



THE HISTORY OF UPI

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Abstract: The Unified Payment Interface (UPI) has revolutionized the way people make digital payments in India. UPI was launched by the National Payments Corporation of India (NPCI) in 2016 and has since become the most widely used digital payment system in India. This article provides an overview of the history of UPI, including its origins, development, and growth. The article also discusses the key features and benefits of UPI, as well as some of the challenges and concerns associated with the system. Finally, the article concludes with a discussion of the future prospects of UPI.

Keywords: UPI, digital payments, NPCI, India, mobile payments, banking

Introduction:

The advent of digital technology has brought about a revolution in the way people make payments. Digital payment systems have made it easier, faster, and more convenient for people to transfer money, pay bills, and make purchases. In India, the Unified Payment Interface (UPI) has emerged as the most popular digital payment system. UPI was launched by the National Payments Corporation of India (NPCI) in 2016 and has since gained widespread acceptance across the country. UPI has not only simplified the process of making payments but has also brought millions of unbanked Indians into the formal banking system.

Beginning of UPI:

In April 2009, National Payment Corporation of India (NPCI) was formed to integrate all the payment mechanisms in India and make them uniform for all retail payments. By March 2011, RBI found out that in India, only six non-cash transactions happen every year by an individual citizen while 10 million retailers accepted card-based payment. Around 145 million families have no access to any form of banking. There is also the problem of tackling black money and corruption that happens mostly in cash.

RBI in 2012 released a vision statement for a period of four years that indicated commitment towards building a safe, efficient, accessible, inclusive, interoperable and authorized payment and settlement system in India.

It is part of the Green Initiative to decrease the usage of paper in domestic payments market. UPI was officially launched in 2016 for public use.

Under RBI guidance, NPCI became the primary body tasked with developing a new payment system that is simple, secure, and interoperable. UPI works on four pillar push-pull interoperable model where there will be remitter/beneficiary front end PSP (payment service provider) and remitter/beneficiary back-end bank that settles the monetary transaction for the users. According to CEO of Net magic Solutions, UPI became one of the most successful deep-tech innovation coming out of India.

In December 2019, noting the success of UPI, Google suggested Federal Reserve Board to follow UPI as example in developing Fed Now, a real-time payment system for United States.

With exponential growth of UPI, India became the world's largest real-time payment market with 25.50 billion annual transactions in 2020 per data from ACI Worldwide and Global Data, ahead of China and United States.

As per the Economist Intelligence Unit Report 2021, UPI made India a leader in global real-time payment market followed by China and South Korea. After the decision of Ministry of Finance to nullify merchant discount rate (MDR) in 2019 from UPI, the number of low value transactions skyrocketed making huge gains on real-time transaction volume data. Nations such as Brazil, Bahrain, Saudi Arabia, Singapore, United States and European Union are now trying to emulate the success of UPI in their own market.

From January 1, 2019, UPI became a popular payment option for initial public offerings (IPOs). The transaction limit was enhanced from ₹100,000 to ₹200,000 in March 2020. From December 2021, RBI again increased the limit to ₹500,000 for Retail Direct Scheme and IPO applications.

To make UPI economically feasible for payment companies, RBI is considering merchant discount rate (MDR) on future UPI transactions. In its first monetary policy for financial year 2022–23, RBI proposed cardless cash withdrawal facility from ATM using UPI based QR code. In partnership with NSDL Payments Bank and NPCI, Tone Tag launched Voice SE which will enable 400 million feature phone users to make UPI payment using voice in Hindi, Tamil, Telugu, Malayalam, Kannada, and Bengali languages.

Development of UPI:

UPI is based on the Immediate Payment Service (IMPS) platform, which was also developed by the NPCI. UPI allows customers to transfer money instantly between bank accounts using their mobile phones. UPI uses a unique virtual payment address (VPA) that is linked to a customer's bank account. Customers can create their VPAs and share them with others to receive payments. UPI also allows customers to make payments by scanning QR codes or using a mobile number.

Since its launch, UPI has grown rapidly and has become the most widely used digital payment system in India. According to the NPCI, UPI processed over 22 billion transactions worth over INR 41 trillion (approximately USD 556 billion) in 2021. The number of UPI transactions has been increasing steadily, with over 3.6 billion transactions processed in March 2021 alone. UPI has also enabled millions of unbanked Indians to access digital payments, as customers can link their mobile wallets to UPI and use it to make payments.

Globalization:

Around 777 million Indian consumers shop across the border in 2021. To make ease of payment, NPCI International Payments Limited (NIPL) signed Memorandum of Understanding (MoU) with UK based PPRO Financial on 17 November 2021 to expand the acceptance of UPI into foreign markets especially in China and United States which accounts for half of all international transaction coming from India. On 26 January 2022, UK based fintech startup Transact365 enabled UPI for global merchants with real time currency conversion facility that will help them do business in India independent of local presence.

As per NPCI and RBI mandate, banks, payment service providers (PSPs) and third-party application providers (TPAPs) in India must enable international acceptance through UPI from 30 September 2022.

With the release of Payments Vision 2025 document on 17 June 2022, RBI will push for internationalization of UPI with nations using United States dollar, Pound sterling and Euro under bilateral treaties.

Ministry of External Affairs (MEA) also actively pushing for internationalization of UPI due to geopolitical concerns. But several countries including Canada are reluctant to accept UPI due to push back from American firms. MEA is looking for Central Bank to Central Bank transfer using UPI as the pipeline and a collaborative effort if the countries have a similar system like UPI. On 12 October 2022, India offered UPI and related technologies to Commonwealth of Nations.

