

UPI and Everyday Responsibility: Security, Accountability, and Financial Literacy in India

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UPI AND EVERYDAY RESPONSIBILITY: SECURITY, ACCOUNTABILITY, AND FINANCIAL LITERACY IN INDIA

Reshaping India's Economic Landscape

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UPI has transformed India's economic landscape as it has become part of everyday life. However, there are questions about security, accountability and responsibility.

Abstract:

The Unified Payments Interface (UPI) has become part of everyday life today. It has reshaped the economy by bringing many under formal finance. By creating a transparent record, it has enhanced tax compliance. This article examines the speed of adoption, economic and social impact. It also analyses the prevailing risks and challenges in terms of security, accountability and the need for financial literacy. While UPI has achieved an unprecedented scale of success, reaching over 20 billion transactions monthly in mid-2025. However, this was shadowed by a significant escalation in financial risk. The fraud incidents have surged to 85% in Financial Year 2023-24. This commentary argues that the crisis is the symptom of a widening "transactional institution gap". The front-end interface is super-efficient, while the back-end regulatory and grievances remain old-fashioned, shifting systemic risk to users. This paper explores the vulnerability of the socio-demographically marginalised/rural populations. It concludes that without providing digital literacy, solving structural issues and institutional accountability, the drive for financial inclusion and true digital India is incomplete.

Keywords: *UPI Fraud; Financial Inclusion; Digital Literacy; Reserve Bank of India; Transactional-Institutional Gap; Accountability; Security.*

Introduction

When the Unified Payment Interface (UPI) was launched in 2016, many of us doubted whether it would succeed and whether people would adopt it. But today it is used by billions of people all over India. From a roadside vendor to a supermarket, from parking to a five-star hotel, from a platform to a flight ticket, there are hardly any places in India where there is no UPI.

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UPI is perceived as India's leading Digital Public Infrastructure (DPI) due to its impact on the economy and its role as a global example for digital payments.

There is a saying that one small act of kindness can change someone's life. In the case of India, one digital innovation – UPI – has changed the landscape of India's Economy. It has moved from just a payment tool to part of everyday economic life.

Earlier innovations like Immediate Payment Service (IMPS) are drawing strength from Aadhar, Jan Dhan Accounts and increasing mobile penetration. The demonetisation episode of late 2016 created a policy window that enhanced digital payment adoption and thus positioned UPI as the preferred instrument between consumers and merchants.

Today, it is irrefutable that UPI has become a cornerstone of India's digital infrastructure. It reshapes everyday economic life by not only enabling instant, low-cost transactions but also by accelerating the formalisation of the informal sector, enhancing financial inclusion and transforming daily transactions.

Adoption of UPI

The foundation was laid by government campaigns like Digital India and the post-demonetisation push for cashless payments. It was further accelerated by the Reserve Bank of India and National Payments Corporation of India (NPCI), which ensured interoperability across banks and platforms. Thus, UPI's adoption expanded rapidly.

The expansion was driven further by the Fintech firms by designing a multilingual, user-friendly interface that removed the entry barriers. Subsequently, the UPI has become not only a tool for urban consumers/merchants but also for local service providers, rural households, and small shops.

UPI accounts for 85% of digital transactions in the country. With 64% of merchant-related transactions, the growth is driven by high-frequency, small-value payments². The system's scalability was demonstrated by processing over 650 million transactions daily, surpassing global leaders like Visa (**PIB, 2025**).

The following Table highlights the UPI's annual performance since its inception, with its growth context. The growth that UPI has witnessed since its inception is unprecedented in history.

Annual UPI Performance Data (2016–2025)

| Year | Volume (Millions/Billions) | Value (in ₹ Lakh Crore) | Growth Context |
|------|----------------------------|-------------------------|--|
| 2016 | ~2.65 Million | ₹893 Crore | Launch year (August 2016) |
| 2017 | 418.8 Million | ₹57,020 Crore | Early adoption post-demonetization |
| 2018 | 3.74 Billion | ₹5.85 Lakh Crore | Sharp rise in P2P transfers |
| 2019 | 10.78 Billion | ₹18.36 Lakh Crore | Merchant adoption begins to scale |
| 2020 | 18.88 Billion | ₹33.87 Lakh Crore | Accelerated by COVID-19 lockdowns |
| 2021 | 38.74 Billion | ₹71.59 Lakh Crore | Surge in P2M (merchant) usage |
| 2022 | 74 Billion | ₹125.95 Lakh Crore | Volume doubled YoY |
| 2023 | 117 Billion | ₹182.25 Lakh Crore | Reached ~80% of all digital payments |
| 2024 | 131.1 Billion | ₹200 Lakh Crore | Surpassed Visa in daily transactions |
| 2025 | ~250 Billion (Proj) | ₹295 (Proj) | Reached 20 billion transactions in Aug alone |

Source: Compiled from National Payments Corporation of India (NPCI) Product Statistics and RBI Payment System Reports (2016–2025).

