

---

# UNDERSTANDING FINANCIAL TECHNOLOGY REGULATIONS

---

Chaity, Hidayatullah National Law University, Raipur

## ABSTRACT

India is one of the fastest-growing financial technology markets in the world, driven by its large young population and strong digital infrastructure. With innovations like UPI, IMPS, and CBDC, fintech has significantly improved financial inclusion and transformed the way people interact with banking services. However, this rapid growth also brings challenges, especially around regulation, cybersecurity, data privacy, and the responsible use of artificial intelligence. To manage these, the Reserve Bank of India has introduced measures such as the Payment and Settlement Systems Act, Regulatory Sandbox, and frameworks for Self-Regulatory Organisations. These initiatives aim to support innovation while protecting consumers. Despite progress, concerns remain about over-collection of personal data by fintech apps, cyber threats, and the misuse of AI. Additionally, there is a pressing need for public education on safe digital practices. The future of fintech in India depends on strong collaboration between regulators, the industry, and users to ensure a secure, inclusive, and innovative financial system that can keep pace with evolving technology.

**Keywords:** FinTech, Regulation, UPI, CBDC, IMPS, Regulatory Sandbox.

## I. INTRODUCTION

India is the “3rd largest fintech ecosystem in the world, behind USA and UK, with over 3000 fintech startups registered so far and a projected market size of over \$1.5 Trillion by the year 2025”<sup>1</sup>. The government and regulatory bodies have realized this potential of fintech and are now taking steps to ensure a balanced policy of customer protection and innovation, which can be gauged from initiatives such as Regulatory Sandbox, Hackathons, Self-Regulatory Organizations, etc. India being the most populated country in the world with majority of the people falling in the young age category, stands as a gold mine for any fintech innovation with a positive “adoption rate of 87%, which is the highest in the world compared to the global average of 64%”.<sup>2</sup>

At the same time, utmost caution should be exercised while dealing with issues related to fintech as it is still in its developmental phase and majority of the population is not well versed in the technicalities and nuances that exist. Additionally, the possibility of a cybersecurity issue or data breach needs to be accounted for and preventative steps to be communicated to the masses through awareness and education programs. By addressing the issues and balancing between protection and innovation, the fintech sector can bring about financial inclusion in the society, leading to economic development and creation of new opportunities, thereby growing to its full potential. With such positive approach towards fintech, it becomes imperative to understand more about its nuances, types, how it is regulated and what challenges it faces in its application.

## II. FINTECH AND BANKING SECTOR

Financial Technologies or FinTech, in short, have been defined by the Financial Stability Board as “technologically enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services.”<sup>3</sup> It is the application of technology in financial services, which enables the creation of new financial products and

---

<sup>1</sup> *BFSI - Fintech & Financial Services*, INVEST INDIA, (Jun. 19, 2025), <https://www.investindia.gov.in/sector/bfsi-FinTech-financial-services>.

<sup>2</sup>*Ibid.*

<sup>3</sup> *FinTech and market structure in financial services: Market developments and potential financial stability implications*, FINANCIAL STABILITY BOARD (Jun. 19, 2025), <https://www.fsb.org/2019/02/fintech-and-market-structure-in-financial-services-market-developments-and-potential-financial-stability-implications/>.

facilitates inclusion of the masses which were previously outside the ambit of traditional banking and financial services. It also offers new solutions to problems like geographic remoteness or bias against certain sections of society, that has plagued the traditional banking system. Some of these fintech innovations incorporated in the banking sector are briefly discussed below.

