

Fin-Techs: A Modern Banking System

Dr. Neeraj Kumar Saddy
Head,
P.G. Department of Commerce,
R.K. Arya College,
Nawanshahr, India

Abstract

Fin-Tech Banking System has the prospective to fundamentally transform the financial landscape, provide consumers with a greater variety of financial products at competitive prices, and help financial institutions become more efficient. The rapid and transformational changes brought on by Fin-Tech need to be monitored and evaluated so that regulators and society can keep up with the underlying technological and entrepreneurial change. This article provides a brief review of the sector, encompassing its evolution, characteristics and driving factors, both for the world and India. For a sustainable business ecosystem, Fin-Techs need to bridge the digital divide and promote equitable and broad-based customer participation. The India has taken progressive steps towards the initiative, in the form of Aadhaar, E-KYC, E-Sign, E-Mandate, affordable mobile

data and extensive smart phone penetration, there is still a gap that needs to be fulfilled when it comes to facilitating adoption of these reforms and techniques. In this research review paper the concept of Fin- Tech banking system in the context of fin-Tech has been discussed.

Key words: Digital Banking, Fin-Tech, Technology, RBI.

Introduction

Fin-Tech have contributed to the modern banking through various channels including minimizing cost, better customer service and financial addition. Fin Techs have played an important role in unbundling banking into core functions of settling payments, performing maturity transformation, sharing risk and allocating capital (Carney, 2019).

Financial technology, often shortened to Fin-Tech is the new technology and innovation that aims to compete with traditional financial methods in the delivery of financial services. It is an emerging industry that uses technology to improve activities in finance. The use of smart phones for mobile banking, investing services and crypto currency are examples of technologies aiming to make financial services more accessible to the general public. Fin-Techs companies often face doubts from financial regulators like issuing banks and the central Government. Data security is another issue regulators are concerned about because of the threat of hacking as well as the need to protect sensitive consumer and corporate financial data.

In India, Fin-Techs and digital players could function

as the fourth segment of the Indian financial system, along with large banks, mid-sized banks including niche banks, small finance banks, regional rural banks and cooperative banks. This part has the prospective to fundamentally transform the financial landscape where consumers will be able to choose from broader set of alternatives at competitive prices, and financial institutions could improve efficiency through lower costs. India has emerged as the fastest growing Fin-Techs market and the third largest Fin-Techs ecosystem in the world (Mankotia, 2020). Today, we carry out complex financial actions like sending or receiving money, paying bills, buying goods and services, purchasing insurance, trading on stock markets, opening bank accounts and applying for personal loans online using smart phones, without ever physically interfacing with a bank employee. India has the great opportunity of a digital payments market.

Fin-Techs Banking System in Different Countries

Fin-Techs banking system has differing initiation and maturity levels around the world. In the U.K. and Europe, regulators have been enforcing its mandatory adoption. Singapore's regulatory authority is promoting an organic approach to adoption of open banking without coercing the banks. The adoption of open banking in New Zealand is driven proactively by banks.

India: Implemented a set of APIs

India Stack, 2016; RBI recommends providing an environment for developing Fin-Techs innovations and testing of APIs. It is not mandatory for financial Institutions.

Canada: Announced review of Fin-Techs banking in budget, Feb 2018. It is not mandatory for all sectors.

U.S.A.: Published principles for open data sharing, Oct 2017
Live from Jan 2018. Fintech is not mandatory.

Japan: Revised Banking Law in May 2017 to introduce open APIs. Fin-Techs is not mandatory.

Singapore: Published API Playbook, Nov 2016; might create APIs recommendations for banks. Fin-Techs is not mandatory.

Mexico: Passed Fin-Techs law allowing open banking, Mar 2018. Not mandatory.

Hong Kong: Revised Banking Law in May 2017 to introduce open APIs Not mandatory

Malaysia: Created open banking implementation group, Q1 2018 Not mandatory

Australia: Reviewed, Feb 2018 Not mandatory

New Zealand: Open API pilot, Mar 2018, not mandatory

Nigeria: Published open API standards, Mar 2018 Not mandatory.

Europe: Live from Jan 2018 Mandatory for 9 banks.

