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## EXAMINING THE EXPANSION OF UPI INFRASTRUCTURE AND ITS IMPACT ON DIGITAL TRANSACTION VOLUME AND VALUE

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### ABSTRACT

*The Unified Payments Interface (UPI) has emerged as one of the most significant digital payment innovations in India, transforming the country's payment ecosystem. This study examines the expansion of UPI infrastructure and its impact on digital transaction volume and value during the period from April 2025 to March 2026. The study utilises secondary data obtained from the National Payments Corporation of India (NPCI). The analysis focuses on the number of banks participating in the UPI ecosystem, transaction volume, and transaction value. Descriptive statistical tools such as Mean, Standard Deviation, Compound Annual Growth Rate (CAGR), and Month-on-Month (MoM) growth rate were employed to evaluate the performance of UPI. The findings reveal a steady increase in the number of banks integrated with UPI, indicating widespread institutional adoption. Furthermore, transaction volume and value recorded substantial growth, demonstrating increasing consumer acceptance and reliance on digital payment systems. The study concludes that the continuous expansion of UPI infrastructure has significantly contributed to the growth of digital transactions in India and strengthened the country's movement towards a cashless and digitally inclusive economy.*

**KEYWORDS:** UPI, Digital Payments, Transaction Volume, Transaction Value, & Cashless Economy

### INTRODUCTION

The rapid advancement of digital technologies has transformed the global financial landscape, leading to significant changes in payment systems and consumer transaction behaviour. In India, digital payment systems have gained remarkable momentum due to increasing internet penetration, smartphone adoption, government initiatives, and technological innovations in the banking sector. Among various digital payment platforms, the Unified Payments Interface (UPI), developed by the National Payments Corporation of India (NPCI), has emerged as a revolutionary payment system that facilitates instant, secure, and convenient fund transfers. UPI enables users to conduct financial transactions through mobile devices without requiring extensive banking details, thereby enhancing accessibility and ease of use. Since its introduction, the platform has experienced unprecedented growth in terms of participating banks, transaction volume, and transaction value. Government initiatives such as Digital India, Pradhan Mantri Jan Dhan Yojana (PMJDY), and the promotion of financial inclusion have further accelerated UPI adoption across urban and rural regions.

The increasing integration of banks into the UPI ecosystem has expanded transaction accessibility and strengthened the digital payment infrastructure. As consumers and businesses increasingly rely on digital payment methods, understanding the relationship between UPI

infrastructure expansion and transaction growth becomes essential. Therefore, this study investigates the growth of UPI infrastructure and analyses its influence on transaction volume and value in India during the period from April 2025 to March 2026.

### **GROWTH OF UPI**

The Unified Payments Interface has become the backbone of India's digital payment ecosystem. Since its launch, UPI has witnessed exceptional growth due to its user-friendly interface, real-time transaction capabilities, interoperability among banks, and widespread merchant acceptance. The number of banks participating in the UPI network increased from 668 in April 2025 to 705 in March 2026, reflecting the growing confidence of financial institutions in the platform.

Similarly, transaction volume increased from 17,893.42 million transactions in April 2025 to 22,641.11 million transactions in March 2026, while transaction value increased from ₹23,94,925.87 crore to ₹29,52,542.05 crore during the same period. The substantial growth in both transaction volume and value highlights increasing consumer trust and widespread adoption of digital payments. The expansion of digital infrastructure, improved internet connectivity, smartphone penetration, and supportive government policies have significantly contributed to this growth. UPI has not only simplified financial transactions but also promoted financial inclusion and reduced dependence on cash transactions across the country.

### **REVIEW OF LITERATURE**

Microfinance and financial inclusion have long been considered important mechanisms for improving the socio-economic conditions of low-income households. By providing access to financial services such as credit, savings, and thrift schemes, microfinance institutions support economically disadvantaged populations, particularly in rural and semi-urban regions. These financial services contribute to income generation, employment creation, poverty alleviation, and enhanced living standards. Furthermore, microfinance plays a significant role in empowering vulnerable groups of women, including widows, divorced women, and women with disabilities, by promoting financial independence and social inclusion (Anandaraman, 2012).

