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A Study on the Growth Trend of UPI Transactions in India

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Abstract

The Unified Payments Interface (UPI) has emerged as a revolutionary digital payment system in India, significantly transforming the country's financial landscape. Introduced by the National Payments Corporation of India (NPCI) in 2016, UPI enables instant, secure, and interoperable fund transfers through mobile devices. This study aims to analyse the growth trend of UPI transactions in India using secondary data collected from reliable sources such as NPCI reports, Reserve Bank of India publications, and industry reports. The study focuses on examining the year-wise and recent monthly growth in terms of transaction volume and value. The analysis reveals a remarkable and consistent increase in UPI transactions, indicating widespread acceptance among individuals, merchants, and businesses. Factors such as increased smartphone penetration, improved internet connectivity, government initiatives promoting digital payments, and ease of use have contributed significantly to UPI's rapid adoption. The findings highlight that UPI has become the dominant mode of digital payment in India, accounting for a major share of total digital transactions. The study concludes that UPI plays a crucial role in promoting a cashless economy and strengthening financial inclusion. The paper also provides insights into the future potential of UPI as a key driver of India's digital financial ecosystem.

Keywords: Unified Payments Interface (UPI), Digital Payments, Transaction Volume, Transaction Value, Cashless Economy, India.

Introduction

The rapid advancement of digital technology has significantly transformed the financial and banking system in India. Over the past decade, the country has witnessed a strong shift from cash-based transactions to digital modes of payment, driven by technological innovation, government initiatives, and increased financial awareness. Among the various digital payment systems introduced, the Unified Payments Interface (UPI) has emerged as one of the most influential and widely adopted platforms.

Launched in 2016 by the National Payments Corporation of India (NPCI), UPI is a real-time payment system that enables instant fund transfers between bank accounts through mobile devices. Its user-friendly interface, interoperability across banks, and availability of multiple applications have made UPI accessible to a large section of the population. UPI allows peer-to-peer as well as peer-to-merchant transactions, making it suitable for both personal and commercial payments.

The adoption of UPI has accelerated rapidly due to factors such as increased smartphone penetration, affordable internet services, digital literacy initiatives, and policy support from the Government of India and the Reserve Bank of India. Events such as demonetization and the COVID-19 pandemic further encouraged the use of contactless digital payments, leading to a surge in UPI transactions across urban and rural

areas.

In this context, analyzing the growth trend of UPI transactions is essential to understand its impact on India's digital payment ecosystem. This study attempts to examine the growth pattern of UPI transactions in terms of transaction volume and value using secondary data, thereby highlighting the role of UPI in promoting a cashless and digitally inclusive economy.

Objectives of the Study

- i). To study the concept and evolution of Unified Payments Interface (UPI) in India.
- ii). To analyse the growth trend of UPI transactions in India over the selected period.
- iii). To examine the year-wise increase in UPI transaction volume and value.
- iv). To assess the role of UPI in the development of digital payments in India.
- v). To identify the key factors contributing to the rapid adoption of UPI transactions.

Literature Review

The evolution and rapid adoption of Unified Payments Interface (UPI) in India has attracted significant scholarly attention over recent years. Researchers have explored various dimensions of UPI's impact on the digital payment ecosystem, highlighting its transformational role and the

factors that have contributed to its widespread acceptance. Sahoo, Patnaik, and Satpathy (2024) provide a comprehensive review of UPI adoption, emphasizing its real-time capabilities, interoperability, and user-friendly design as key drivers of its success. Their analysis highlights how UPI has not only enhanced efficiency in payment systems but also fostered financial inclusion and contributed to the development of a cashless economy.

Similarly, Rai (2025) discusses UPI's pivotal role in shaping India's transition from a cash-centric economy to a predominantly digital payments landscape. The study notes the exponential growth in UPI transactions and the shift from person-to-person (P2P) to person-to-merchant (P2M) payments, illustrating deeper commercial integration as UPI adoption expands.

Other researchers have focused on trend analysis and growth patterns. For instance, Goyat and Nandal (2024) analyze UPI's transactional trends over several financial years, reporting consistent increases in both volume and value of transactions. Their study underlines the importance of trend line and growth rate analysis to understand the trajectory of UPI adoption over time.

Exploring the technological and behavioural impacts, Kulangi and Khan (2025) attribute UPI's growth to improvements in digital infrastructure, mobile penetration, government initiatives such as Digital India, and changing consumer behaviour, especially during and after the COVID-19 pandemic. Their work highlights UPI's role in reducing reliance on cash and integrating digital payments into daily life.

Beyond adoption and growth, literature also examines factors influencing user and merchant behaviour. Studies on consumer and retailer adoption identify elements such as ease of use, perceived security, and demographic influences as significant determinants of UPI usage preferences. (See studies by Joshi *et al.*, and Nirmala Devi & Vijayalakshmi).

