

14. The Evolution of Digital Finance in India: Milestones in Financial Inclusion

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Abstract:

This chapter describes India's radical journey to digital financial inclusion, tracing key moments from traditional banking standards to adoption of cutting-edge digital payment technology. It deconstructs the evolution of financial literacy and enabling role of digital identity (Aadhaar), policy interventions like Jan Dhan Yojana, and the game-changing platform of the Unified Payments Interface (UPI). The narrative peaks the socioeconomic impact of financial inclusion interventions, especially towards reaching under-served segments. It also importantly assesses current issues such as regional disparities, cyber threats, and digital illiteracy, while emphasizing the need for localized, continuous, and inclusive literacy initiatives. As India is moving towards a cashless economy, the chapter insists that there must be an ecosystem of partnership among government, private players, and citizens for a digitally literate and financially empowered society.

Keywords: Financial Inclusion, Aadhaar, UPI, Digital India, Cybersecurity.

14.1 Introduction:

In a highly digital world, digital financial literacy is the knowledge to comprehend, access, and use digital money services and financial tools like online banking, mobile wallets, UPI platforms, and digital investing tools. For the Indian economy, it not only involves technical skills but includes the knowledge about safe digital behaviors, knowledge about online financial instruments, and digital means of being able to take informed decisions (RBI, 2023).

In a developing nation like India, which is home to over 1.4 billion individuals, financial inclusion is not merely an economic necessity but also a social necessity. It bridges the gap between the formal financial system and excluded communities and fosters poverty reduction, economic empowerment, and inclusive growth (World Bank, 2024).

With the emergence of Aadhaar, wireless connectivity, and government-sponsored programs such as Jan Dhan Yojana and Digital India, the interface of people with the financial system has undergone radical change. The key to this change has been digital financial literacy—equipping citizens to engage confidently and securely in the digital economy.

This chapter attempts to explore the evolution of financial literacy in India's digital space, tracing significant milestones, government policies, and socio-economic developments that have driven the country's financial inclusion agenda. By tracing the chronological development of India's digital progress, the chapter also offers a glimpse into what works, what does not, and what is yet to come in further deepening digital financial participation in the country's diverse population

14.2 Pre-Digital Era: Foundations of Financial Awareness:

Prior to the introduction of digital technology, India's financial landscape was dominated by conventional banking practices like manual posting of ledgers, physical presence at banks, and dependence on passbooks. Transactions were largely cash-based, with very little access to organized banking facilities, particularly in the rural area.

As per the Reserve Bank of India (2023), as of the early 2000s, close to 50% of Indian adults lacked a bank account, indicating substantial financial inclusion barriers.

At this stage, financial literacy was being imparted primarily through government programs, community-based initiatives, and informal financial networks. Of these, the most important among them were small savings schemes of India Post, i.e., Public Provident Fund (PPF), National Savings Certificates (NSC), and Kisan Vikas Patra (KVP). These were liked because they were simple, trustworthy, and backed by the government, but access and literacy were still limited.

14.3 The First Digital Steps: 2000–2010

The years between 2000 and 2010 were the beginning years of India's financial excursion into the age of the internet, setting the stage for what would ultimately come to be a full-fledged financial revolution. It was the time when the country began embracing internet banking, initially introduced by ICICI Bank in 1998 and then followed by other major banks. This enabled customer to see account information, transfer funds, and pay bills online—services previously available only through direct bank visits (NASSCOM, 2023).

One of the most remarkable improvements in banking modernization was with the introduction of Core Banking Solutions (CBS). CBS took banking operations to the core, where customers were able to see their accounts and perform common transactions at any branch of a specific bank irrespective of geographical location. Public sector banks began adopting CBS during this decade, with the State Bank of India having reached CBS coverage as early as 2008 (Reserve Bank of India, 2023). It not only increased efficiency but also paved the way for integrated digital accessibility across the country.

Besides internet and CBS penetration, expansion in Automated Teller Machines (ATMs) increased access to money, particularly in urban and semi-urban India. The RBI (2023) estimates the number of ATMs in India rose from approximately 8,500 in 2003 to over 60,000 in 2010. Further, SMS-based banking alerts were implemented to enable transaction tracking, balance notification, and introducing an element of transparency to electronic transactions.