The rapid advancement of information and communication technologies has transformed the financial services sector, leading to a gradual shift from conventional cash-based transactions to digital payment methods. India has experienced remarkable growth in its digital payment infrastructure, progressing from a predominantly cash-driven economy toward a digitally enabled payment ecosystem. The increasing adoption of debit cards, mobile payment applications, digital wallets, and prepaid payment instruments has significantly accelerated the growth of electronic transactions, positioning India among the leading digital payment markets globally (Mahesh & Bhat, 2022).

The widespread availability of internet connectivity, growing penetration of smartphones, and government efforts to establish a digitally empowered society have further facilitated the adoption of cashless payment systems. Research indicates that demographic characteristics such as age, gender, educational qualification, and employment status influence consumers' preferences, perceptions of security, and satisfaction levels regarding digital payment services (Jayaraj & Bhat, 2024).

The development of online payment platforms has revolutionized the execution of financial transactions across the world. Digital payment systems offer numerous advantages, including convenience, speed, accessibility, and operational efficiency. At the same time, they present various opportunities and challenges for businesses, consumers, and financial institutions operating in the digital economy (Mythili & Kanimozhi, 2024). In India, the rapid increase in internet usage and smartphone ownership has substantially enhanced the adoption of digital payment technologies. Government initiatives, particularly the Digital India programme, have played a pivotal role in promoting electronic payments through internet banking, mobile banking, and card-based transaction systems (Rajeswari, Pirakatheeswari, & Vadivel, 2021).

Despite these benefits, the expansion of digital payment systems has raised concerns

regarding cyber security and financial fraud. As the volume and value of electronic transactions continue to increase, users are becoming more vulnerable to cyberattacks, data breaches, and fraudulent activities, highlighting the need for robust security frameworks and consumer awareness (Sharma, Gallani, & Maheria, 2024).

External events have also influenced the growth of digital payments. The COVID-19 pandemic served as a catalyst for digital payment adoption, particularly during periods of lockdown and restricted mobility. Many individuals who had previously relied on cash transactions began using digital payment platforms for the first time. Factors such as awareness of digital payment options, access to smartphones, possession of debit cards, and direct government benefit transfers significantly contributed to this behavioural shift (Saroy et al., 2022).

Government-led financial inclusion programmes have further strengthened the digital payment ecosystem. Initiatives such as the Pradhan Mantri Jan Dhan Yojana (PMJDY) have expanded access to banking services among previously unbanked populations and facilitated the delivery of government benefits through digital channels (Ravichendran, 2024). Additionally, digital payment systems contribute to broader economic development by reducing dependence on cash transactions, enhancing transparency, improving economic efficiency, and supporting financial stability within the economy (Ravikumar et al., 2019).

From a business perspective, digital payment adoption also influences access to credit. The digital transaction records generated through payment platforms improve financial transparency and enable financial institutions to assess the creditworthiness of small and medium-sized enterprises more effectively (Premathilaka, 2024). Moreover, technological innovations in the banking industry, including Automated Teller Machines (ATMs), Magnetic Ink Character Recognition (MICR), stored-value cards, and digital wallets, have strengthened the efficiency, reliability, and accessibility of payment systems (Jerath, 2022).

### **STATEMENT OF THE PROBLEM**

Digital payment systems have become an integral component of India's financial ecosystem. Among these systems, UPI has emerged as the most widely used platform for digital transactions. Although UPI has experienced remarkable growth in recent years, there remains a need to understand whether the expansion of UPI infrastructure directly contributes to the growth in transaction volume and value. The increasing number of participating banks suggests enhanced accessibility and service availability; however, the extent to which this infrastructure expansion influences transaction activity requires empirical examination. Furthermore, understanding the growth pattern of UPI transactions is important for policymakers, financial institutions, and technology providers seeking to strengthen digital payment adoption. Therefore, this study attempts to analyse the expansion of UPI infrastructure and assess its impact on transaction volume and transaction value in India.

