



IMPACT OF UPI IN BANKING ON SOCIAL CHANGE: A review of Socio-Financial transformation in Indian context.

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Abstract : The founder of UPI Mr Dilip Asbe dreamt of reaching the banking to all sectors of society with ease and convenience, today India is emerging leader in UPI transactions. The Rural and Urban divide in banking is shrinking faster than anticipated. The UPI has helped to improve the quality of life in rural environment by safe and secure transaction. The adoption of digital payment methods, during pandemic has enabled by wide number of banks which have backed the UPI system, as well as the indigenous RuPay credit and debit cards. A welter of private financial technology or fintech firms that offer tailor-made digital applications, and big technology and social media companies that have added payments with a view to enhancing stickiness with their core offerings have also been major enablers. The banking sector, however, has been at a relative disadvantage in leveraging the payments ecosystem for its core business growth as the spending on infrastructure to support and secure such payments has been disproportionately higher than for fintech and big tech rivals. The Government's new incentive aims to level the field by offering payments in lieu of the commissions foregone by lenders in waiving the merchant discount rate they would otherwise have levied. The greatest advantage of UPI is continuously evolving to transform rural economies in a big way, a large number of nonbanking rural population in India is transforming into a paperless economy. The Indian revolutionary financial transformation in UPI age might make Indian Rupee the global currency and also alleviate Rural Urban divide in economic life substantially.

IndexTerms – UPI, Unified Payment Interface, Banking, money transfer. Quality of life

I. INTRODUCTION

One of the major objectives of Digital India is to achieve “Faceless, Paperless, Cashless” status. The promotion of digital payments has been accorded the highest priority by the Government of India to bring each and every segment of our country under the formal fold of digital payment services. The vision is to provide the facility of seamless digital payment to all citizens of India in a convenient, easy, affordable, quick and secured manner.

During the last three years, digital payment transactions have registered unprecedented growth in India. Easy and convenient modes of digital payment, such as Bharat Interface for Money-Unified Payments Interface (BHIM-UPI); Immediate Payment Service (IMPS); pre-paid payment instruments (PPIs) and National Electronic Toll Collection (NETC) system have registered substantial growth and have transformed digital payment ecosystem by increasing Person-to-Person (P2P) as well as Person-to-Merchant (P2M) payments. At the same time, pre-existing payment modes such as debit cards, credit cards, National Electronic Funds Transfer (NEFT) and Real-Time Gross Settlement (RTGS) have also grown at a fast pace. BHIM-UPI has emerged as the preferred payment mode of users. The Government of India also launched the digital payment solution e-RUPI, a cashless and contactless instrument for digital payment which is expected to play a huge role in making Direct Benefit Transfer (DBT) more effective in digital transactions in the country. All these facilities together have created a robust ecosystem for a digital finance economy.

UPI has been termed a revolutionary product in the payment ecosystem. Launched in 2016, it has emerged as one of the most popular tools in the country for carrying out digital transactions. UPI is an instant payment system developed by the National Payments Corporation of India (NPCI). It powers multiple bank accounts into a single mobile application, merging several banking features, seamless fund routing and merchant

payments into one hood. To further strengthen and popularise the interface, Prime Minister Narendra Modi launched the BHIM-UPI App during the inauguration of the 'DigiDhan Mela' on December 31, 2016.

UPI has gone a long way in making digital payments a habit, and in firmly placing India on the track toward a cashless economy. In the month of August 2022 alone, 346 banks were live on the UPI interface, with 6.58 billion financial transactions being carried out for a total value of nearly Rs. 10.73 lakh crores.

UPI currently constitutes well over 40% of all digital transactions taking place in India. It has given a boost to small businesses and street vendors as it enables fast and secure bank-to-bank transactions even for considerably small amounts. It also facilitates quick money transfers for migrant workers. The technology is convenient to use as it requires minimum physical intervention, making it possible to transfer money simply by scanning a QR code. UPI has also been a saviour during the Covid-19 pandemic, with its adoption expanding rapidly due to its ability to allow easy, contactless transactions.