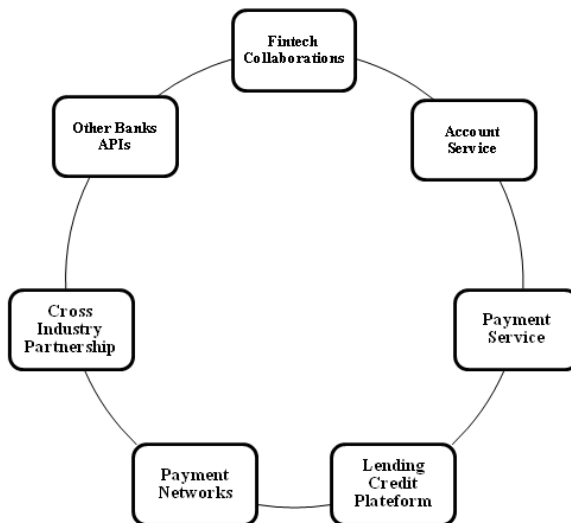
U.K.: Live from Jan 2018 Mandatory for all banks.

Fin-Techs Banking Regulation

Fin-Techs regulation can be viewed as double edged swords. Despite various benefits, these innovations can sometimes magnify existing threats to consumers such as likelihood of privacy breaches and cyber security risks, leaving behind digitally illiterate and unconnected consumers. Thus, while the role of regulation is undisputed for the

financial system as such, it assumes greater importance for newer innovations such as Fin-Techs. A central bank's interest in Fin-Techs is not confined to its impact on the financial sector per se, but rather its implications for financial stability and monetary policy. Warnings and clarifications were the most common regulatory responses to crypto-assets, but a few respondent jurisdictions also reported emergence of crypto-specific licenses. With regards to enabling technologies, most regulators tweaked existing guidelines to include tech-specific elements. Regulators have been particularly active on application programming interfaces (APIs), cloud computing and biometric identification. With many Fin-Techs leveraging on cloud computing, it is becoming systemically important to the financial system. It is possible that going forward some future software could end up being exclusively available on cloud platforms. In such cases, central banks may have to opt for in-house cloud development or collaborate with various service providers. However, for artificial intelligence, machine learning and DLT, regulatory action has been limited to risk assessments and issuance of general guidance. Financial regulators are facing unprecedented challenges with the emergence of Fin-Techs. These firms come in new shapes and forms, so fitting them into buckets for prudential or risk-based supervision is not easy. As the scope of activities widens from national to global, regulation too has to reach out across borders.

Working of Fin-Techs Banking System



Fin-Tech Collaborations

The banking ecosystem is in a state of transformation. New fin-Tech entrants are coming into the marketplace regularly, while traditional providers are trying to adjust to the realities of digitalization, advanced technology and increasing consumer demands. Moving from a competitive perspective, traditional financial institutions and fin-Tech firms now understand that collaboration may be the best path to long-term growth. The success of Bank+Fintech collaboration rests with those organizations who can understand each other's strength and weaknesses to improve the customer experience while also reducing operational costs.

Other Banks APIs

Open banking is a system that provides a user with a network of financial institutions' data through the use of application programming interfaces (APIs). An API, or

application programming interface, is a technology protocol that allows diverse software components to communicate.

Cross Industry Partnership

The world of cross-industry collaboration has changed dramatically. Traditional definitions were about product distribution, or supply chain alliances—different players coming together to market a product, build a city, or fill up a marketplace. There was typically one dominant player in the middle of this collaboration. Open banking provides the broad umbrella under which banks can unlock value for their customers. Opening-up access to data is just one side of open banking. The more important consequence is the creation of expanded customer journeys through well-designed partnerships.

Payment Networks

Every transaction that doesn't involve two parties exchanging cash requires a payment network. Someone has to move the money from one metaphorical pocket to another, and that transfer has to occur over some medium. It's obvious, but our transactions happen so quickly that we don't spend much time thinking about those networks, and that's okay.

Lending Credit Platform

Peer-to-peer lending, also abbreviated as P2P lending, is the practice of lending money to individuals or businesses through online services that match lenders with borrowers.

Payment Service

A payment service provider (PSP) offers shops online services for accepting electronic payments by a variety of payment methods including credit card, bank-based payments such as direct debit, bank transfer, and real-time bank transfer based on online banking. Typically, they used software, as a service model and form a single payment gateway for their clients (*merchants*) to multiple payment methods. A PSP can connect to multiple acquiring banks, card, and payment networks. In many cases, the PSP will fully manage these technical connections, relationships with the external network, and bank accounts.

Account Service

Account services are a business function where employees manage the experience of customers and clients. This function is common in service-based organizations such as banks, credit card companies, financial services businesses and marketing agencies. A primary role of the account services department is to communicate with clients and to resolve problems. A primary role of account services is that of liaison. In a bank, for instance, a service representative is responsible for servicing the interests of customers, but in line with company policies.