### **OBJECTIVES OF THE STUDY**

1. To examine the growth of UPI infrastructure in terms of the number of banks participating in the UPI ecosystem.
2. To analyse the impact of UPI infrastructure expansion on digital transaction volume and transaction value in India.

### **RESEARCH METHODOLOGY**

The present study is descriptive and analytical in nature. The study is based entirely on secondary data collected from the official publications and statistical reports of the National Payments Corporation of India (NPCI). Data relating to the number of banks live on UPI, transaction volume, and transaction value were collected for the period from April 2025 to March 2026. To evaluate the growth and performance of UPI, various statistical tools such as Mean, Standard Deviation (SD), Compound Annual Growth Rate (CAGR), and Month-on-Month (MoM) growth rates were employed. These tools were used to measure growth trends, variability, and overall performance of the UPI ecosystem during the study period. The collected data were organised, tabulated, and interpreted systematically to derive meaningful conclusions regarding

the relationship between UPI infrastructure expansion and digital transaction growth. The findings provide valuable insights into the effectiveness of UPI as a digital payment platform in India.

#### ANALYSIS AND INTERPRETATION

**Table 1**  
**Number of Banks Live on UPI**

Month	No. of Banks Live on UPI
April-2025	668
May-2025	673
June-2025	675
July-2025	684
August-2025	688
September-2025	686
October-2025	683
November-2025	684
December-2025	685
January-2026	691
February-2026	694
March-2026	705

Source: <https://www.npci.org.in/product/upi/product-statistics>

The number of banks operating on the UPI platform exhibited a steady upward trend from April 2025 to March 2026. The number increased from 668 banks in April 2025 to 705 banks in March 2026, reflecting the continuous expansion of the UPI ecosystem. The average number of participating banks was 684.67, indicating widespread institutional adoption of digital payment infrastructure. The standard deviation of 10.24 suggests relatively low variability in bank participation throughout the study period. Furthermore, the 5.54 per cent CAGR indicates sustained annual growth in the number of banks, highlighting increasing confidence in and integration of UPI services across the banking sector.

**Table 2**  
**Growth of UPI transactions in volume**

Month	Volume (Mn.)	MoM Growth (%)
April-2025	17,893.42	-
May-2025	18,677.46	4.38
June-2025	18,395.01	-1.51
July-2025	19,467.95	5.83
August-2025	20,008.31	2.78
September-2025	19,633.43	-1.87
October-2025	20,700.92	5.44
November-2025	20,466.98	-1.13
December-2025	21,634.67	5.71
January-2026	21,703.44	0.32
February-2026	20,394.18	-6.03
March-2026	22,641.11	11.02
<b>Mean (%)</b>	<b>2.27</b>	
<b>S.D. (%)</b>	<b>4.81</b>	
<b>CAGR (%)</b>	<b>26.53</b>	

Source: <https://www.npci.org.in/product/upi/product-statistics>

The volume of UPI transactions demonstrated significant growth during the study period, increasing from 17,893.42 million transactions in April 2025 to 22,641.11 million transactions in

March 2026. The average month-on-month growth rate was 2.27 percent, indicating a consistent increase in transaction activity. However, the standard deviation of 4.81 percent suggests moderate fluctuations in transaction volume across different months. The highest growth was recorded in March 2026 (11.02%), while February 2026 experienced a decline of 6.03 percent. The CAGR of 26.53 percent highlights the rapid expansion of digital payment adoption and increasing consumer reliance on UPI-based transactions.

