



EXPLORING THE GROWTH AND IMPACT OF UPI & IMPS IN INDIA

A Detailed Analysis of Transaction Trends, Volumes, and Financial Inclusion

This document presents a comprehensive analysis of the rapid growth and transformation of digital payment systems in India, focusing on UPI (Unified Payments Interface) and IMPS (Immediate Payment Service). By examining transaction values, volumes, and the role of participating banks, the analysis highlights UPI's significant rise as a dominant player in India's financial ecosystem. The study delves into key trends, comparing UPI's scalability and efficiency with IMPS, while also exploring the broader implications for financial inclusion and the move towards a cashless society.

JYOTI ROY

Jroy030498@gmail.com

Things You Must Know Before Reading This Analysis Document

1. In this analysis, the **"volume in millions"** refers to the number of transactions made by individuals through UPI and IMPS. It represents the total transaction count, not the monetary value of the transactions. Essentially, this metric captures the frequency of transactions over time, highlighting the widespread adoption and usage of these payment systems by the general public.
2. By focusing on transaction volume, we gain insight into how frequently people are using UPI and IMPS for various types of payments, which is a key indicator of their penetration into everyday financial activities.
3. In this analysis, the **"value in crores"** refers to the total monetary value of transactions processed through UPI and IMPS. This metric represents the sum of money transferred during a specific period, expressed in crores of Indian Rupees (INR). By analyzing the transaction value, we get an understanding of the financial scale and economic impact of these immediate payment systems.
4. This measure highlights not only the volume of transactions but also their financial significance, showing how UPI and IMPS contribute to the overall digital economy in terms of the value of funds being transferred.
5. In this analysis, the **"number of banks"** refers to the total count of financial institutions that are participating in the UPI and IMPS systems. These banks are responsible for enabling their customers to use these payment services for digital transactions.
6. As the number of participating banks increases, the reach and accessibility of these payment systems grow, driving higher transaction volumes and values. More banks joining the platforms signifies broader adoption of UPI and IMPS, ultimately contributing to the growth of the digital payment ecosystem in India.

Title: UPI & IMPS: The Pillars of India's Digital Payment Revolution

Introduction

India's journey towards a cashless economy has been marked by significant milestones, with Unified Payments Interface (UPI) and Immediate Payment Service (IMPS) serving as the cornerstones. This analysis delves into their growth trajectories, drawing insights into their contributions to the digital payment ecosystem.

Key Objectives:

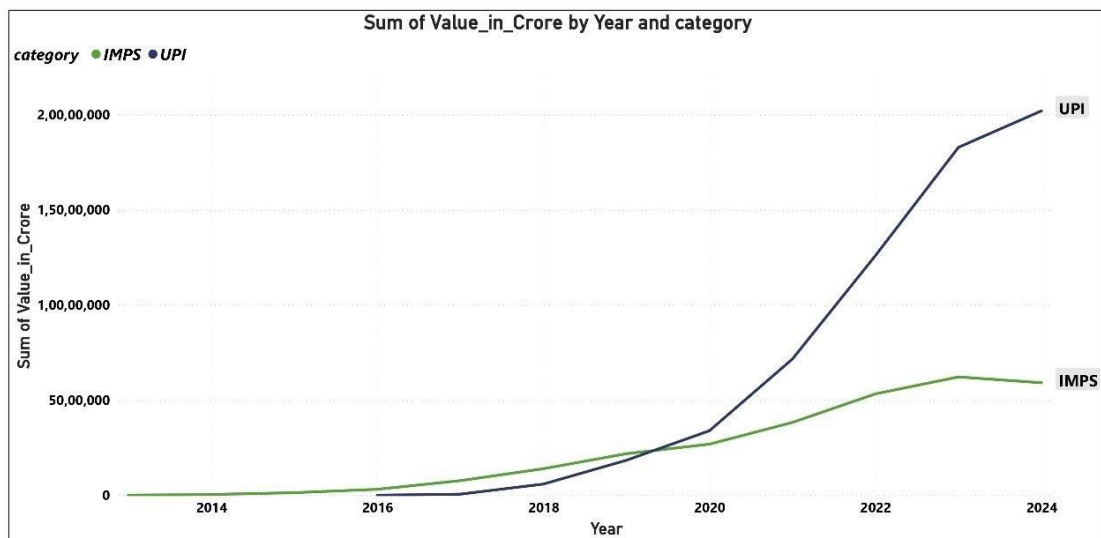
1. Compare the growth trends of UPI and IMPS.
 2. Examine the role of member banks in driving adoption.
 3. Analyze the correlation between transaction volumes and values.
 4. Highlight UPI's transformative impact on financial transactions in India.
-