The numbers are still increasing and are expected to increase. Though the initial acceptance of UPI was only in metropolitan cities, it slowly expanded to rural areas. Thanks to the government's role and aid in integrating welfare scheme transfers through UPI, along with subsidy delivery and tax payments, which boosted its expansion.

Without proper fintech ecosystems in place, UPI could not have achieved the present success. The platforms like Paytm, PhonePe and Google Pay act as drivers through their aggressive marketing strategies, such as providing cash back incentives. They also made transactions easier through QR code standardisation and a user-friendly interface.

While these fintechs provided front-end infrastructure, banks provided the necessary back-end infrastructure. But, it is only these third-party providers who made the adoption faster and enabled consumers to experience cashless transactions.

Since southern states have more banking penetration along with higher digital literacy, they recorded faster adoption compared to any other region in the country. The spread of affordable smartphones and government-linked transfer benefits has narrowed the rural-urban divide in the adoption of UPI. Now, UPI is a sign of India's capacity to be interoperable and to build inclusive infrastructure.

These are not just numbers but reflect the convergence of government policies with fintech innovation and how it transformed consumer behaviour. It lays the foundation to set the stage for examining broader economic and social impact.

Economic and Social Impact

The scale of India's digital transformation is clearly visible in UPI's adoption path. Monthly transactions exceed 20 billion, with usage expanding steadily from Metropolitan cities to tier 2 and tier 3 towns. This is more than debit and credit card transactions put together, according to the Press Information Bureau (PIB, 2025).

By 2025, UPI continues its record-breaking trajectory, evolving from a Peer-to-Peer (P2P) transfer mechanism to emerge as the predominant mode of daily merchant payment, both in urban and rural areas.

The economic significance of UPI lies in the ability to lower transaction costs. It expands the reach of finance from street vendors to supermarket checkout. UPI's simple QR code became sufficient, thus eliminating the need for expensive point-of-sale machines or card infrastructure. This also broke the barriers to entry and widened the participation of even small vendors in the Digital economy.

UPI created digital trails by routing transactions through bank accounts, which have improved transparency and GST compliance. It has created a transparent record that has enhanced tax compliance and business growth, as it is widely used and reduces reliance on cash. Women's groups and rural households gained easier and direct access to receive government benefits. Thus, it becomes both an economic driver and a tool for social inclusion. However, the UPI is not without risks and challenges.

Prevailing Risks and Challenges

Though UPI is witnessing remarkable growth, some risks and challenges still prevail. There has been an increase in Fraud cases over the years.

According to the Ministry of Finance and Parliament data released in 2025, incidents of fraud in domestic UPI transactions rose by 85% in FY2023-24 compared to the previous year.

While the 85% rise in UPI fraud in FY24 is a serious concern, it also exposes inherent vulnerabilities in the rapid deployment of India's DPI model. This highlights the critical policy challenge of balancing the extraordinary success of financial inclusion with the necessary structural resilience to combat sophisticated cyber threats effectively (**MoF 2025; RBI 2025**).

The reported cases nearly doubled **from 7.25 lakh** in Financial Year (FY) 23 to **13.42 lakh in FY 24**. During the same period, the financial loss has increased from ₹573 crore to ₹1,087 crore (**MoF 2025; RBI 2025**).

However, it is to be noted that the volume of transactions also exploded over the years, which also means that the fraud-to-sales ratio remains relatively low compared to global standards. Additionally, the Reserve Bank of India (RBI) introduced that it is mandatory to mention the beneficiary's name in displays on all UPI apps to stop fraud (**RBI, 2025**).

Increase in UPI frauds is not merely an operational failure, but it is rooted in two main structural challenges:

1. **Technological Gaps in Infrastructure:** There is a “*velocity security match*” in the present digital framework. When the front-end, i.e. fintechs, makes the near-instant payments, the back-end institutional mechanisms, i.e. banks, for grievance redressal remain slow and old-fashioned. This creates the window for scammers to operate without fear of immediate detection. Therefore, this has to be addressed at the earliest.
2. **Socio-Demographic Vulnerabilities:** No doubt that UPI has expanded rapidly across the spectrum and is technically well connected. However, it is connected to vulnerable users too, who are digitally illiterate. The vulnerable people – often rural and elderly people – are exploited by the Scammers through so-called “assisted” transactions. Therefore, there is an urgent need to expand digital literacy so that thousands of vulnerable people can be saved from scammers.