Today, there is no doubt that the digital payment landscape in India has been transformed. Complementing the efforts of the Government, the people of India have also displayed a great affinity for embracing new technologies. While some of the developed countries are facing problems due to inadequate digital infrastructure for transferring money to the accounts of their citizens, India has emerged as a leader in the creation of digital assets, which can serve as an example to many other nations. Further, the Government of India is leaving no stone unturned to make India a global leader in the arena of digital payment systems and help it attain the status of one of the most efficient payments markets in the world. Going forward, the emerging Fin-Techs will play a key role in the further growth of digital transactions by enabling transparent, secure, swift and cost-effective mechanisms benefiting the entire digital payments ecosystem.

United Payment Interface (UPI), a term unheard or unbelievably until April 2016, but in Modern India, UPI is the flag-bearer of the ongoing Financial Revolution. Who would have ever imagined a robust cash-based economy like India would have a massive influx of digital payments? From a tea vendor selling a Rs 10 Cutting Chai to a showroom with a pricey product range, a large section of our society has adapted to UPI. It actively utilises the mechanism for seamless payments. In the early stages, a year after the launch of UPI, the total number of payments was 6% compared to 36% of Card payments. However, in FY 2021, UPI's share expanded to 63%, while the percentage of Card payments shrunk to 9%. The progressive advancement of UPI has not just constructed an efficient payment instrument, but it has connected millions on an inclusive and well-structured Digital platform.

II. THE CURRENT LANDSCAPE

The Covid-19 pandemic has catalysed the momentum of adopting digital payments across the country. The UPI had faced minor challenges in the first two waves of the pandemic, but apart from that, UPI transactions are growing as the broader economy flourishes. The UPI network facilitated 6.28 billion transactions worth Rs 10.63 trillion in July 2022. According to data from the National Payments Corporation of India (NPCI), the total number of active Indian banks on the UPI network was 338 in July 2022. If we compare the current data with June 2022 figures, the Volume and the Value of the July 2022 transactions are up by 7.16 per cent and 4.76 per cent, respectively. State Bank Of India, HDFC Bank Ltd and Bank of Baroda are the top UPI Remitter Banks. At the same time, Paytm Payments Bank, Yes Bank Ltd and State Bank Of India are the leading UPI Beneficiary Banks.

III. INNOVATIVE, INCLUSIVE AND INDIVIDUALISTIC

Simple and Individualistic: Paying and Receiving payments is as easy as a single click or swipe from the users' preferred App. The UI/UX has been enhanced and simplified for mass adaptation.

Innovative: It must be noted that the underlying infrastructure of Immediate Payment Service (IMPS) has been paramount for UPI's grand success. Adopting a UPI ID rather than entering bank account numbers and IFSC codes has made transactions effortless. Integration with Bharat Bill Payment System (BBPS) for recurring Bill Payments has been crucial in creating an innovative platform.

Inclusive: UPI is not just limited to one App. The top UPI apps which drive growth are—GooglePay, Paytm and PhonePe, with WhatsappPay and AmazonPay joining the competition. The interoperability of the UPI demonstrates that once a user has signed up on UPI, they can immediately send money or receive it from anyone on the UPI system.

Few countries, including the US, have a national payment network that allows instant settlement.

Security: One of the strong pillars of UPI is its advanced security. UPI provides reliable end-to-end security and data protection. UPI uses a highly secured platform; the users must first register into UPI using the same mobile number already registered with the bank. RBI's mandating of KYC further strengthens the platform.

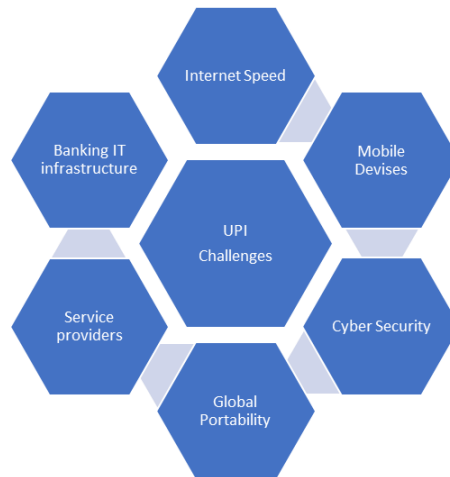


Fig.1 Some Challenges of UPI System

IV. MACRO FACTORS DRIVING GROWTH

Digital Landscape and Connectivity: There are 692 million active internet users in India, including 351 million from rural India and 341 from urban India. A report by The Internet and Mobile Association of India estimates that there will be 900 million internet users in India by 2025. Government Schemes like PM-WANI and BharatNet, Jio's Internet Revolution, have equipped Indians with high-speed internet and the lowest tariff plans. It is estimated that around 346 million Indians are engaged in digital transactions, including online payments and e-commerce.