**TABLE 3**  
**GROWTH OF UPI TRANSACTIONS IN VALUE**

Month	Value (₹ Crore)	MoM Growth (%)
April-2025	23,94,925.87	-
May-2025	25,14,297.01	4.98
June-2025	24,03,930.69	-4.39
July-2025	25,08,498.09	4.35
August-2025	24,85,472.91	-0.92
September-2025	24,89,736.54	0.17
October-2025	27,27,790.68	9.56
November-2025	26,31,632.63	-3.53
December-2025	27,96,712.73	6.27
January-2026	28,33,481.22	1.31
February-2026	26,84,229.29	-5.27
March-2026	29,52,542.05	10.00
<b>Mean (%)</b>	<b>2.05</b>	
<b>S.D. (%)</b>	<b>5.39</b>	
<b>CAGR (%)</b>	<b>23.29</b>	

Source: <https://www.npci.org.in/product/upi/product-statistics>

The value of UPI transactions exhibited substantial growth throughout the period, rising from ₹23,94,925.87 crore in April 2025 to ₹29,52,542.05 crore in March 2026. The average monthly growth rate was 2.05 per cent, indicating a positive trend in the monetary value of digital transactions. The standard deviation of 5.39 per cent reveals comparatively higher volatility than transaction volume, reflecting fluctuations in transaction amounts. The highest growth was observed in March 2026 (10.00%), while February 2026 registered a decline of 5.27 percent. The CAGR of 23.29 per cent confirms strong long-term growth, demonstrating increasing consumer confidence and widespread acceptance of UPI as a preferred digital payment system.

### FINDINGS

The study reveals significant growth in the UPI ecosystem during the period under investigation. The number of banks participating in UPI increased from 668 in April 2025 to 705 in March 2026, registering a CAGR of 5.54 percent. This indicates the continuous expansion of digital payment infrastructure and increasing institutional participation. The transaction volume exhibited substantial growth, increasing from 17,893.42 million transactions to 22,641.11 million transactions, with a CAGR of 26.53 percent. The average monthly growth rate in transaction volume was 2.27 percent, indicating increasing consumer adoption of digital payment systems. Similarly, transaction value increased from ₹23,94,925.87 crore to ₹29,52,542.05 crore, registering a CAGR of 23.29 percent. The average monthly growth rate was 2.05 percent. Although occasional fluctuations were observed, the overall trend remained positive. The findings confirm that the expansion of UPI infrastructure has positively influenced both transaction volume and transaction value, thereby strengthening India's digital payment ecosystem.

### SUGGESTIONS

To sustain the rapid growth of UPI and further strengthen India's digital payment ecosystem, several measures may be considered. First, policymakers should encourage greater participation of regional and cooperative banks in the UPI network to improve financial inclusion in underserved areas. Second, digital literacy programmes should be expanded to educate users

regarding the benefits, usage, and security aspects of digital payment systems. Third, financial institutions should strengthen cybersecurity measures to minimize fraud risks and enhance consumer confidence. Fourth, continuous technological innovation and infrastructure upgrades are necessary to handle increasing transaction volumes efficiently. Fifth, internet connectivity in rural and remote areas should be improved to facilitate broader access to digital payment services. Additionally, incentives such as cashback offers, merchant rewards, and awareness campaigns can encourage more consumers and businesses to adopt UPI-based transactions. These initiatives will contribute to the long-term sustainability and growth of digital payments in India.

## CONCLUSION

The study concludes that the expansion of UPI infrastructure has played a vital role in accelerating the growth of digital transactions in India. The increasing number of participating banks has enhanced the accessibility and reach of the UPI ecosystem, enabling consumers and businesses to perform transactions efficiently and conveniently. The substantial growth in transaction volume and value demonstrates growing public confidence in digital payment systems and reflects the success of government initiatives aimed at promoting a cashless economy. Although minor fluctuations were observed during certain months, the overall trend remained strongly positive. The findings highlight that UPI has emerged as a powerful driver of financial inclusion, digital transformation, and economic modernisation. Continued investments in digital infrastructure, cybersecurity, and financial literacy will further strengthen the UPI ecosystem and support India's transition toward a more inclusive, efficient, and technology-driven financial system.

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