1. Immediate Payment Service or IMPS: it is a real time fund transferring service which boasts of being “an instant, 24X7, interbank electronic fund transfer service that could be accessed on multiple channels like Mobile, Internet, Branch, ATM and SMS”.<sup>4</sup> It functions on the National Financial Switch network which interconnects the Automated Teller Machines (ATM) network of members, allowing the customers to avail the service of any of such member banks seamlessly. It was launched in 2010 by NPCI, before which funds could only be transferred electronically during banking hours using National Electronic Funds Transfer and Real Time Gross Settlement services.
2. Unified Payment Interface or UPI: it is an “instant real-time payment system developed by National Payments Corporation of India to facilitate interbank transactions through mobile phones”.<sup>5</sup> Launched in 2016, it facilitates linking of multiple bank accounts with a single mobile device operating on an Application Programming Interface, facilitating peer-to-peer and peer-to-merchant transactions. Although, other methods of fund transfers existed before the launch of UPI such as NEFT, RTGS and IMPS, they mostly catered to big ticket fund transfers of larger amounts making them unsuitable for merchant payments. This is where the UPI system shines, catering to mostly small ticket transactions made from peer-to-merchants format, reaching over 14,963.05 million individual transactions in the month of August 2024 alone.<sup>6</sup>
3. Central Bank Digital Currency or CBDC: the basic unit of all financial transactions are the legal tender Fiat currencies, issued by the governments as a medium of exchange in their economies. Various governments worldwide, have been experimenting with the idea of introducing digital currency,<sup>7</sup> in addition to their physical paper and metal currency as it

---

<sup>4</sup> *IMPS - Product Overview*, NPCI, (Jun. 20, 2025), <https://www.npci.org.in/what-we-do/imps/product-overview>.

<sup>5</sup> *Unified Payments Interface - Product Overview*, NPCI, (Jun. 20, 2025), <https://www.npci.org.in/what-we-do/upi/product-overview>.

<sup>6</sup> *UPI Product Statistics*, NPCI, (Jun. 20, 2025), <https://www.npci.org.in/what-we-do/upi/product-statistics>.

<sup>7</sup> Manu Sharma et al., *Evolution of FinTech and Central Banks: A Text Mining-Based Survey*, RESERVE BANK OF INDIA (Jun. 19, 2025), <https://website.rbi.org.in/web/rbi/-/publications/rbi-bulletin/evolution-of-fintech-and-central-banks-a-text-mining-based-survey-22786>.

functions similar to the traditional currency but the cost associated with it is drastically lower. Digital currencies can be in the form of cryptocurrency, virtual currency and central bank digital currency, but their legal tender depends upon who the issuer is. For example, most cryptocurrencies are privately issued and regulated, thus not being a legal tender. However, most central banks are the issuing authority in case of digital currencies, automatically giving them the status of legal tender. The Reserve Bank of India (RBI), which is the “central bank of India, tasked with the management of currency”<sup>8</sup> inter alia, has launched the Digital Rupee (eINR or eRupee) as a CBDC in December 2022. It functions on the distributed ledger technology<sup>9</sup> and is being tested out in pilot phase under the retail (general public) and wholesale (financial institutions) use case. The aim behind introducing the eRupee has been to “complement, rather than replace, current forms of money and is envisaged to provide an additional payment avenue to users. It is expected to further bolster India’s digital economy, to make the monetary and payment systems more efficient and contribute to further financial inclusion”<sup>10</sup>.

### III. REGULATORY FRAMEWORK

Technological innovation is the driving force behind fintech but only a strong regulatory mechanism can help sustain this growth. Naturally, this is possible by striking a good balance between innovation and regulation to not only sustain, but to thrive. Keeping this in mind, some of the regulatory frameworks governing fintech are discussed below.

1. PAYMENT AND SETTLEMENT SYSTEMS ACT, 2007: All the financial transactions related to payment and settlement, taking place in India are governed under this Act and are regulated by the RBI. A Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) is formed under the Act which allows for it to “exercise the powers on behalf of RBI, for regulation and supervision of the payment and settlement systems under the Act”.<sup>11</sup> Payment and settlement systems can be in the traditional physical form such as cheques, drafts, bills, or in the digital form such as NEFT, RTGS, IMPS, UPI.

---

<sup>8</sup> The Reserve Bank of India Act, 1934, section 22.