Hardware Cost: Access to smartphones was a barrier a decade ago; the disruption in the smartphone segment in the last few years has resulted in 1.2 billion mobile owners in 2021 (750 million smartphone users). According to a Deloitte report, India will have 1 billion smartphone users by 2026, with rural provinces driving the sale of smartphones.

The Indian government may be planning to incentivise domestic smartphone manufacturers (range Rs 12,000 approx.) to protect them from Chinese economic aggression; affordable smartphones are the backbone of India's Financial revolution. **Government Policies:** The creative policy decisions to construct a Digital Payment Ecosystem and expansive outreach campaigns have poised India among the Digital Leaders of the world. Schemes like–Aadhaar Enabled Payment System, FASTag, Rupay, and IMPS have simplified payments, and projects like DIGIDHAN Mission had a significant role in the Promotion of Digital Transactions, including digital payments. The Jan Dhan accounts have significantly increased since 2015, enabling Financial Inclusion and improved targeting through Direct Benefit Transfer.

Merchant Discount Rate (MDR): MDR plays a critical role in a firm's decision to integrate a payment gateway. MDR is an amount/percentage paid to the payment gateway by the merchant; Typically, for most payment methods like cards and wallets, the cost is around 1.8%. For UPI, the MDR is Zero. This means that when a customer purchases Rs 100 through UPI, the business receives that entire Rs 100.

V. GLOBAL SCENARIO: POST INDIA'S SUCCESS

Global acceptance and adoption of UPI would reinforce an overdue genesis, pulling down the cross-border remittance cost. UPI has earned an endorsement in Singapore, Bhutan & Nepal. On June 17, 2022, NPCI announced–UPI and Rupay cards will soon be accepted in France; NPCI is also targeting additional Asian markets like Malaysia, Vietnam and Thailand. In April 2022, the BHIM UPI app went live in the UAE at NeoPay terminals operated by Mashreq Bank.

According to a Cebr Economic Research analysis, In India, instant payments yielded an additional cost savings of \$12.6 billion in 2021. The same aided unleashing \$16.4 billion of India's economic output or 0.56% of India's GDP. It is forecasted that by 2026, an additional \$45.6 billion or 1.12% of India's GDP, will be boosted by UPI payment. One thing is crystal clear with an initiative to link Credit Cards with UPI and other initiatives–The future of money is digital. India's mass success of UPI is a Global case study: India's role as a Global leader in Digital payment is well established and booming progressively.

VI. DIGITAL PAYMENT LANDSCAPE IN INDIA

Over the past few years, the technological revolution is quite visible in governance in India. Government services have been slowly and steadily bringing on board and today last-mile delivery happens with the click of a mouse in seconds. Digital Payments transactions have been consistently increasing over the last few years, as a part of the Government of India's strategy to digitise the financial sector and economy.

One of the major objectives of Digital India is to achieve "Faceless, Paperless, Cashless" status. The promotion of digital payments has been accorded the highest priority by the Government of India to bring each segment of the country under the formal fold of digital payment services.

During the last three years, digital payment transactions have registered unprecedented growth in India. Easy and convenient modes of digital payment, such as Bharat Interface for Money-Unified Payments Interface (BHIM-UPI); Immediate Payment Service (IMPS); pre-paid payment instruments (PPIs) and National Electronic Toll Collection (NETC) system have registered substantial growth and have transformed digital payment ecosystem by increasing Person-to-Person (P2P) as well as Person-to-Merchant (P2M) payments. At the same time, pre-existing payment modes such as debit cards, credit cards, National Electronic Funds Transfer (NEFT), and Real-Time Gross Settlement (RTGS) have also grown at a fast pace. BHIM-UPI has emerged as the preferred payment mode of users.

VII. DIGITAL PAYMENT AND ECONOMIC GROWTH

The Digital India programme is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy. The promotion of digital payments has been accorded the highest priority by the Government of India to extend digital payment services to every segment of the country. The vision is to provide digital payment facilities to all citizens in a convenient, easy, affordable, quick, and secure manner.

