REGULATORY FRAMEWORK ON FINANCIAL TECHNOLOGY IN INDIA WITH SPECIAL REFERENCE TO THE SECURITIES AND EXCHANGE BOARD OF INDIA

Dissertation submitted to National Law University and Judicial Academy, Assam in partial fulfilment for the Award of the Degree of

MASTER OF LAWS/ ONE YEAR LL.M. PROGRAMME

Submitted by:

Ruchi Nehra

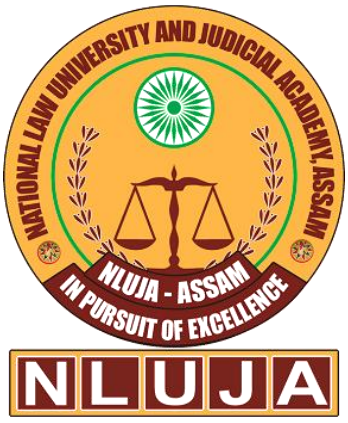
SF0222024

LL.M. 2nd Sem.

Supervised by:

Dr. Monmi Gohain

Asst. Professor of Law



National Law University and Judicial Academy, Assam

SUPERVISOR CERTIFICATE

This is to certify that Ruchi Nehra has completed her Dissertation titled "Regulatory Framework in Financial Technology in India with Special Reference to the Securities and Exchange Board of India" under my supervision for the award of the degree of MASTER OF LAWS (LL.M.) from National Law University and Judicial Academy, Assam.

Date:

Dr. Monmi Gohain
Asst. Professor of Law
National Law University and
Judicial Academy, Assam

DECLARATION

I, Ruchi Nehra, do hereby declare that the Dissertation titled “Regulatory Framework in Financial Technology in India with Special Reference to the Securities and Exchange Board of India” submitted by me for the award of the degree of MASTER OF LAWS/ ONE YEAR LL.M. DEGREE PROGRAMME of National Law University and Judicial Academy, Assam is a bonafide work and has not been submitted, either in part or full anywhere else for any purpose, academic or otherwise.

Date:

Ruchi Nehra
UID: SF0222024
National Law University and
Judicial Academy, Assam

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Ruchi Nehra
UID- SF0222024
LL.M. (2022-23)

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AEPS	Aadhaar-Enabled Payment System
AI	Accredited Investors
AI	Artificial Intelligence
AIF	Alternative Investment Fund
AMC	Asset Management Company
AMFI	Association of Mutual Funds in India
APAC	Asia-Pacific
API	Application Programming Interface
ATM	Automated Teller Machine
BAAS	Banking as a Service
BBPS	Bharat Bill Payment System
BHIM	Bharat Interface for Money
Bn	Billion
BNPL	Buy Now Pay Later
CAGR	Compound Annual Growth Rate
CEO	Chief Executive Officer
CFPB	Consumer Financial Protection Bureau
Cr.	Crore
DACR	Detailed Application Control Review
DBT	Direct Benefit Transfers
DLT	Distributed Ledger Technology
DVR	Differentiated Voting Rights
EMI	Equated Monthly Instalment
EPT	Electronic Payment Transactions
EU	European Union
FCA	Financial Conduct Authority
FEMA	Foreign Exchange Management Act

FIU-IND	India's Financial Intelligence Unit
FPO	Follow on Public Offer
FSDCSC	Sub-Committee of the Financial Stability and Development Council
FY	Financial Year
GDPR	General Data Protection Regulation
ICT	Information and Communications Technology
IDRBT	Institute for Development and Research in Banking Technology
IFSCA	International Financial Services Centres Authority
IGP	Innovators Growth Platform
INR	Indian National Rupee
IoRS	Inter-operable Regulatory Sandbox
IP	Intellectual Property
IR	Insurance Repository
IRDAI	Insurance Regulatory and Development Authority of India
IRTG	Inter Regulatory Technical Group
IS	International Standard
ISI	Indian Standard Institution
ISNP	Insurance Self-Network Platforms
ISO	International Organization for Standardization
IT	Information Technology
KYC	Know Your Customer
MDR	Merchant Discount Rate
MFD	Mutual Fund Distributors
ML	Machine Learning
MSME	Micro, Small, and Medium Enterprise
NASDAQ	National Association of Securities Dealers Automated Quotations
NBFC	Non- Banking Financial Corporation