But the initial adoption of digital finance was hindered by several challenges. Most of India's population was not accustomed to online banking procedures and thus had digital illiteracy and low trust in digital channels.

Inadequate internet penetration, particularly in rural India, and poor access to smartphones or computers slowed advances further. A trust deficit was also present, with users fearing security threats and poor information on digital protection (Financial Literacy and Inclusion Council, 2024).

14.4 Game-Changer Phase: 2010–2015

The 2010-2015 period saw revolutionary change in India's digital financial landscape owing to path-breaking efforts towards digital identity, creation of infrastructure, and inclusive banking policy. This period set the foundation for mass-scale digital financial onboarding, especially of the under-served segments.

One of the defining events was the birth of Aadhaar—India's 12-digit biometric unique identity system inaugurated by the Unique Identification Authority of India (UIDAI). Aadhaar provided a verifiable online identity to millions of citizens, serving as the backbone for delivering financial services like account opening, subsidy transfer, and KYC (Know Your Customer) verification (UIDAI, 2024). As of 2015, 850 million Aadhaar numbers had been generated, significantly increasing the prospect of digital inclusion.

Concurrently, the Reserve Bank of India's 2010–2013 Financial Inclusion Plan encouraged banks to expand their reach by using business correspondents, rationalized account opening processes, and financial literacy initiatives. However, it wasn't until the launch of the Pradhan Mantri Jan Dhan Yojana (PMJDY) in August 2014 that digital financial inclusion gained momentum.

PMJDY was a flagship financial inclusion program with an objective to provide basic banking facilities to every household. It facilitated zero-balance accounts, Aadhaar-based onboarding, RuPay debit cards, and DBTs. In the initial year, more than 17 crore bank accounts were opened—many for first-time users—providing an unprecedented spike in bank account penetration (Department of Financial Services, 2024).

These efforts not only reshaped digital reach but also created a culture of digital onboarding, making citizens empowered actors in the digital economy. Leaning Aadhaar into banking and mobile (the JAM trinity—Jan Dhan, Aadhaar, and Mobile) was the bedrock of India's digital financial revolution.

14.5 The UPI Revolution and Beyond: 2016–2020

The period from 2016 to 2020 was a watershed in India's digital financial transition, wherein there was a rapid uptake of digital payments and a transformation of consumer behavior unmatched anywhere in the world. The transition was initiated by a historic policy action—demonetization— and the parallel leap in technology introduced through the Unified Payments Interface (UPI).

On November 8, 2016, the Government of India demonetized ₹500 and ₹1,000 currency notes to eliminate black money and encourage a cashless economy. This hasty action forced people and companies both to turn towards digital medium for transactions. As cash circulation dropped dramatically, digital payment platforms experienced exponential growth in user adoption (RBI, 2023).

Parallel to demonetization, the National Payments Corporation of India (NPCI) introduced the Unified Payments Interface (UPI) in August 2016. UPI facilitated instant, real-time transfer of money between bank accounts using mobile phones with easy credentials such as phone numbers or virtual payment addresses. Its open architecture and interoperability made it possible for both banks and third-party apps to develop on the platform, making digital payments more democratic (NPCI, 2024).

After UPI was launched, a spate of user-friendly apps followed. The BHIM app (Bharat Interface for Money), launched by the Government of India in December 2016, brought UPI within the reach of less technology-literate users. At the same time, private apps such as PhonePe, Google Pay, Paytm, and Amazon Pay started ruling the market, providing cashback benefits, bill payments, and QR-based transactions—all leading to a digital-first culture for finances.

By March 2020, UPI had reached over 1.25 billion monthly transactions, proving its tremendous impact (NPCI, 2024). RBI and NPCI played a crucial role in standardizing, propagating, and regulating digital payment infrastructure, along with consumer education and digital money literacy.