India moves towards Open Digital Economy

India has issued several guidelines and reforms such as granting multiple licenses for differentiated banking to small finance banks, payment banks and introduced the unified payment interface to include the unbanked population of India in the formal financial services folder, strengthening the

payments ecosystem. To embrace open banking system and unleash the true potential of shared ecosystem, a foundation has to be formed on four pedestals: government, regulators, traditional institutions and fin-tech. Government for open digital economy to thrive, strong government support is a critical component. To boost India towards a digital economy, the government along with the support of regulators is working aggressively towards creating a progressive digital ecosystem. The government is expediting the move towards a 'presence, paper, and cash – less service delivery' system popularly known as 'India Stack'

Government initiatives to Implement Fin- Techs Banking in India

The end goal of the relentless efforts put in by the government is not only to open basic bank accounts for fostering financial inclusion, but to also manage the inflow and outflow of funds in accounts. This is done by transferring the direct benefit subsidies with the Jan Dhan Yojna accounts, and then crediting various subsidies (LPG, fertiliser, day wages and so on) directly into the bank account. This inflow of cash into accounts would encourage the unbanked population into adopting formal banking practices. Indian government starts Fintech schemes from time to time to encourage open banking in India through, Aadhaar on Mobile (2017), Payment network (2016), E-Signature and Digital Locker (2015), Aadhaar based e-KYC (2012), Aadhaar based payments (2011), Aadhaar Identity (2010).

Steps taken by Government for developing and

strengthening the open digital ecosystem

Regulators have been instrumental in India's drive towards developing and strengthening the open digital ecosystem. The key objectives of regulators are to lay the groundwork for interoperability across payment systems, and create an environment for innovation and increased personalised experience. To address these focus areas, regulators have taken the following steps:

1. Implemented Bharat Bill Payments System (BBPS) to improve the security and speed of bill payments through multiple modes.
2. National Payments Corporation of India has paved the way for open banking by putting infrastructural blocks such as unified payments interface (UPI) and Aadhaar enabled payment services (AePS) in place.
3. The RBI has published a report of the 'working group on fin-Tech and digital banking', providing recommendations for an environment for developing fintech innovations and testing of applications/APIs developed by banks/ fin-Tech companies.
4. Due to data access to third parties, regulators must continually recalibrate regulations and policies, develop thresholds which are based on risk, keeping cyber security subsection in check, and maintaining a high degree of consumer confidence.

Technologies used by Fin Techs

Technology	Description
-------------------	--------------------

Managerial Competency in Commerce, Business & Management
ISBN : 978-81-954010-2-4

API (Application Programming Interface)	APIs comprise a set of rules and specifications that software programmes use to communicate with each other. They allow new applications to be built on top of others.
Cloud Computing	The use of an online network ('cloud') of hosting processors to increase the scale and flexibility of computing capacity, generating cost savings.
Biometrics	The study of distinctive and measurable human characteristics that can be used to categorize and identify individuals.
DLT (Distributed Ledger Technology)	A digital system for recording the transaction of assets in which details are recorded in multiple places at the same time.
Big Data	Voluminous amounts of structured or unstructured data that can be generated, analysed and utilized by digital tools and information systems.
AI (Artificial Intelligence) & ML (Machine Learning)	IT systems that can perform functions that would otherwise require human capabilities. ML entails computers learning from data without human

	intervention.
--	---------------

Benefits of Fin-TECH

1. The open API framework enables the lender to fetch the documents directly from the source through explicit user consent.
2. Enable viewing multiple bank accounts, and manage and communicate with financial firms through one window.
3. Develop notional pooling, a mechanism for deriving liquidity based on combined balances of corporate accounts, including decentralized subsidiaries.
4. Utilize analytics to help consumers manage their finances.
5. Leverage artificial intelligence (AI) for intelligent cash management.
6. The relationship manager has customer's assets data with their firm, they do not have access to data from multiple financial institutions.
7. Open banking API enables a third-party provider to access customer data from multiple data sources with explicit customer consent, thereby providing quality advisory and leading to enhanced customer stickiness.

An Open Banking System — Challenges Ahead

Lack of Collaboration

In open banking system lack of collaboration between Cross-industry partnerships, Fin-Tech collaborations and Investment/acquisition of tech firms may occur at the time of start-ups.