Overall, existing literature illustrates that UPI's rise has been driven by a combination of technological innovation, regulatory support, and socio-economic factors, positioning it as a cornerstone of India's digital payment ecosystem. These studies provide a strong foundation for examining UPI's growth trends through secondary data analysis in the current research.

Theoretical Framework

The present study on the growth trend of Unified Payments Interface (UPI) transactions in India is grounded in established theories of technology adoption and innovation diffusion. The framework draws primarily from the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory (DOI) to explain the increasing adoption and usage of UPI in India.

According to the Technology Acceptance Model (Davis, 1989), an individual's intention to use a technological system is influenced by two key factors: Perceived Usefulness and Perceived Ease of Use. In the context of UPI, perceived usefulness is reflected in the speed, convenience, and interoperability of transactions, while perceived ease of use is evident from simple interfaces, QR-based payments, and minimal transaction steps. These factors encourage users to adopt UPI for regular financial transactions.

The Diffusion of Innovation Theory (Rogers, 2003) explains how new technologies spread across populations over time. UPI adoption in India follows this diffusion process, moving from early adopters to mass usage. Factors such as relative

advantage, compatibility with existing banking systems, and observability of benefits have accelerated UPI's diffusion across different socio-economic groups.

In addition to these theories, external facilitating conditions such as government initiatives (Digital India), regulatory support by RBI, smartphone penetration, internet accessibility, and merchant acceptance play a crucial role in influencing UPI transaction growth.

Based on this framework, the growth in UPI transaction volume and value is viewed as an outcome of technological acceptance, innovation diffusion, and supportive infrastructural and policy factors.

Research Methodology

The present study adopts a descriptive and analytical research design to examine the growth trend of Unified Payments Interface (UPI) transactions in India. The study is entirely based on secondary data, as it focuses on analyzing existing information related to UPI transaction volume and value over a selected period.

Sources of Data

The secondary data required for the study have been collected from reliable and authentic sources such as:

- National Payments Corporation of India (NPCI) official reports and statistics
- Reserve Bank of India (RBI) publications and payment system reports
- India Brand Equity Foundation (IBEF) reports
- Articles from reputed financial newspapers and journals

Period of the Study

The study covers UPI transaction data for a selected period from 2019 to 2025, enabling an analysis of long-term growth trends as well as recent developments in UPI usage.

Tools and Techniques of Analysis

The collected data have been analyzed using:

- Trend analysis to study growth patterns
- Percentage analysis to compare year-wise changes
- Tables and charts for clear presentation and interpretation of data

Scope of the Study

The study is limited to analyzing the growth trend of UPI transactions in India in terms of transaction volume and value. It does not focus on user satisfaction or comparative analysis with other digital payment systems.

Limitations of the Study

- The study is based solely on secondary data, which may be subject to reporting limitations.
- The accuracy of the analysis depends on the reliability of published data sources.
- Rapid changes in digital payment systems may affect the relevance of findings over time.

Data Analysis and Interpretation

This section analyzes the growth trend of Unified Payments Interface (UPI) transactions in India using secondary data collected from NPCI and RBI reports. The analysis focuses on transaction volume and value over the selected study period (2019–2025). Trend analysis and percentage growth analysis have been used to understand the pattern of growth.

Table 1: Year-wise Growth of UPI Transactions in India

Year	Transaction Volume (in Billion)	Transaction Value (₹ Trillion)
2019	10.8	18.3
2020	22.3	41.0
2021	38.7	71.5
2022	74.0	126.0
2023	117.0	182.0
2024	172.0	220.0
2025*	195.0	245.0

*(2025 data based on latest available reports and trends)

Interpretation

The above table clearly indicates a consistent and exponential growth in both the volume and value of UPI transactions in India during the study period. Transaction volume increased from 10.8 billion in 2019 to 172 billion in 2024, reflecting the rapid adoption of UPI across individuals and businesses. Similarly, transaction value rose significantly from ₹18.3 trillion in 2019 to over ₹220 trillion in 2024, highlighting UPI’s growing role in high-value and commercial transactions.

Table 2: Percentage Growth in UPI Transaction Volume

Year	Transaction Volume (Billion)	Percentage Growth (%)
2020	22.3	106.5
2021	38.7	73.5
2022	74.0	91.2
2023	117.0	58.1
2024	172.0	47.0

Interpretation

The percentage growth analysis reveals exceptionally high growth rates, particularly during the early adoption phase. Although the growth rate shows a gradual decline in recent years, the absolute number of transactions continues to rise sharply. This indicates that UPI has moved from a growth stage to a maturity stage, with stable and widespread usage across the economy.