Ministry of Electronics & Information Technology (MeitY), Digital Economy & Digital Payment Division has been entrusted with the responsibility of leading this initiative on "Promotion of Digital Transactions including Digital Payments". MeitY is coordinating with multiple stakeholders including Banks, Payment Service Providers, Central Ministries/Departments, and States/UTs, for the promotion of digital payments across the country.

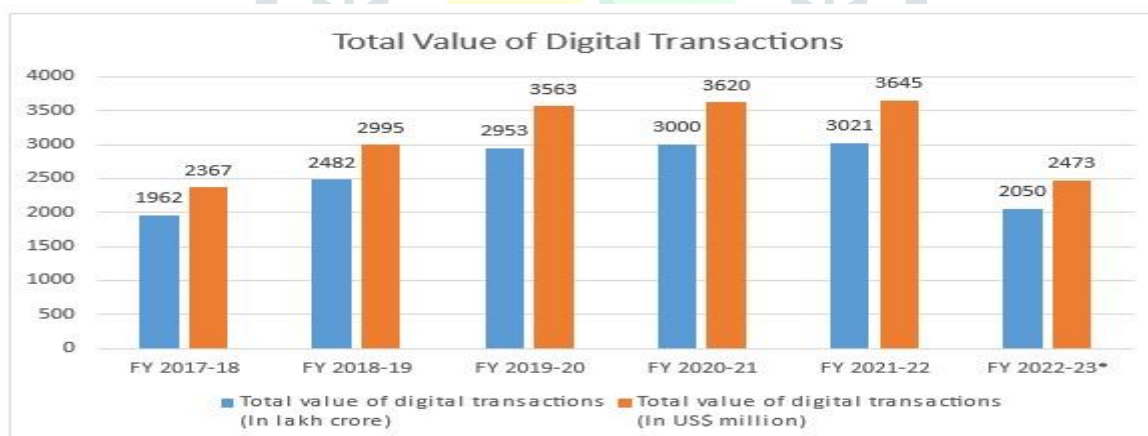


Fig 2 Growth of UPI

Note*: Data till 31st December 2022

Exchange rate as in February 2023 i.e., Rs. 1 = US\$ 0.012

Source: Press Information Bureau

Coordinated efforts of the government with all stakeholders have led to significant growth in digital payments. The growth of Digital Payments in India and the availability of various easy and convenient digital payment solutions have facilitated ease of living for citizens, financial inclusion, and growth of business and economy. During the Pandemic, the availability of contactless digital payment solutions such as BHIM-UPI facilitated social distancing and continuity of businesses, including small merchants.

VIII. UNIFIED PAYMENTS INTERFACE

Unified Payment Interface (UPI) is a popular mobile payment method that allows the user to transfer funds from one bank account to the other, instantly and free of charge. Ever since its inception, UPI has made financial transactions much easier for account holders.

Transferring money through UPI requires each user to have an ID, termed the UPI ID. The UPI ID is a unique identification for a bank account that is used to send and receive funds from one bank to another. In UPI payment applications such as Paytm, the user does not need to enter the receiver's UPI ID. The user can simply select the receiver's contact from his/her phone book or enter the receiver's contact number to send money via UPI. The UPI PIN, on the other hand, is a 4 or 6-digit personal identification number required to transfer money through UPI. Every account holder has the option to set his/her UPI PIN.

The facilitation of UPI has eliminated all the hassle related to payments. Once the sender has completed his/her UPI registration process, he/she can transfer the money with only a few clicks on a UPI payment application like Paytm.

IX. UNIFIED PAYMENTS INTERFACE FEATURES

Unified Payments Interface, widely known as UPI across India, is a product of the National Payments Corporation of India (NPCI). UPI serves as an amalgamation of several banking features to ensure ideal merchant payment and routing of funds.

UPI serves as an amalgamation of several banking features to ensure ideal merchant payment and routing of funds. In the form of a single mobile application, UPI enables instant money transfers, access to different bank accounts, bill payments, and Quick Response (QR) code payments, to name a few. Since 2016, most banks in India have been providing UPI-enabled facilities on their respective banking applications.

The features making it unique are:

1. Immediate money transfer through mobile device round the clock 24*7*365.
2. Single mobile application for accessing different bank accounts.
3. Single Click 2 Factor Authentication – Aligned with the Regulatory guidelines yet provides for a very strong feature of seamless single click payment.
4. Virtual address of the customer for Pull & Push provides incremental security with the customer not required to enter the details such as card number, account number, IFSC, etc.
5. Merchant Payment with Single Application or In-App Payments.