1. Exponential Growth in Transaction Values

Value_in_Crore by Year

- **Insight:** Post-2016, UPI's transaction values skyrocketed, surpassing IMPS. By 2020, UPI emerged as the leader in India's digital payment ecosystem.



- **Key Data Points:**
 - **2024:** UPI processed transactions worth ₹20,202,633 crores, compared to IMPS at ₹5,911,025 crores.
 - UPI saw exponential growth due to its seamless integration with mobile apps, QR codes, and merchant platforms.

Narrative:

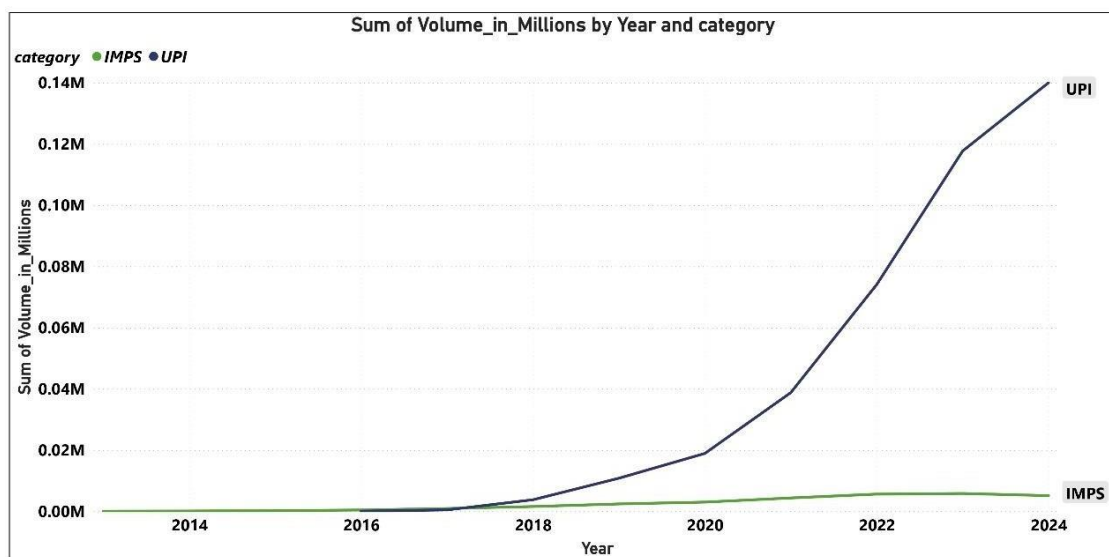
UPI revolutionized digital payments by offering unmatched ease of use and scalability, making it the preferred choice for individuals and businesses alike.

Visual: Line chart comparing transaction values by year for UPI and IMPS.

2. Transaction Volumes Reflect UPI's Dominance

Volume_in_Millions by Year

- **Insight:** UPI's transaction volumes showed exponential growth, reflecting widespread adoption by users for daily transactions. IMPS, while growing steadily, could not match UPI's trajectory.



- **Key Data Points:**
 - UPI processed over **1,39,995 million transactions** in 2024 compared to IMPS's **5,089 million**.
 - UPI's volume grew significantly post-pandemic, as digital payments became the norm.