NCMC	National Common Mobility Card
NPCI	National Payment Council of India
OTC	Over the Counter
P&SS	Payment and Settlement System
P2P	Peer to Peer
PA	Payment Aggregators
PB	Private Bank
PC	Personal Computer
PFRDA	Pension Fund Regulatory and Development Authority
PG	Payment Gateway
PMJDY	Pradhan Mantri Jan Dhan Yojana
POC	Proof of Concept
PPI	Prepaid Payment Instrument
PSU	Public Sector Undertakings
RBI	Reserve Bank of India
RBIH	Reserve Bank Innovation Hub
RIA	Registered Investment Advisors
SBI	State Bank of India
SEBI	Security and Exchange Board of India
SOC	Security Operation Centre
SOP	Standard Operation Procedure
SPDI	Sensitive Personal Data and Information
SVR	Superior Voting Rights
TPA	Third-Party Administrators
UID	Unique Identification Number
UK	United Kingdom
UPI	Unified Payment Interface
USD	United States Dollar
VAPT	Vulnerability Assessment and Penetration Testing

CHAPTER 1:
INTRODUCTION

One of the most essential factors in the development, expansion, and advancement of the economies of both established and emerging countries is technology. The fact that technology significantly influenced the growth and expansion of the country's economic activities is a well-known and universally acknowledged phenomenon in the field of economics. Innovations in technology guarantee the most effective and efficient use of the conversion of inputs into outputs of more and better goods and services for society as a whole. Generally speaking, technological innovation is one that affects the production of products and services, energy, and communication.

Globally, life has become simpler for humans due to the significant concepts, theories, methods, technologies, breakthroughs, and economic advancements made possible by technology. Any adequately developed technology may be distinguished from magic, according to a well-known science fiction author. It is a well-known fact that technology is in almost every area of the economy, including manufacturing, transportation, banking, entertainment, space exploration, agriculture, and other fields.

Economic growth and expansion are greatly influenced by technology. The use of technology in day-to-day corporate operations has grown significantly. Today's global economic development and growth are being driven by an increasing number of uses of technological research and innovation. Currently, it is a well-known truth that the stakeholders from many societal sectors agree that technological breakthroughs are the sole thing that has made economic progress feasible.

Modern digitalization research has simplified and improved processes across all company organizations. Since the employment of new discoveries and inventions, they have been able to overcome a wide range of challenging issues, business people have now acknowledged the essential role that technology plays. The dynamics of corporate globalization have undergone revolutionary changes as a result of the rise of e-commerce

and digitalization. The dynamics of the Indian financial system have recently undergone a significant transformation because of the development of financial technology.

1.1 Research Background

The term “fintech”, which comes from the combination of the words “finance” and “technology”, describes any innovation in the delivery of financial services that seeks to streamline processes and increase efficiency. This term, which originally referred only to the infrastructure utilized by the largest banks, has grown to encompass all the ways in which financial services can be improved through the application of technology. Financial Technology (hereinafter referred to as Fintech) can be a software, a service, or a company that offers technologically cutting-edge solutions to improve financial operations by upending conventional approaches. Financial activities such as depositing money in the account with the use of a smartphone, money transfers and requesting credits without visiting a bank branch, raising funds for the startup, and managing your investments; basically, all such activities without the assistance of a person, come under the purview of Fintech.

The 1990s saw a boom in Internet and e-commerce business models, followed by the decade that saw the widespread adoption of fully digital banking in most regions. Security and transparency have never been more crucial than they are now, especially in light of the 2008 Global Financial Crisis, which caused many individuals to lose faith in conventional financial institutions. As a result of this cultural shift and advancements in cloud computing technology, new standard operating procedures and customized solutions were created, including the ability to access banking profiles and make payments and money transfers using automatically converted currencies.

Another historical event that changed the face of the Fintech ecosystem in India was the demonetization drive in 2016 that helped several fintech businesses gain nationwide recognition. The ban on 500- and 1000-rupee denominations compelled the huge population of the country to transition to digital payments as 86.4% of the cash was wiped out from the economy overnight.

The application of some important fintech products and services in the marketplace are Blockchain, crowdfunding, big data, smart contracts, robot devices, artificial intelligence, the security triad, the internet, logarithms, aggregators, etc. are some of the key fintech products and services that are being applied in the market. These products and services would bring together lenders, borrowers, and other relevant stakeholders in order to generate information that can be provided with or without an intermediary. The international economy has been pushed to grow and expand by technology, and it will continue to do so in the future.

Digital payments, quick internet loans, and hassle-free online banking have all become standard practices for many Indians. As internet connectivity expands throughout the nation and smartphone sales increase year after year, fintech solutions are making financial services more accessible to the average person. FinTech has increased flexibility in transactions, and made financial services more affordable, quick, and safe. With the use of this technology, a larger portion of the unbanked and underbanked population can now be accessed. The inadequate infrastructure is being improved, and traditional banking is being replaced by a cashless economy.

Additionally, it offers a variety of amenities and services that typically are not available to people because they are insufficient or less profitable for regular banks to provide. Digitalization has been responsible for significant advancements in conventional financial services, which have improved auditing and boosted transparency in transactions. All digital transactions are inherently simple to track and accessible in real-time, which reduces the likelihood of fraud and scams.