Along with this expansion came a greater emphasis on cybersecurity awareness. Online frauds, email phishing, and online unauthorized transactions highlighted the need for consumers to learn safe practices. To counter this, the RBI launched campaigns like RBI Kehta Hai and worked with banks and fintech companies to instill secure online practices (RBI, 2023).

This phase not only made electronic payments the standard but also entrenched digital financial literacy as the required know-how to participate in India's evolving economy.

14.6 Post-Pandemic Acceleration: 2020 Onward

The COVID-19 pandemic was a strong driver of India's digital financial ecosystem, transforming the behavior of consumers and institutional approach. Lockdowns restricting physical interactions saw dramatic shifts towards contactless, cashless transactions.

Consumers, companies, and governments all increasingly used digital payments as much out of convenience as for being a public health imperative (RBI, 2023).

Digital wallets, internet banking, UPI, and contactless cards usage spiked across society. Even UPI transaction volume doubled from April 2020 to April 2021, showing robust and consistent adoption even in semi-urban and rural locations (NPCI, 2024). During the pandemic, there was also increased growth in digital banking channels, fintech offerings, and QR-based payments, establishing digital practices further into day-to-day financial life. At the same time, India experienced significant growth in ed-tech and digital upskilling platforms, including those aimed at improving financial and digital literacy. This was critical, as new users—especially senior citizens, rural residents, and informal workers—required basic training in secure digital practices.

To counter this, the Government of India increased initiatives under programs such as the Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA), which was a flagship scheme initiated to make 60 million rural Indians digitally literate. PMGDISHA's post-2020 drive covered modules on digital payments, cybersecurity, and mobile banking (PMGDISHA, 2024).

14.7 Challenges in Achieving Full Digital Financial Literacy:

Despite phenomenal progress in digital finance adoption, India continues to face daunting obstacles towards universal digital financial literacy. The problem is of multi-dimensional character—spanning technological, social, and behavioral spheres—and needs to be addressed in an all-encompassing fashion lest the gaps are perpetuated further.

14.8 Digital Divide: Regional and Gender Disparities

Among the most crucial is the divide based on digit, specifically across regions and genders. According to an Internet and Mobile Association of India (IAMAI, 2023) report, urban areas possess nearly double the level of internet penetration compared to rural ones.

Additionally, only 35% of internet users in rural India are women, indicating a very high gender disparity in digital access and awareness. This discrepancy leaves behind tens of millions of individuals as digitally excluded, predominantly in the north-eastern states, tribal areas, and rural hinterlands where there are less infrastructure, less awareness, and fewer support mechanisms.

14.9 Device Access, Quality of Internet, and Language Barriers:

Although penetration of mobile phones has grown, access to good-quality smartphones and reliable internet is still a limitation. Most poor families tend to share a phone, and poor connectivity may exclude seamless use of web services.

Moreover, language and literacy barriers render web platforms inaccessible to those with poor English proficiency and low levels of schooling.

The majority of financial interfaces and learning materials remain mostly in English or Hindi, excluding millions of regional language speakers (MeitY, 2023). Without the aid of local content, even the most professionally constructed financial tools may seem daunting or irrelevant.

14.10 Risk of Cyber Fraud and Financial Disinformation:

The increasing digitalization of banking activities has also led to an increase in cyber-attacks like phishing, OTP-based frauds, identity thefts, and app cloning. As per a CERT-In report (2023), financial fraud was among the top three categories of reported cybercrimes in India. A number of first-time users, particularly the elderly and low-income class, are highly vulnerable as they possess very little knowledge of cyber security best practices.

The increase of social media as an information source has also caused the spread of financial misinformation, hence the need to not only supply users with tools, but with critical thinking abilities so that they can traverse the digital economy successfully.

14.11 Need for Customized, Continuous Literacy Efforts:

To address such challenges, what is urgently required are context-relevant, sustained, and universal digital financial literacy programs. Generalized strategies never appeal to diversified user groups. Rather, targeted interventions like local language audio-visual materials, gamification-based learning for children, and workshop-based learning among women and elderly citizens are more effective. Public-private partnerships, community-based programs, and policy support at the highest level have to work together to make digital financial literacy move in tandem with the fast pace of technological advancement.