Narrative:

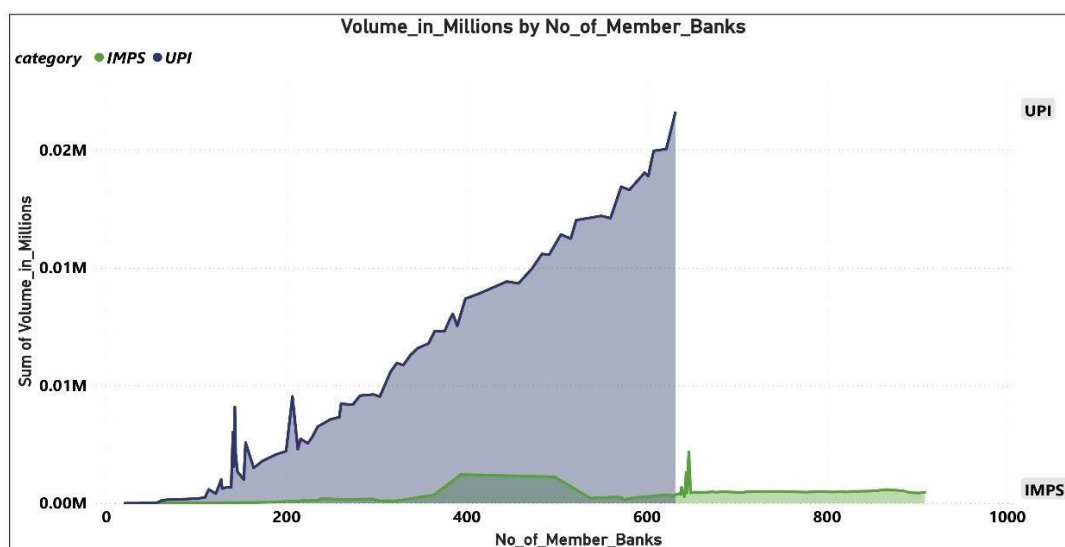
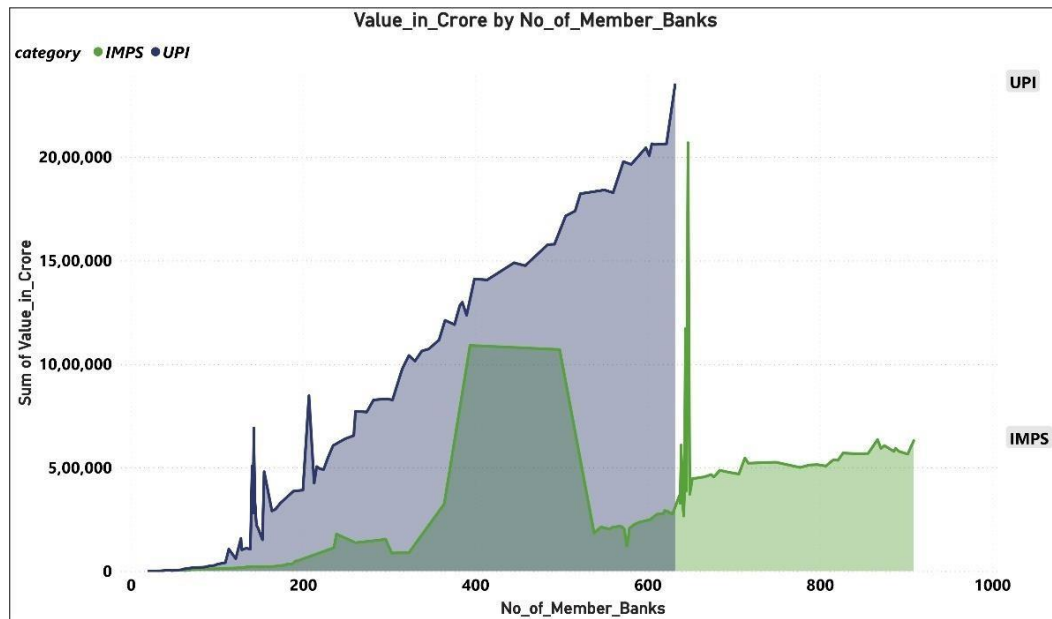
UPI's ability to handle high-frequency, low-value transactions, combined with its affordability, solidified its dominance in the digital payments landscape.