Lack of Skill

There may be gap Specialist with experience in

technical and API strategy and development. The expert to assist business users, who can build a strong sales team that can address technical queries. Team with mix set of expertise along with cross-skill trainings.

Lack of Policy Framework

The government and regulators should build a strong policy framework along with the compliance and monitoring mechanism for ownership and sharing of data.

Lack of Awareness

It Leads to Consumers' worry in Giving Consent
Phased approach: Create awareness using mailers and brochures - Conducting a pilot - Complete implementations.

Time and Cost

Higher turnaround time and high operation costs due to processing the information across various stakeholders and lenders

Challenges for Future Development:

Fin Techs will confront several opportunities and challenges in the future. Broadly, they need to address six concerns to become more efficient, reliable, equitable and resilient.

First, despite immense scope for innovation, cross-border payments are still uncharted territory for Fin Techs. Availing remittance services burdens migrant workers due to sudden costs associated with such remittances. A high share of cross-border payments flows through correspondent banks, whose diminishing numbers could result in even higher costs and retrogression to informal, unregulated payment

networks. In India, cross-border transactions are slow compared to domestic payments and few alternatives are available, despite heavy inward personal remittances (RBI, 2019). To make payment systems in different jurisdictions interoperable, payment instructions need to be translated to a common language. For this, standards and practices across jurisdictions must be coordinated, and mutual confidence in each domestic network's Know Your Customer (KYC) and Anti-Money Laundering (AML) frameworks must be established.

Second, the increasing popularity of Fin Techs could exacerbate data use, protection and privacy concerns if the statutory rights and obligations of service providers are not clearly delineated. Machine learning algorithms could reproduce and perpetuate existing patterns of discrimination and exclude vulnerable sections. As the Indian population becomes data-rich with increasing Internet and mobile coverage, the next challenge is empowering consumers with the data generated by them through adequate legal and regulatory interventions. Citizens should be able to exercise control of their data like any other personal asset. There is an emerging demand for data localisation from various jurisdictions. In this context, a solution could be a model where data is stored locally, and only binary (Yes or No) queries are allowed on it from abroad, from a specified and globally agreed upon set of permitted queries.

Third, there is a need to ascertain the impact of Fin Tech on financial stability, due to higher potential for

system-wide risk with its expansion. Lending standards could weaken due to wider credit access and higher competition. Since Fin Tech lenders give advances from debt and equity rather than from deposits, such credit could be more pro cyclical and unstable due to lack of standard credit guidelines.

Fourth, there is inequality of access to Fin Tech services. Despite having the world's second largest Internet user base, the access to Internet is still highly biased towards the urban, male and affluent population segments. Trust in the online marketplace is low and a typical user takes 3-4 months to make their first online transaction. Most users use online platforms for product research, but prefer subsequent offline purchase.

Fifth, is the issue of consumer protection and digital education? Regulators need to stress on preemptive fraud detection, while also integrating digital literacy into financial literacy to dispel misconceptions. Safety provisions and grievance solving mechanisms need to be simplified. However, financial literacy and digital hygiene alone may be insufficient. Cross-country evidences suggest that paying with cash is a habit, generally slow to change.

Finally, regulators need to conduct themselves neutrally. The Report of the Working Group on Fin Tech and Digital Banking (RBI, 2018a) cautions that regulators should neither overprotect incumbents, nor unduly favour newcomers by applying differential regulatory treatment. With increasing dominance of big firms in digital payments, there will emerge a tradeoff between data-fueled oligopoly for cheap services

and the need for re-aligning incentives to foster smaller, more innovative firms for a competitive ecosystem.

Conclusion

Banks and Financial Institutions (FIs) continuing with old legacy systems may resist as the customers may switch to other banks. Banks & FIs that are taking on technology can add new potential revenue streams by enhancing customer experience. An open digital economy has the potential to cater to these heightened expectations by personalising products to a large extent. Big technological companies such as e-commerce platforms and online service aggregators have the capacity to add perspectives and application, and influence their services by combining financial data, spending patterns and behavior. For example, a cab aggregator can potentially get into a small ticket lending business using analytics and provide personalised lending services, thereby reducing customer acquisition costs.

Fin-Techs Banking System has the potential to fundamentally transform the financial landscape, provide consumers with a greater variety of financial products at competitive prices, and help financial institutions become more efficient. The rapid and transformational changes brought on by Fin-Tech need to be monitored and evaluated so that regulators and society can keep up with the underlying technological and entrepreneurial change. This article provides a succinct review of the sector, encompassing its evolution, characteristics and driving factors, both for the world and India. For a sustainable business ecosystem,

Fin-Techs need to bridge the digital divide and promote equitable and broad-based customer participation.

