

## UPI and its Role in Transforming India

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**Abstract--** The introduction of the Unified Payments Interface (UPI) has revolutionized India's digital payment ecosystem by enabling instant, secure, and cost-effective financial transactions. Since its launch in 2016 by the National Payments Corporation of India (NPCI), UPI has transformed India from a cash-dominated economy into a digitally driven financial system. This research paper examines the growth, adoption, and socio-economic impact of UPI in India. Using secondary data analysis, the study highlights UPI's role in financial inclusion, economic growth, consumer behavior, and digital transformation. The findings reveal that UPI has significantly contributed to increasing transaction volumes, enhancing financial accessibility, and fostering a cashless economy. In India, the Unified Payments Interface (UPI) has become a leading payment system processing more than 15 billion transactions per month as of November 2024. Now at this present scenario, digital payment system plays a very crucial role in every single person's life. Without the digital payment mode life would get very worse for the people at this age because people have become totally dependent on it even for the very small transaction, people are using the UPI payment system. From the introduction of UPI payment system, it made the life of people very easy and reduces the burden of carrying cash everywhere.

**Keywords--** UPI, Digital Payments, Financial Inclusion, Cashless Economy, India, FinTech, National Payment Corporation of India (NPCI).

### I. INTRODUCTION

India has witnessed a paradigm shift in its payment systems over the past decade. The launch of UPI marked a significant milestone in the evolution of digital payments. UPI is a real-time payment system that allows users to transfer funds instantly between bank accounts using mobile devices.

The demonetization policy of 2016 accelerated the adoption of digital payments, and UPI emerged as the most convenient platform due to its simplicity, interoperability, and zero-cost transactions. Today, UPI is widely used for peer-to-peer transfers, bill payments, retail transactions, and business payments. Unified Payments Interface (UPI) is an Indian instant payment system and protocol developed by the National Payments Corporation of India (NPCI) in 2016. The interface facilitates inter-bank peer-to-peer (P2P) and person-to-merchant (P2M) transactions.[1][2]



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It is used on mobile devices to instantly transfer funds between two bank accounts using only a unique UPI ID. It runs as an open source application programming interface (API) on top of the Immediate Payment Service (IMPS),[3][4][5][6] and is regulated by the Reserve Bank of India (RBI). Major Indian banks started making their UPI-enabled apps available to customers in August 2016[7] and the system is today supported by almost all Indian banks.

The rapid advancement of digital technology has fundamentally transformed financial systems across the globe, with developing economies like India witnessing particularly significant changes. Over the past decade, India has transitioned from a predominantly cash-based economy to an increasingly digitalized financial ecosystem. A major catalyst in this transformation has been the introduction of the Unified Payments Interface (UPI).

The need for a robust and efficient digital payment system in India arose due to several structural challenges, including a high dependence on cash transactions, limited banking access in rural areas, and inefficiencies in traditional payment mechanisms such as NEFT and RTGS etc. These systems i.e. the NEFT and RTGS are also effective but lacks simplicity, flexibility, cost effective. UPI addressed these limitations by integrating multiple banking services into a single mobile platform, thereby offering a unified, accessible, and cost-effective solution for digital payments.

A significant turning point in the adoption of UPI was the Demonetization in India 2016, which led to a sudden shortage of cash in the economy.

This policy accelerated the shift toward digital payment methods, as individuals and businesses sought alternative means to conduct transactions. UPI emerged as a preferred choice due to its ease of use, instant processing, and zero or minimal transaction costs. Consequently, both urban and rural populations increasingly embraced digital payment platforms, contributing to a rapid expansion of the digital economy.

Furthermore, UPI has played a crucial role in advancing the government's vision of a "Digital India" by promoting financial inclusion and reducing the digital divide. It has enabled millions of unbanked and under banked individuals to access formal financial services, thereby fostering inclusive economic growth. By allowing even small vendors and street merchants to accept digital payments through QR codes, UPI has democratized access to financial technology and empowered micro and small enterprises. The integration of UPI with various mobile applications such as Google Pay, PhonePe, and Paytm has further enhanced its reach and usability across diverse demographic groups.

Despite its numerous advantages, the rapid expansion of UPI also presents certain challenges, including concerns related to cyber security, data privacy, digital literacy, and infrastructure limitations in rural areas. Addressing these issues is essential to ensure the sustainable growth of the UPI ecosystem and to maximize its potential benefits. The study contributes to a deeper understanding of how digital payment systems are reshaping the economic and social fabric of a developing nation like India.