<sup>9</sup> *Blockchain- Distributed Ledger Technology: a Stitch in Time*, DELOITTE, (Jun. 20, 2025), <https://www.deloitte.com/lu/en/services/consulting/services/blockchain-distributed-ledger-technology-stitch-in-time.html>.

<sup>10</sup> *Concept Note on Central Bank Digital Currency*, RESERVE BANK OF INDIA (Jun. 17, 2025), <https://website.rbi.org.in/en/web/rbi/-/publications/reports/concept-note-on-central-bank-digital-currency-1218>.

<sup>11</sup> *FAQs - Payment and Settlement Systems Act, 2007*, RESERVE BANK OF INDIA (May 22, 2025), <https://www.rbi.org.in/commonman/English/Scripts/FAQs.aspx?Id=420>.

These payment systems cannot operate and function without the authorization from RBI, which may be revoked in case of contravention of any provisions, non-compliance of directions, insolvency. Contravention of any provisions of this Act, by a person or by a company, attracts the punishment of imprisonment or fee or both, as the case may be.

2. **SELF-REGULATORY ORGANISATIONS:** With the thought of balancing regulation and innovation in mind, self-regulation in the fintech sector was introduced by the RBI through a framework in May 2024. By choosing self-regulation as a way forward, the entities are expected to “self-govern, based on industry set or self-imposed standards and best practices, be answerable to the industry peers”.<sup>12</sup> The framework lays down requirements for an entity to qualify as a Self-Regulatory Organisation, such as the characteristics, eligibility and membership criteria, functions and responsibilities, oversight mechanisms, which are to be followed strictly in order for RBI to recognise such organisation. One of the most important requirements from the organisation is to act as a bridge between the RBI and its members so as to facilitate cooperation and voice any concerns from the industry and to make periodic updates about the functioning of the sector and members’ performance to the RBI.
3. **REGULATORY SANDBOX:** The RBI launched Regulatory Sandbox for the first time in August 2019 to enable orderly and regulated fintech growth in India. It is a platform where innovating entities can conduct live testing of new products or services in a controlled and regulated environment so as to test the performance and account for any glitches. Regulatory Sandbox “allows the regulator, the innovators, the financial service providers and customers to conduct field tests to collect evidence on the benefits and risks of new financial innovations, while carefully monitoring and containing their risks”.<sup>13</sup> One of the criteria for being selected is to demonstrate the potential in the product or service to bridge an existing gap in the fintech ecosystem, which is capable of benefiting the customers and the industry as a whole. Upon the successful completion of the cohort, the innovators then decide to roll out their product in the market for public use.

---

<sup>12</sup> FINTECH, *supra* note 3.

<sup>13</sup> *Enabling Framework for Regulatory Sandbox*, RESERVE BANK OF INDIA (May 28, 2025), <https://website.rbi.org.in/web/rbi/-/press-releases/enabling-framework-for-regulatory-sandbox>.

#### IV. REGULATORY CHALLENGES

While fintech offers plethora of innovative financial services, bringing about ease and inclusion among masses, its regulatory frameworks face several challenges some of which have been briefly discussed below.

1. **DATA PRIVACY:** With the growth of mobile applications offering services for multitude of requirements, the issue of data privacy and security comes up. It is a known fact that applications on mobile devices collect data to offer personalized experiences but the extent to which they have access to personal data is unknown to most. FinTech apps in India “often collect more information than necessary, sometimes even critical personal data that could jeopardize the privacy of individuals”.<sup>14</sup> Access to contact details, photos, messages, location, storage, etc. beyond what is necessary, leads to clear violation of RBI’s digital lending guidelines,<sup>15</sup> which mandates minimal access to customer data. This facet of fintech needs strict regulation and oversight so as to protect the customer’s data privacy and to lay down strict guidelines for explicit consent to be obtained before any data can be accessed.
2. **CYBERSECURITY:** Rapid digitalization of the banking and finance industry has ushered in an unmatched growth in the economy but at the same time, it has created a huge vulnerability in the system in the form of cyber security issues. In addition to the “traditional risks such as mis-selling and fraud, new manifestations of consumer risks such as data privacy and security breaches have emerged with the advent of new technologies”.<sup>16</sup> Urgent need for IT infrastructure upgradation and strengthening of cyber security measures become the need of the hour in order to safeguard the customer’s interests and to support the growth of the digital economy.
3. **ARTIFICIAL INTELLIGENCE:** The advent of artificial intelligence and machine learning has created ripples across industries with their capabilities to compute copious amounts of information and find patterns, make predictions, making their utility indispensable. The use of AI and machine learning in fintech has created services like chat bots, instant credit