Policy Paradox

There is a need for a strong policy framework for the structural challenges (which are mentioned above) they are

1. **Framework to address the Institutional Gap - Institutional Accountability:** It is essential to have institutional accountability, as many people’s hard-earned money is scammed more often. Therefore, to address the increase in fraud incidents and improve digital governance, the “Consensus of Care” model, under which the financial intermediaries (i.e. banks) are held legally responsible for fraud transactions. By doing so, the “velocity of security” increases as the burden is shifted from the victim to the bank and thus reduces the risks of fraud. Banks may implement a freeze of suspicious transfers and enforce a 24-hour cooling period for high-end transactions, thus avoiding fraudulent transactions and saving users from scammers.
2. **Digital Inclusion with “Security First” literacy:** It is important to focus on security literacy rather than on access. Bio-metric authentication for welfare-linked accounts to fight scams targeting rural and low-income users. Instead of SMS based OTPs, non-transferable identifiers, such as voice recognition, thumb impression, can be used. A Local Digital Ombudsman network at the Gram Panchayat level will be more useful to address the grievance process and also more accessible to the marginalised/ rural people. The main goal before financial inclusion should be educating or providing financial literacy, security and economic participation for all individuals.

It is an undeniable fact that India has made a remarkable revolution by evolving as a global leader in digital payments in 2025, handling approximately by handling 50% of the world’s volume. The UPI has expanded globally to eight economies by late 2025, including Singapore (*via* linkage to its PayNow system), the UAE, Mauritius, and the European Union *via* specific gateways in France and Cyprus (**PIB 2025**).

This international adoption not only provides convenience for tourists and the diaspora but also positions India's low-cost DPI model as a viable blueprint for the Global South, directly challenging traditional payment rails like SWIFT and major card networks on the global stage. This global expansion underscores a structural shift: the export of a public utility as a new standard for international finance.

But, the dominance and rapid growth of UPI reveal a critical policy paradox: the pursuit of inclusion and speed has come at the expense of systematic resilience and security – this

demands immediate structural attention. While the sheer volume of transactions grew exponentially, so did the associated risks, with reported fraud incidents surging by 85% in FY2023-24 (MoF, 2025).

It is time to redefine the meaning of true financial inclusion by ensuring a secure economic existence for all individuals/users. With a surge in fraud year-on-year, it is time to bring institutional accountability and ensure safe and secure transactions. That should be the vision for truly inclusive digital India.

Conclusion

Earlier this year (i.e. 2025), there was a significant system outage that remains a critical concern. There are clear directives regarding the resilience of core financial infrastructure by the RBI in its Master Directions on Cyber Resilience and Digital Payment Security Controls (updated July 2024 and enforced for large operators by April 1, 2025), which mandate that critical systems like UPI/RTGS should have complete Business Continuity Plans (BCP) in place, to ensure smooth, uninterrupted transactions by users, mainly during unexpected outages.

Any outage of critical systems or infrastructure should be reported to the RBI within six hours of detection, as per these directions (i.e. Current Regulation). Major payment system operators were required to comply with these enhanced cyber resilience and reporting standards by April 1, 2025.

There is a need for the most advanced security measures, such as mandated beneficiary name display, for all direct and sub-member banks of RTGS and NEFT by April 1, 2025. As the economy evolves with more integration of emerging technologies such as AI-driven services, expanding global imprints, etc, there is a need for a stronger regulatory framework.

In August 2025, the RBIs FREE-AI Framework was released, which addresses seven “Sutras” – guiding principles that mandate accountability, transparency, and clarity in AI-driven financial services. This should ensure data privacy and cybersecurity risks are effectively addressed.

The New “Authentication Mechanisms for Digital Payment Transactions” Directions 2025 will be implemented from 1 April 2026. There will be a shift towards risk-based authentication, like biometrics and behavioural analytics, to move away from the weaknesses of traditional SMS-based OTPs.

Finally, for UPI to become a sustainable mode of the world, the policymakers should ensure a more resilient, secure, accountable and world-class financial service that can withstand growing risks, and protect the interests of users.

The RBI’s new framework, implemented post-2025, ensures accountability and user protection are primary goals, and no longer just regulatory ideals, but lie at the very heart of India’s digital financial system.

Conflict of Interest: *The author is an independent economic policy analyst and declares no financial or personal relationships with any organisations or entities that could influence the analysis or conclusions presented in this article.*

References:

1. Ministry of Finance. (2025, December 8). *Unstarred Question No. 1213: Cyber frauds*. Lok Sabha, Government of India. <https://sansad.in>
2. National Payments Corporation of India. (2025). *Product statistics: UPI ecosystem*. <https://www.npci.org.in>
3. Press Information Bureau. (2025, September 17). *UPI: India's digital revolution goes global* (Press Release). Government of India. <https://www.pib.gov.in>
4. Reserve Bank of India. (2025, October 23). *Payment systems report (H1 2025)*. <https://www.rbi.org.in>
5. Reserve Bank of India. (2025). *Payment and settlement systems: Regulations, notifications and press releases*. <https://www.rbi.org.in>