**II. OBJECTIVES OF THE STUDY**

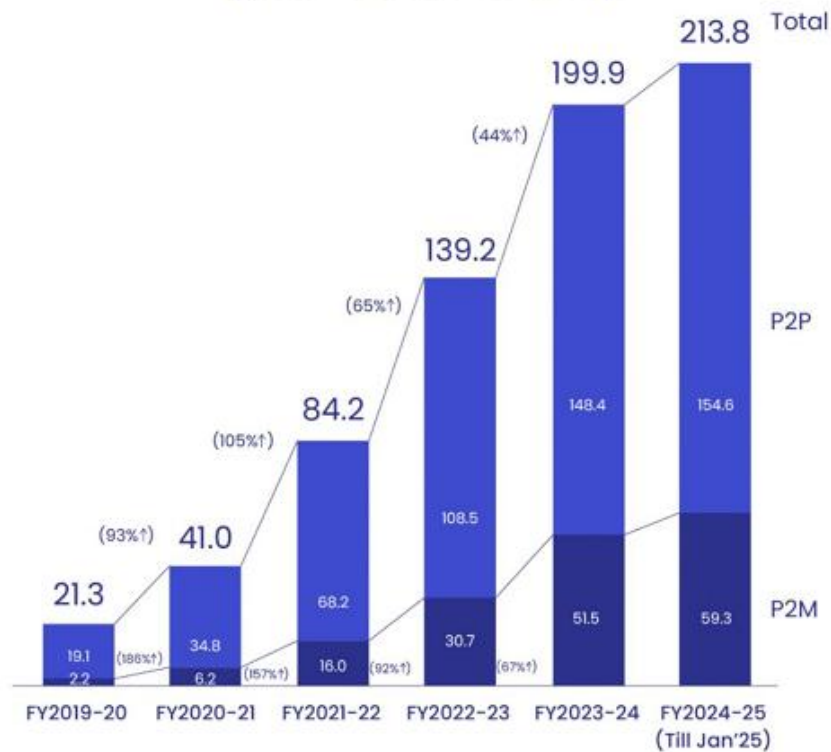
- To analyze the growth and adoption of UPI in India
- To evaluate the role of UPI in transforming the Indian economy
- To study the impact of UPI on financial inclusion
- To examine challenges and future prospects of UPI.

**III. RESEARCH METHODOLOGY**

- Type of Study:* Descriptive and analytical
- Data Source:* Secondary data (RBI reports, NPCI data, journals, articles)
- Tools Used:* Trend analysis, percentage analysis.



## UPI Transaction Growth in India (Rs Lakh Crore)



**IV. GROWTH OF UPI IN INDIA**

*UPI has experienced exponential growth since its inception:*

The chart illustrates the remarkable growth of the Unified Payments Interface (UPI) in India over a six-year period, measured in Rs. lakh crore. It also categorizes transactions into P2P (Person-to-Person) and P2M (Person-to-Merchant), showing how both segments have evolved.

*Overall Growth Trend*

In FY2019–20, total UPI transactions were Rs.21.3 lakh crore

By FY2024–25 (till Jan), this surged to Rs.213.8 lakh crore

This reflects almost a 10-fold increase in just 5–6 years, indicating exponential adoption of digital payments in India.



#### *Year-wise Growth Analysis*

##### *FY2019–20 to FY2020–21*

Growth from Rs.21.3 → Rs.41.0 lakh crore

Nearly 93% increase

Early adoption phase with rising awareness and digital push

##### *FY2020–21 to FY2021–22*

Growth from Rs.41.0 → Rs.84.2 lakh crore

Over 100% growth (105%)

Strong boost due to pandemic-driven digital payments

##### *FY2021–22 to FY2022–23*

Growth from Rs.84.2 → Rs.139.2 lakh crore

Around 65% increase

Expansion into rural and semi-urban areas

##### *FY2022–23 to FY2023–24*

Growth from Rs.139.2 → Rs.199.9 lakh crore

About 44% growth

Increasing merchant adoption and daily-use transactions

##### *FY2023–24 to FY2024–25 (till Jan)*

Growth to Rs.213.8 lakh crore

Continued upward trend, showing market maturity but sustained expansion

## V. ROLE OF UPI IN TRANSFORMING INDIA

### *Digitalization of Economy*

UPI has significantly reduced dependency on cash and promoted digital transactions. Digital payments now dominate transaction volumes in India, showing a strong shift toward a cashless economy.

### *Financial Inclusion*

UPI has played a crucial role in bringing unbanked and underbanked populations into the formal financial system by:

Enabling easy access to banking services

Supporting small merchants through QR-based payments

Reducing transaction costs

### *Boost to Economic Growth*

*UPI contributes to economic growth by:*

Increasing transaction efficiency

Enhancing transparency

Reducing the cost of handling cash

The system is projected to grow at a CAGR of 14.7% till 2029, indicating its long-term economic importance

### *Transformation of Consumer Behavior*

Studies show that digital payments through UPI have changed spending patterns:

Increased frequency of small-value transactions

Reduced reliance on physical cash

Approximately 75% users reported increased spending due to ease of use

### *Support to Small Businesses*

UPI has empowered small vendors and MSMEs by:

Providing low-cost payment solutions

Eliminating need for POS machines

Increasing customer convenience

### *Government Initiatives and Transparency*

UPI supports government initiatives like:

Direct Benefit Transfers (DBT)

Tax transparency

Reduction in black money

### *Challenges of UPI*

Despite its success, UPI faces several challenges:

Cybersecurity threats and fraud risks

Internet dependency in rural areas

Digital illiteracy

Server outages during peak hours

Data privacy concerns

## VI. FUTURE PROSPECTS OF UPI

Expansion into international markets (cross-border payments)

Integration with credit systems

Growth in offline UPI payments

Increased use of AI for fraud detection

Wider adoption in rural India

UPI is expected to dominate retail digital payments and continue driving India's digital economy.



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#### VII. FINDINGS

UPI has emerged as the backbone of India's digital payment system

It has significantly improved financial inclusion

It has transformed consumer spending behavior

It has contributed to economic transparency and efficiency

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