Visual: Line chart comparing transaction volumes by year for UPI and IMPS.

3. Role of Member Banks in Driving Growth

Impact of Member Banks

- **Insight:** The number of member banks directly influences transaction volumes and values for both UPI and IMPS. UPI's strong bank partnerships accelerated its adoption.



- **Key Data Points:**

- The transaction value for UPI scaled up with increased bank participation, indicating its ecosystem's robustness.
- Greater bank involvement meant wider accessibility for users, boosting trust and adoption.

Narrative:

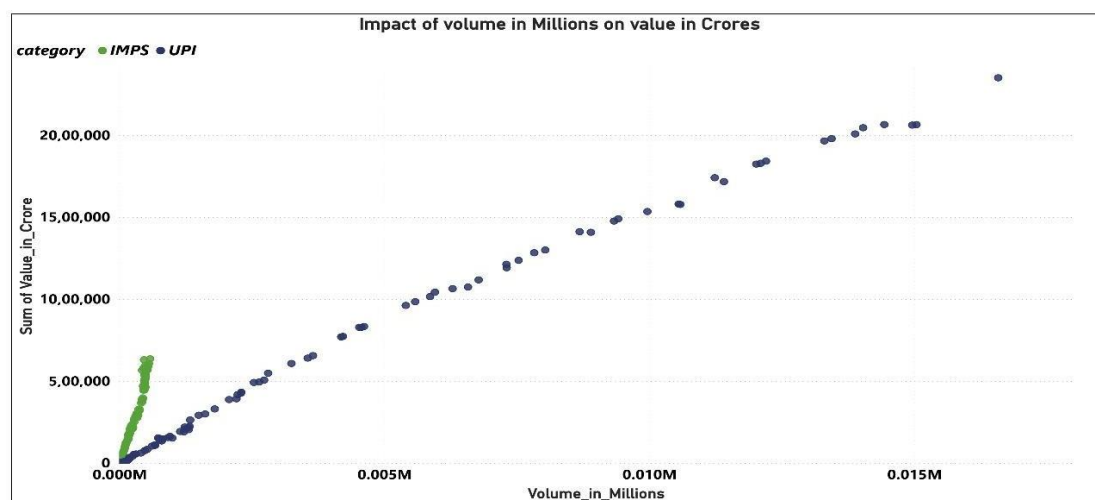
Member banks act as crucial enablers for the digital payments ecosystem, with UPI leveraging these partnerships to expand its reach.

Visual: Clustered bar chart showing the relationship between member banks and transaction values/volumes.

4. Efficiency of UPI: Volume Drives Value

Volume vs. Value Relationship

- **Insight:** UPI demonstrates a strong positive correlation between transaction volume and value, signifying its scalability and efficiency in handling diverse transaction sizes.



- **Key Data Points:**
 - Higher transaction volumes directly translate into greater transaction values for UPI.
 - UPI supports both microtransactions (daily payments) and high-value transfers with equal efficiency.

Narrative:

UPI’s design allows it to scale effortlessly, accommodating both small-value transactions and significant business-to-business payments, thereby maximizing its impact.

Visual: Scatterplot highlighting the correlation between transaction volumes and values for UPI and IMPS.

5. Cumulative Impact: UPI as the Leader in Digital Payments

Yearly Tabular Data

- **Insight:** UPI’s cumulative transaction values and volumes outshine IMPS, reflecting its pivotal role in driving India’s cashless economy.