14.12 Conclusion:

India's journey of digital finance, starting from the initial stages of passbooks and post office savings to the current time frame of UPI and AI-based advisors, encourages one of the most reframing public digital revolutions of the globe. Landmark initiatives like launching internet banking, implementing Aadhaar, demonetization drive, and introducing UPI have each contributed significantly toward making financial services more accessible, quicker, and more user-driven (NPCI, 2024; RBI, 2023).

Central to this change is the strong relationship between digital financial literacy and financial inclusion. Providing access to the financial platforms is no longer sufficient; users have to be taught, empowered, and assured to use them. Without digital literacy, even the best solutions are likely to be excluded or misused, particularly among rural communities, women, and the elderly (NITI Aayog, 2023). As we move forward, the path to a digitally financially literate India has to be inclusive, adaptive, and collaborative. Education has to include real-world financial skills in schools and universities. Policymakers have to create enabling, tech-savvy regulations. NGOs and community leaders have to close last-mile gaps. And as citizens, each one of us has a role to play—whether it's by helping a relative navigate a mobile payment or creating awareness about online scams.

India is at a crossroads—equipped with digital tools, demographic might, and a robust policy framework. The vision is not only a cashless India, but a mindful and empowered India, where individuals can make informed decisions regarding money in a digitally enabled world.

14.13 Reference:

1. Department of Financial Services. (2024). *PMJDY Progress Report 2023–24*. Ministry of Finance, Government of India. <https://financialservices.gov.in>
2. Financial Literacy and Inclusion Council. (2024). *Rural Financial Literacy: Challenges and Roadmap*. <https://www.flic.org.in>
3. Ministry of Education. (2023). *National Education Policy 2020 – Implementation Framework*. <https://www.education.gov.in>
4. Ministry of Electronics and Information Technology. (2023). *BharatNet Project Overview*. <https://www.meity.gov.in>
5. Ministry of Electronics and Information Technology. (2023). *Digital Literacy and PMGDISHA Progress Report*. <https://www.meity.gov.in>
6. Ministry of Electronics and Information Technology. (2024). *Digital India: Empowering Citizens through Technology*. <https://www.meity.gov.in>
7. Ministry of Finance. (2023). *Post-Demonetization Digital Payment Trends in India*. <https://www.finmin.nic.in>
8. NASSCOM. (2023). *Digital Banking in India: Evolution and Future Roadmap*. <https://www.nasscom.in>
9. National Payments Corporation of India. (2024). *India's Digital Payment Ecosystem: A Timeline*. <https://www.npci.org.in>
10. National Payments Corporation of India. (2024). *UPI Monthly Statistics & Reports*. <https://www.npci.org.in>
11. NITI Aayog. (2023). *Digital Literacy in India: A Roadmap for Inclusion*. <https://www.niti.gov.in>
12. PMGDISHA. (2024). *Pradhan Mantri Gramin Digital Saksharta Abhiyan Dashboard*. <https://www.pmgdisha.in>
13. Reserve Bank of India. (2023). *Basic Statistical Returns of Scheduled Commercial Banks in India*. <https://www.rbi.org.in>
14. Reserve Bank of India. (2023). *COVID-19 and the Changing Landscape of Digital Payments in India*. <https://www.rbi.org.in>
15. Reserve Bank of India. (2023). *Financial Inclusion: Policies and Progress*. <https://www.rbi.org.in>
16. Reserve Bank of India. (2023). *RBI Annual Report 2022–23*. <https://www.rbi.org.in>
17. Reserve Bank of India. (2023). *RBI Annual Report 2022–23*. <https://www.rbi.org.in>
18. Reserve Bank of India. (2023). *RBI Kehta Hai—Financial Awareness Campaigns*. <https://www.rbi.org.in>
19. Reserve Bank of India. (2023). *Report of the Working Group on Digital Lending including Lending through Online Platforms and Mobile Apps*. <https://www.rbi.org.in>
20. UIDAI. (2024). *Aadhaar Dashboard*. Unique Identification Authority of India. <https://uidai.gov.in>