India has taken huge steps in developing a strong foundation to embrace the wave of change in the, financial services industry. The transformative migration from closed banking towards an era of Fin-Techs Banking System and shared financial ecosystem can be seen as a non-linear growth. Up until now, customers used to avail financial services from the institutions, which in turn, dictated it's terms and conditions to the customer. With the advent of technology, the open ecosystem and the availability of options, now the equation is changed and the customer is most likely to dictate over the financial institutions. While the world is moving towards implementing regulations for open banking to facilitate and foster innovation, India, needs to cater to its pressing issue of financial inclusion. Therefore, the adoption of an open economy would help address the same issue. While India has taken progressive steps towards the initiative, in the form of Aadhaar, E-KYC, E-Sign, E-Mandate, affordable mobile data and extensive smart phone penetration, there is still a gap that needs to be fulfilled when it comes to facilitating adoption of these reforms and techniques.

References:

1. Aldridge, I., Krawciw S., 2017. *Real-Time Risk: What Investors Should Know About Fin-Tech, High-Frequency Trading and Flash Crashes?* Hoboken: Wiley. ISBN 978-1119318965
2. Aldasoro, I., Gambacorta, L., Giudici, P., and Leach, T., (2020), *Operational and Cyber Risks in the Financial*

- Sector”, *BIS Working Paper*, February
3. *Bain & Company.*, (2018), “Unlocking Digital for Bharat: \$50 Billion Opportunity”
 4. *Bank of Japan.*, (2018), “Fin Tech Special Edition – Financial Innovation and Fin Tech”, *Payment and Settlement Systems Report Annex Series*, September
 5. *Bartlett, R., A. Morse, R. Stanton, and N. Wallace.*, (2018), “Consumer-lending Discrimination in the Era of Fin Tech” *Working paper*
 6. *Basole R., and Patel, S.* (2018), “Transformation through Unbundling: Visualizing the Global FinTech Ecosystem”, *Service Science*, Vol. 10, No. 4, pp. 1-18, December
 7. *Buckley, R., A. W. Douglas and B.N. Janos.* (2016), “The Evolution of Fin Tech: A New Post-Crisis Paradigm?”, *SSRN Electronic Journal* 47(4):1271-1319, January
 8. “Criminalizing Free Enterprise: The Bank Secrecy Act and the Cryptocurrency Revolution”. *Westlaw’s Computer & Internet Journal*. July 2, 2015.
 9. “Data Security Considerations for FinTech Companies”. *Bloomberg*. April 23, 2013.
 10. *Fuster, A., M. Plosser, P. Schnabl, and J. Vickery.* (2019), “The Role of Technology In Mortgage Lending” *The Review of Financial Studies* 32(5), 1854–1899
 11. “Global Fintech Investment Growth Continues in 2016” (PDF). *Accenture*. 2017. Retrieved January 15, 2018.
 12. *Global, IndraStra.* “Decoding the Bali Fintech Agenda”. *IndraStra*.ISSN 2381-3652.
 13. *G7 Working Group on Stablecoins.* (2019), “Investigating the Impact of Global Stablecoins”, October
 14. *Government of India.* (2019), “The Personal Data Protection Bill”
 15. *Hendrikse, R., Bassens, D., and Meeteren, M.*, (2018), “The Appleization of Finance: Charting Incumbent

- Finance's Embrace of FinTech*", *Finance and Society* 4(2): 159-80
16. IFMR, (2017), "The Evolving Financial Ecosystem for Micro-Merchants in India", IFMR LEAD and Mastercard Centre for Inclusive Growth, September
 17. Jenkins, P (2018), "We Don't Take Cash: Is this the Future of Money?" *Financial Times*, May 10.
 18. King, R. (2019), "2020: FinTech and Beyond", *Central Banking*, December 31
 19. Schüffel, Patrick (2016). *Taming the Beast: A Scientific Definition of Fintech*. *Journal of Innovation Management*. p. 32-54.
 20. Sanicola, Lenny (13 February 2017). "What is FinTech?". *Huffington Post*. Retrieved 20 August 2017.
 21. Schueffel, Patrick (2017-03-09). "Taming the Beast: A Scientific Definition of Fintech". *Journal of Innovation Management*. 4 (4): 32–54. ISSN 2183-0606.