Initially, UPI was operationalized as a pilot launch with 21-member banks. It was inaugurated on April 11, 2016, in Mumbai by then-RBI Governor Dr. Raghuram G Rajan. Since August 25, 2016, participating banks have been uploading their UPI-enabled apps on the Google Play Store.

X. BENEFITS OF UPI

The advantages of UPI are as follows:

- **Caters to the Bottom of the Pyramid:** UPI allows even small business owners such as street vendors to start accepting digital payments without the need for a Point of Sale (POS) machine in India, where payment infrastructure is poor for accepting digital payments. UPI has eliminated the need for transacting parties to know the complicated payment credentials, hence, making payments convenient and transparent for all parties involved. UPI has the potential to be a major facilitator of financial inclusion in India, enabling a large portion of the population to engage in the digital economy. This acts as one of the benefits of UPI for merchants in India.
- **Corruption Deterrent:** In developing countries, digital financial transactions contribute to the reduction of corruption and reduction in the contagion of the parallel economy.
- **Simplified Payment Mechanism:** It enables to use of the mobile phone as the primary payment mechanism for all transactions, including P2P, P2B, and B2P.
- **Secure sensitive information:** Users of UPI can make payments through a Virtual Payment Address without revealing account credentials.

XI. NOTIFIED OF FUTURE PAYMENT:

Ability to send collect requests to someone with a "pay by" deadline (i.e., P2P or B2B). It sends a "snooze" notification to the payer, allowing them to pay before the expiration date. It does not hold money in the account until the consumer has paid it.

Bill payment: Payment of utility bills on a single platform through the Bharath Bill Pay service (BBPS) available in UPI.

Open Usage: Ability to use a completely interoperable system across all payment system players without relying on closed networks and silos.

With increasing knowledge about UPI transactions and their benefits, the UPI market share in India is continuously on the rise thereby giving a clear indication with respect to the growth of UPI payments in India.

XII. ROAD AHEAD

India has found itself at the centre of digital payment innovation, driven by e-commerce, consumer behaviour, progressive government approaches, and the global pandemic. While the pandemic served to advance India's digital payment landscape, it wasn't the only driver. India's digital trajectory has been accelerating for a while. In 2019 – pre-pandemic – India recorded the highest fintech adoption rate in the world.

It is estimated that India's digital payments industry will grow to more than 300% of its current size by 2025. The growth arc of digital payments is impressive, especially considering India's previously large unbanked population. With a customer-centric attitude, India's digital payments industry is utilizing solutions from banks, fintech firms, and the government, to make the digital payment experience as seamless and as secure as possible.

The UPI industry in India has successfully changed the future of digital payments in India, over the span of 6 years. Since its launch one-and-a-half years ago, Unified Payments Interface (UPI) has allowed full-scale interoperability in the transfer of funds. The transaction volumes have grown 123 times from 2 million in December 2016 to 246 million in June 2018, while transaction values grew 58 times from US\$ 84.5 million (Rs. 7 billion) to US\$ 4.9 billion (Rs. 408 billion) in the same period. Thereby giving a clear indication that the UPI transaction scope in India is on an upward trajectory. In 2023 the total digital payments have reached

CONCLUSION

There is every possibility of Indian Rupee becoming Global currency, it will shrink baking expenses and increases the profits. There is no other tool required to bring everybody under tax ambit, but UPI alone bring everybody in. Digital transactions are just one of the benefits that the internet has brought people living in outlying areas. For older people such as a retired government employee, now can feel their rural life comfortable, agrarian economy will grow multi folds.

There are still gaps to plug in — internet speeds can pose a challenge, especially in villages and small towns. And while the numbers of people with access to the internet have doubled to nearly 700 million in the last five years, millions are still not connected. But with rapid progress, it may not take long for India's digital footprint to expand.

There is need to develop UPI in to world standard transaction practice to save natural resources to save for printing currency, ink, machine, power, etc., Even foundations of ILO may need to be reviewed to reestablish standard payment for equal work worldwide. Economics may also change by reducing handling of payments charges to lowest and increase margins. Its an advantage India with UPI in the world economics.

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