category	IMPS		UPI		Total	
	Sum of Value_in_Crore	Sum of Volume_in_Millions	Sum of Value_in_Crore	Sum of Volume_in_Millions	Sum of Value_in_Crore	Sum of Volume_in_Millions
2024	5911025.79	5,089.23	20202633.41	1,39,995.98	26113659.2	1,45,085.21
2023	6217271.23	5,799.09	18284406.82	1,17,675.97	24501678.05	1,23,475.06
2022	5327362.82	5,587.44	12595077.87	74,044.48	17922440.689999998	79,631.92
2021	3825957.18	4,335.06	7159285.8	38,744.55	10985242.98	43,079.61
2020	2683832.93	2,973.81	3387744.72	18,880.89	6071577.65	21,854.70
2019	2181980.23	2,382.99	1836638.18	10,787.54	4018618.41	13,170.53
2018	1392616.48	1,533.85	585710.45	3,746.32	1978326.93	5,280.17
2017	766025.43	890.43	57020.87	429.15	823046.3	1,319.58
2016	311444.71	389.52	893.07	2.65	312337.78	392.17
2015	132807.79	179.93			132807.79	179.93
2014	39036.59	54.28			39036.59	54.28
2013	3336.34	5.39			3336.34	5.39
Total	28792697.52	29,221.02	64109411.19	4,04,307.53	92902108.71000001	4,33,528.55

- **Key Data Points:**

- **Cumulative Value:** UPI - ₹64,10,941 crores; IMPS - ₹28,79,269 crores.
- **Cumulative Volume:** UPI - 4,04,307 million; IMPS - 29,221 million.

Narrative:

UPI's growth trajectory underscores its role as the backbone of India's digital payment ecosystem, with a scalable infrastructure and a focus on user-centric innovation.

Visual: Tabular summary or bar chart emphasizing cumulative totals for UPI and IMPS.

6. Key Milestones in UPI's Growth

(Refer to trends across all pages)

Narrative:

Several pivotal moments fueled UPI's dominance:

1. **2016:** Launch of UPI by NPCI, introducing a seamless and interoperable payment platform.
2. **2020:** COVID-19 accelerated digital adoption, with UPI becoming the go-to platform.
3. **2024:** UPI's value and volume reach unprecedented heights, cementing its leadership.

Visual: Timeline with key milestones and data highlights.

Conclusion

UPI's evolution from its launch in 2016 to its dominance in 2024 signifies a shift in how India transacts. Its ability to scale, integrate with various platforms, and cater to a wide range of users has transformed the financial landscape. As India continues its journey toward a cashless economy, UPI's role as a cornerstone of this transformation cannot be overstated.

Why People Choose UPI Over IMPS

1. Instantaneous and 24/7 Availability:

UPI allows for instant fund transfers, anytime, anywhere. Unlike IMPS, which is also real-time but often requires bank-specific apps, UPI is accessible through multiple apps (e.g., PhonePe, Google Pay, Paytm), offering greater convenience.

2. Ease of Use:

UPI's user-friendly interface, combined with features like QR code scanning and simple mobile number-based transfers, makes it much easier for the average user compared to IMPS, which can be more complex and often requires more steps.

3. Wider Acceptance:

UPI has been adopted by numerous merchants and service providers, allowing for seamless transactions at physical stores, online platforms, and for bill payments, making it the preferred choice for both consumers and businesses.

4. Low Transaction Costs:

UPI typically offers lower transaction fees compared to IMPS, especially for smaller amounts, which attracts a larger number of users for day-to-day transactions.

5. Integration with Multiple Accounts:

UPI enables users to link multiple bank accounts to a single UPI ID, providing greater flexibility when making payments, whereas IMPS requires linking to a single bank account for transactions.

6. Government Support and Promotion:

UPI has strong backing from the government, which has actively promoted its adoption through initiatives like the Digital India campaign, leading to wider acceptance among the population.

Why I Didn't Include NEFT & RTGS Transactions

In this analysis, I have focused specifically on UPI (Unified Payments Interface) and IMPS (Immediate Payment Service) due to their nature as **immediate payment systems**. Both UPI and IMPS enable real-time transactions, providing instant fund transfers 24/7.

In contrast, **NEFT (National Electronic Funds Transfer)** and **RTGS (Real-Time Gross Settlement)** involve time delays. NEFT transactions are processed in batches, typically with a settlement time ranging from a few hours to a day, while RTGS requires some time to process, as it is designed for high-value transactions and settled during specific operating hours.

Given the objective to analyze **immediate payments**, it was essential to exclude NEFT and RTGS, as their transaction timelines do not align with the real-time, instantaneous nature of UPI and IMPS.