial operations across the country. This steady upward movement also suggests enhanced consumer trust and dependency on digital payment platforms. Moreover, the pattern of sustained growth indicates that UPI is evolving into a stable and mature component of India's digital economy.

Month	Volume Growth Rate (%)	Value Growth Rate (%)
May-2024	5.5	4.10
June-2024	-1.07	-1.85
July-2024	3.96	2.85
Aug-2024	3.65	-0.17
Sept-2024	0.53	0.16
Oct-2024	10.26	13.85
Nov-2024	-6.65	-8.28
Dec-2024	8.06	7.87
Jan-2025	1.59	1.00
Feb-2025	-5.24	-6.45
Mar-2025	13.63	12.78

Growth rate analysis of UPI transactions



Interpretation:

Growth rates reveal strong expansion with identifiable seasonal corrections. Sharp increases during October and March correspond with festive demand and fiscal year-end transactions, reinforcing the cyclical nature of digital payments.

- Correlation Analysis**

Correlation Matrix of UPI Indicators (Karl Pearson’s Coefficient)

Variables	Banks	Volume	Value
Bank	1.00	0.94	0.87
Volume	0.94	1.00	0.98
Value	0.87	0.98	1.00

The statistically strong positive correlations suggest that expansion in bank participation significantly influences transaction intensity. The near-perfect correlation between volume and value indicates proportional growth, characteristic of a mature payment system.

- Average Transaction Value Analysis**

Month	Average Transaction Value(₹)
Apr-2024	1476.60
May-2024	1456.94
June-2024	1445.49
July-2024	1430.01
Aug-2024	1377.22
Sept-2024	1372.18
Oct-2024	1416.84
Nov-2024	1392.06
Dec-2024	1389.54
Jan-2025	1381.52
Feb-2025	1363.75
Mar-2025	1353.56

Interpretation:

The declining ATV, despite rising aggregate value, signals increasing usage for small-value, high-frequency transactions. This pattern aligns with global digital payment maturity models, where retail and micro-payments dominate transaction counts.

- Volatility And Seasonality Analysis**

Indicator	Volume(Million)	Value(Crore)
Mean	15488.84	2171413
Standard Deviation	1487.77	165701
Co-efficient of Variation (%)	9.61	7.63

Interpretation:

Low coefficients of variation indicate limited volatility and high transactional stability. Predictable seasonal spikes confirm demand-driven rather than speculative growth.

Key Findings

- UPI transactions show sustained growth from April 2024 to March 2025, with a steady rise in participating banks, transaction volume, and value, reflecting deep institutional adoption.
- Festive seasons and fiscal year-end significantly boost transactions, with sharp spikes observed in October 2024 and March 2025, confirming strong seasonality in usage.
- Growth rate analysis reveals cyclical fluctuations, but the overall trend remains strongly positive, indicating resilience of the UPI ecosystem.
- There is a strong positive correlation between bank participation, transaction volume, and transaction value, suggesting synchronized expansion of the system.
- The average transaction value is gradually declining, implying increased reliance on UPI for small-value, high-frequency retail payments.
- Low volatility underscores operational resilience and scalability.

Conclusion

The evidence concludes that the Unified Payments Interface has achieved a mature and stable growth phase from April 2024 to March 2025. Continuous growth in bank participation, transaction volume, and transaction value reflects strong institutional adoption and widespread public acceptance. Seasonal spikes indicate

demand-driven expansion, while strong correlations among key indicators confirm synchronized system growth. The declining average transaction value suggests increased usage for small, frequent retail payments, highlighting deeper penetration into daily transactions. Overall, UPI has become a core pillar of India's digital payment ecosystem under the supervision of the National Payments Corporation of India, supporting financial inclusion and the transition toward a less-cash economy.

References:

1. David, M. A., & Lusua, M. A. (2023). Performance of Unified Payments Interface (UPI). *Journal of the Asiatic Society of Mumbai*, 96(26), 66–70.
2. Goyat, S., & Nandal, V. (2024). Trend and Growth Rate Analysis of Unified Payment Interface (UPI). *Library Progress International*, 44(3), 26673–26682.
3. Hiwase, D., & Shirke, A. (2023). A Comparative Study of Two Market Competitors in the Indian UPI Ecosystem: Paytm and PhonePe. *International Journal of Science, Engineering and Management (IJSEM)*, 10(7), 8–11.
4. India Brand Equity Foundation (IBEF). (2026, February 4). UPI transactions hit record high of Rs 230 lakh crore (US\$ 2.56 trillion) in FY25–26 till Dec. Retrieved from <https://www.ibef.org/news/upi-transactions-hit-record-high-of-rs-230-lakh-crore-us-2-56-trillion-in-fy25-26-till-dec>
5. Kawale, A. (2025, January 27). UPI's share in total digital payments in India grows to 83% in 2024. *Business Standard*.
6. Kumar, S. V., & Unnisa, N. (2022). A study on UPI transactions in India. *International Journal of Research in Economics and Social Sciences*, 12(4), 89–101.
7. Mukherjee, S., & Banerjee, K. (2023). An empirical study on the role of UPI in socio-economic development in India. *Journal of Emerging Technologies and Innovative Research*, 10(6), 233–242.
8. National Payments Corporation of India (NPCI). Retrieved from <https://www.npci.org.in/>
9. Sahu, A. K., Sahu, D., & Patra, D. (2023). Unified Payments Interface (UPI) and its role in transforming digital payments in India. *Journal of Digital Finance and Financial Inclusion*, 5(2), 45–60.
10. Tyagi, S., Jagadale, S., & Anute, N. (2022). A study on user preference towards UPI-based digital payment applications in India. *International Journal of Management and Commerce Innovations*, 10(1), 112–121.

Copyright & License:



© Authors retain the copyright of this article. This work is published under the Creative Commons Attribution 4.0 International License (CC BY 4.0), permitting unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.