---

<sup>14</sup> *Digitalisation - Tackling Emerging Risks and Challenges*, RESERVE BANK OF INDIA (May 29, 2025), <https://website.rbi.org.in/web/rbi/-/publications/chapter-v-digitilisation-tackling-emerging-risks-and-challenges-21780>.

<sup>15</sup> *Ibid.*

<sup>16</sup> Shaktikanta Das, *FinTech Innovations for India @100: Shaping the Future of India's Financial Landscape*, RESERVE BANK OF INDIA (May 28, 2025), <https://website.rbi.org.in/web/rbi/-/speeches-interview/fintech-innovations-for-india-100-shaping-the-future-of-india-s-financial-landscape>.

scoring, automated customer care, personalised financial products which has enhanced the user experience and facilitates tailored financial suggestions to optimise the transactions. With these positives, there also exists huge drawbacks which can be easily exploited to inflict maximum damage via program bias and hallucination, transparency issues<sup>17</sup>, which may end up offering wrong advice or suggestion, leading to financial loss. Keeping in mind the ongoing developmental phase of AI and machine learning, they must be used sparingly and cautiously.

4. **USER AWARENESS:** Fintech is being used by the masses who may not be well versed with cyber hygiene practices, which is a crucial step that can help prevent many significant losses and harm that may arise due to poor habits or by engaging in shady financial practices unknowingly. Extensive education and awareness campaigns are being conducted by the Governments, RBI, NGOs, etc. the positive effects of which can be seen in practice. However, there is a need to keep up with these efforts to educate more people and also to keep updating the knowledge of those who have already been sensitized. Safe and secure cyber activities will only lead to the sustained growth of the Fintech sector in the long run, benefiting the industry and most importantly, the general people.

## V. CONCLUSION

The fintech sector in India has experienced rapid growth and innovation, significantly transforming the financial sector for the better. With the emergence of technologies such as digital payments, instant fund transfers and CBDC, fintech has become a cornerstone of financial inclusion, bringing millions within the ambit of formal banking system. However, this growth is accompanied by a series of regulatory challenges which must be addressed to ensure the sustainability and future growth of the sector. The role of the Reserve Bank of India as the main regulatory body for the financial sector is crucial in balancing innovation with regulatory oversight. Initiatives like the Regulatory Sandbox and the framework for Self-Regulatory Organisations in FinTech have been instrumental in promoting the balance and healthy ecosystem for fintech development. Nevertheless, challenges related to data privacy, cybersecurity, customer awareness and the introduction of artificial intelligence pose significant risks in the future growth and reliability of the fintech sector.

---

<sup>17</sup> FINTECH, *Supra* note 3.

## **WAY FORWARD**

With the extensive analysis done so far and understanding gained, the following can be the possible steps taken to ensure a safe and sustainable FinTech sector in the country.