Table 3: Recent Monthly Trend of UPI Transactions (2024–2025)

Month	Transaction Volume (Billion)	Transaction Value (₹ Trillion)
Dec 2024	16.7	23.2
Jan 2025	17.4	24.0
Feb 2025	18.1	24.3
Mar 2025	19.7	24.8

Interpretation

The monthly trend shows a steady upward movement, reflecting the increasing dependence on UPI for routine and high-frequency transactions. Seasonal fluctuations are minimal, indicating that UPI usage has become a habitual mode of payment rather than an occasional alternative to cash.

Findings of the Study

i). The study reveals a significant and consistent growth in UPI transactions in India during the selected period. Both transaction volume and transaction value have increased rapidly year after year.

- ii). UPI transaction volume has grown exponentially from a relatively low base in the initial years to several billion transactions annually, indicating widespread adoption among individuals and businesses.
- iii). The value of UPI transactions has also shown a sharp rise, suggesting that UPI is increasingly being used not only for small-value payments but also for high-value commercial and business transactions.
- iv). Percentage growth rates were exceptionally high during the early years of adoption, reflecting a rapid acceptance phase, while recent years show stable but strong growth, indicating a mature stage of adoption.
- v). Monthly trend analysis shows a steady increase in UPI transactions with minimal fluctuations, demonstrating that UPI has become a regular and reliable mode of payment.
- vi). Factors such as increased smartphone penetration, affordable internet services, government initiatives promoting digital payments, and ease of use have played a major role in accelerating UPI adoption.
- vii). The dominance of UPI within the digital payment’s ecosystem confirms its role as a key driver of India’s cashless economy and financial inclusion efforts.

Discussion

The findings of the study clearly demonstrate the rapid and sustained growth of Unified Payments Interface (UPI) transactions in India over the selected period. The consistent increase in both transaction volume and value reflects UPI’s strong acceptance among individuals, merchants, and institutions. This growth aligns with the primary objective of the study, which was to analyze the growth trend of UPI transactions using secondary data.

The exponential rise in transaction volume indicates that UPI has become the preferred mode of payment for day-to-day transactions. The significant increase in transaction value further suggests that users are increasingly relying on UPI not only for small-value payments but also for higher-value commercial and business transactions. This shift highlights growing trust in the security, reliability, and efficiency of the UPI system.

The declining percentage growth rates in recent years, despite rising absolute transaction numbers, suggest that UPI has entered a maturity phase. This trend is typical of digital technologies that have achieved mass adoption. The steady monthly growth observed during the recent period reinforces the idea that UPI usage has become habitual and deeply integrated into everyday economic activities.

These findings are consistent with earlier studies that emphasize the role of digital infrastructure, government support, and changing consumer behavior in driving UPI adoption. Overall, the discussion confirms that UPI has emerged as a cornerstone of India’s digital payment ecosystem, playing a vital role in promoting a cashless economy and enhancing financial inclusion across the country.

Conclusion

The present study examined the growth trend of Unified Payments Interface (UPI) transactions in India using secondary data from reliable sources. The analysis clearly indicates that UPI has experienced remarkable growth in both transaction volume and value during the study period, highlighting its rapid adoption across various segments of the economy. The findings confirm that UPI has become an

integral part of India's digital payment infrastructure. The increasing use of UPI for both low-value and high-value transactions reflects growing user confidence in the system's security, speed, and convenience. Factors such as widespread smartphone usage, improved internet connectivity, government initiatives promoting digital payments, and continuous technological advancements have significantly contributed to this growth. The steady monthly and annual trends further suggest that UPI usage has moved beyond initial adoption to a stage of sustained and stable growth. Overall, the study concludes that UPI plays a crucial role in accelerating India's transition towards a cashless economy while also supporting financial inclusion. As digital payments continue to evolve, UPI is expected to remain a dominant force in shaping the future of India's financial ecosystem. Future research may focus on regional variations, user behavior, and the long-term economic impact of UPI transactions.

Recommendations for Future Research

- i). Future studies may focus on regional and state-wise analysis of UPI transactions to identify variations in adoption between urban and rural areas.
- ii). Researchers can examine the impact of UPI on financial inclusion, particularly among unbanked and underbanked populations.
- iii). Comparative studies may be conducted to analyze UPI in relation to other digital payment systems such as debit cards, credit cards, IMPS, and mobile wallets.
- iv). Further research may explore consumer behavior, trust, and satisfaction associated with UPI usage through primary data collection.
- v). Longitudinal studies could assess the long-term economic impact of UPI on small businesses, MSMEs, and informal sector transactions.
- vi). Future research can investigate the role of technological innovations such as UPI credit, offline payments, and international UPI linkages in shaping transaction growth.

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