On 7 February 2023, PhonePe announced extending support of UPI for international payments in UAE, Singapore, Mauritius, Nepal and Bhutan. Users will be able to pay in international currency directly from Indian bank accounts. NIPL signed a definitive agreement with PPRO Financial on 27 April 2023 that will enable acceptance of UPI among international payment service providers (PSPs) and global merchant acquirers.

The Countries that Started Adapting towards UPI for doing Transactions:

1. Singapore
2. UAE
3. Oman
4. Saudi Arabia
5. Malaysia
6. France
7. Netherlands
8. Nepal

And many more countries are Adapting towards UPI for their day today transactions

No of Banks Live on UPI from 2016 – 2021:

Year	No. of Banks live on UPI	Transaction volume (in Mn)	INR Value (in Cr.)	USD Value (in Billions)
2021	282	38,744.55	7,159,285.80	966.17
2020	207	18,880.89	3,387,744.72	457.19
2019	144	10,787.54	1,836,638.18	247.86
2018	129	3,746.32	585,710.45	79.04
2017	67	418.8	57,020.87	7.7
2016	35	2.65	893.07	0.12

App Wise Market Share:

App	Transaction Value (Rs)	%	Rank	Transaction Number (In Million)	%	Rank
PhonePe	5,247,424,900,000	49.25%	1	2,993.83	47.33%	1
Google Pay	3,666,690,900,000	34.42%	2	2,130.63	33.68%	2
Paytm	1,111,496,600,000	10.43%	3	933.88	14.76%	3
Amazon Pay	67,518,000,000	0.63%	8	68.77	1.09%	4

Market Capitalization:

On 26 March 2021, NPCI defined standard operating procedure for third-party payment providers on 30% market cap. The limit will be calculated on the basis of total volume of transactions processed over UPI during the preceding three months on a rolling basis starting from 1 January 2021. Compliance deadline is until December 2023. NPCI will push first alert through an email or a letter to third-party payment providers and their partner banks when UPI transactions hits 25-27% threshold which payment providers must acknowledge.

In return, payment providers will send second alert to NPCI with evidence on the steps taken for compliance. In case 30% mark is breached, payment providers and banks must stop new user on-boarding. In special cases, payment providers and banks may get an exemption of 6 months for compliance.

The report of breaching 30% market cap must reach NPCI within first five working days with plan for corrective measures. During the same period, payment providers and banks must inform new customers about the issue. Non-compliance of market cap bring penalties under UPI procedural guidelines. NPCI will check operating procedures of UPI every 6 months to meet objectives without creating inconvenience for end users.

PhonePe made a formal request to NPCI to defer 30% market cap deadline from January 2023 to January 2026. NPCI is discussing this issue with RBI and Government. Industry stakeholders want to do away with 30% market cap proposed by NPCI, instead want organic growth based on customer demand.

Implementation is another contentious issue since it results in blocking existing users from performing payment to maintain 30% market cap which is not feasible from business point of view. RBI also started looking for solutions to fix the duopoly situation created by Google Pay and PhonePe. Both the players will get two additional years till 31 December 2024 to fix their market cap.



Features and benefits of UPI:

UPI offers several key features and benefits that have contributed to its popularity. Firstly, UPI allows customers to make instant and secure payments using their mobile phones. Customers do not need to share their bank account details with others, as they can use their VPAs to receive payments. Secondly, UPI is interoperable, which means that customers can use any bank's UPI app to make payments. Thirdly, UPI supports a wide range of transactions, including peer-to-peer (P2P) transfers, bill payments, and merchant payments. Fourthly, UPI is cost-effective, as it charges lower transaction fees compared to other payment systems.

On-Device wallet:

NPCI called this feature **UPI Lite**. It can scan QR code without the need of an internet connection. In phase 1, UPI Lite will process the debit transaction offline while the credit will happen when the device goes online. But the final goal is to achieve both credit and debit transaction through offline mode.

The upper limit of UPI Lite On-Device wallet is ₹2,000. Additional factor authentication or UPI AutoPay feature will be used to securely load the desirable amount. Since 50% of UPI transactions are below ₹200 with a higher frequency rate, the per transaction limit will be maximum ₹200, as it creates a large backlog of volume which increases the failure rate and affects the stability of the entire payment network.

To save electricity consumption and computing power of banks, UPI mobile apps will have to support on-device wallet features as per the RBI directive from December 2021. The in-built wallet will help in low-value instant payment by using the infrastructure of the mobile app developer, thus decreasing the load on banks through decentralization of back-end infrastructure and resources.

On September 20, RBI governor Shakti kanta Das officially launched UPI Lite at Global Fintech Fest 2022. Canara Bank, HDFC Bank, Indian Bank, Kotak Mahindra Bank, Punjab National Bank, State Bank of India, Union Bank of India and Utkarsh Small Finance Bank enabled UPI Lite feature on BHIM. Paytm Payments Bank on 15 February 2023 went live with UPI Lite feature.

Challenges and concerns with UPI:

While UPI has been widely praised for its ease of use and convenience, there are also some concerns associated with the system. One of the main concerns is the security of UPI transactions. While UPI uses encryption and multi-factor authentication to secure transactions, there have been instances of fraud and hacking.

Conclusion:

The Unified Payments Interface has transformed the Indian payments landscape, by providing a seamless, easy-to-use, and secure platform for inter-bank transactions. Since its launch in 2016, UPI has become the fastest-growing payment system in India, with over 3 billion transactions per month. UPI has revolutionized the way people in India transfer money, pay bills, and make purchases. UPI also faces several challenges, including data privacy concerns and competition from other payment systems. As UPI continues to grow and evolve, it will be important to address these challenges and ensure that the system remains secure and user-friendly. UPI has made it easier and more.

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