1. **Strengthening Regulatory Frameworks:** Regulatory bodies must continue to evolve frameworks that keep pace with rapid technological advancements. This includes updating the existing regulations and introducing new ones that address emerging risks in fintech while allowing for innovation to happen.
2. **Enhancing Cybersecurity Measures:** A robust cybersecurity infrastructure must be established to mitigate the risks associated with increased digital transactions. Fintech firms should invest in advanced cybersecurity technologies, practices and regulatory bodies should enforce stringent cybersecurity standards so that any future risks can be mitigated.
3. **Strict Self-Regulation:** Encouraging self-regulatory practices within the fintech community can foster accountability, development of industry best practices and peer review, but strict oversight must be maintained so as to ensure that these organisations are actually able to enforce the standards, guidelines and ethical practices. To this effect, periodic reporting and investigations must be made by the regulators and strict actions must be taken in case the organisations are found falling short of their responsibilities.
4. **Consumer Education and Awareness Campaigns:** Continuous efforts to educate users about fintech services, digital security, financial literacy and cyber hygiene practices are essential and cannot be taken lightly. Public can be made aware of these issues by frequent education and awareness campaigns undertaken by the government, private companies, NGOs and some authorized “finfluencers”.
5. **Responsible use of Artificial Intelligence:** As artificial intelligence and machine learning continues to play a pivotal role in fintech, it is crucial to establish guidelines that govern its use in both technical and ethical aspects. Transparency in the application of AI must be maintained and customers must be made aware of the services that are using AI so that informed decisions can be taken by them.

By adopting prudent measures and addressing the contemporary issues faced by the fintech sector, it can continue to thrive, offering innovative solutions that enhance financial



inclusion while safeguarding consumer interests. The journey ahead requires a collaborative effort among all stakeholders, including the regulators, fintech industry and most importantly, the consumers, to create a resilient and inclusive financial ecosystem that can stand the test of time and develop to its full potential.

## REFERENCES

### ARTICLES

1. *Digitalisation - Tackling Emerging Risks and Challenges*, Reserve Bank of India.
2. *FinTech and market structure in financial services: Market developments and potential financial stability implications*, Financial Stability Board.
3. M. Rajeshwar Rao, *Innovations in Banking - The Emerging Role for Technology and AI*, Reserve Bank of India.
4. Manu Sharma, Dirghau Keshao Raut, Shobhit Goel and Madhuresh Kumar, *Evolution of FinTech and Central Banks: A Text Mining-Based Survey*, Reserve Bank of India.
5. Rohan Bagai, Arjun Uppal, Navdeep Baidwan, *Fintech Laws and Regulations 2024 - India*, Global Legal Insights, <https://www.globallegalinsights.com/practice-areas/fintech-laws-and-regulations/india/>.

### FRAMEWORKS

1. *Enabling Framework for Regulatory Sandbox*, Reserve Bank of India.
2. *Framework for Self-Regulatory Organisation(s) in the FinTech Sector*, Reserve Bank of India.
3. *Master Directions on Cyber Resilience and Digital Payment Security Controls for non-bank Payment System Operators*, Reserve Bank of India.

### LEGISLATION

1. The Payments and Settlement Systems Act, 2007.
2. The Reserve Bank of India Act, 1934.

### MISCELLANEOUS

1. *BFSI - Fintech & Financial Services*, Invest India,

<https://www.investindia.gov.in/sector/bfsi-FinTech-financial-services>.

2. *Blockchain - Distributed Ledger Technology: a stitch in time*, Deloitte, <https://www.deloitte.com/lu/en/services/consulting/services/blockchain-distributed-ledger-technology-stitch-in-time.html>.
3. *Concept Note on Central Bank Digital Currency*, Reserve Bank of India, <https://website.rbi.org.in/en/web/rbi/-/publications/reports/concept-note-on-central-bank-digital-currency-1218>.
4. *FAQs - Payment and Settlement Systems Act, 2007*, Reserve Bank of India, <https://www.rbi.org.in/commonman/English/Scripts/FAQs.aspx?Id=420>.
5. *Pradhan Mantri Jan Dhan Yojana (PMJDY) - National Mission for Financial Inclusion - completes a decade of successful implementation*, Press Information Bureau, <https://pib.gov.in/PressReleasePage.aspx?PRID=2049231>.

## **SPEECH**

1. Shaktikanta Das, *FinTech Innovations for India @100: Shaping the Future of India's Financial Landscape*, Reserve Bank of India.

## **WEBSITES**

1. [www.rbi.org.in](http://www.rbi.org.in)
2. [www.npci.org.in](http://www.npci.org.in)