Managing finances has now become less complicated and time efficient due to the technological advancements in the banking industry. As a result of FinTech's digitalization, customers from a variety of demographics can now receive financial services that are specifically designed to meet their needs. Facilitating digital payments and presenting opportunities for new players to enter as start-ups, has helped to stimulate economic growth in a variety of ways. Since technical improvements can be quickly adopted across borders,

FinTech has established itself as a truly global invention. This has opened up new markets for businesses and created opportunities for those already in operation.

This rapid innovation is generating completely new financial hubs and markets. FinTech offers a variety of facilities and possibilities to deliver financial services under one roof so that customers may perform a variety of tasks at one location, such as sending money and lending money, rather than offering a limited and specific function. It has brought greater transparency and new approaches to money management. Traditional methods of borrowing through loans and mortgages have been supplanted by new methods of lending money including crowdfunding and peer-to-peer lending choices.

India is one of the global FinTech marketplaces with the fastest growth rates. In terms of deal value across 33 transactions, India has the greatest FinTech investment activity in Asia, surpassing China's $284.9 Mn for the quarter ending June 30, 2020. Accenture claims that current FinTech businesses have displaced traditional banks by gaining one-third of all new income. Out of all rising economies throughout the world, China and India had the greatest adoption rates, at 87 percent (global rate of 64 percent). As of June 2020, there were over 2174 FinTech startups in India.

The government's role as a main catalyst for the success or failure of fintech in a highly regulated financial system. To achieve its aims of becoming a cashless digital economy and a healthy fintech ecosystem, the government of India and its regulatory authorities, such as SEBI and RBI, are aggressively supporting and subsidising this transformation.

The Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI), and the Insurance Regulatory and Development Authority of India (IRDAI) are the primary regulatory authorities in India that publish rules and offer guidelines for the various fintech products and business models. With a careful approach to resolving worries about consumer protection and law enforcement, RBI has been essential in facilitating the growth of the fintech sector. The regulator’s primary focus has been facilitating the unrestricted development of fintech, increasing access to banking services for the unbanked, ensuring the security of electronic payments, and giving consumers more choices. The Payments and Settlements Systems Act of 2007 is the primary statute that gives RBI its authority.

The three main regulatory bodies in India's financial sector have all come out in support of the country's expanding FinTech industry: the Reserve Bank of India (RBI), Insurance Regulatory and Development Authority of India (IRDAI)and the Securities and Exchange Board of India (SEBI). These Indian regulators have used a collaborative strategy and expecting the need for adequate regulations, especially in the sectors such as crowdfunding, P2P lending etc. despite playing catch-up with the rapidly developing ecosystem.

A thriving financial ecosystem relies heavily on the development of new businesses. If fintech startups are to continue growing, they must convince our government agencies that they are good for society. This requires them to show the public, institutions, and government agencies that they can be regulated and supervised in a sustainable manner.

Financial services regulators such as the Reserve Bank of India (RBI), the Insurance Regulatory and Development Authority of India (IRDAI) and the Securities and Exchange Board of India (SEBI) have developed the sandbox framework and published guidelines and circulars to implement it. Companies may now put their cutting-edge products and services through their paces with a select group of end users. Authorities will use the sandbox architecture to keep an eye on how profitable and beneficial fintech companies are for the public good.

Regulatory sandboxes are the only tools with the government at present, to regulate the fintech sector. SEBI promises to promote the fundamental core principle of investor safety and transparency under all conditions, this study attempts to evaluate the regulatory sandbox framework by various authorities, with particular reference to SEBI.

1.2 Research Problem

Economic growth and expansion are greatly influenced by technology. The use of technology in day-to-day corporate operations has grown significantly. Today's global economic development and growth are being driven by an increasing number of uses of technological research and innovation. The dynamics of corporate globalisation went under revolutionary changes as a result of the rise of e-commerce, digitalization and evolution of financial technology.

This term, which originally referred only to the infrastructure utilised by the largest banks, has grown to encompass all the ways in which financial services can be improved through the application of technology. Financial Technology today is impacting our lives in all the ways it can from depositing money to raising funds or managing investments. Despite, the broad spectrum of financial technology, a comprehensive legislation doesn't exist yet in India. Regulatory Authorities have set up Sandbox framework, but the concern here is whether they are a permanent solution or temporary. There is a need for the authorities to clarify their stand and provide a proper regulatory framework.

1.3 Literature Review

'Fintech in India', Swissnex India, 2016[1]

The report has dealt in depth with the evolution of fintech in India, its growth and the favourable financial ecosystem in India. The report has provided a comprehensive overview of the Indian Fintech ecosystem. One section of the report summarized the Fintech ecosystem in India including the investors, startups, accelerators and incubators, human capital, and initiatives taken by banks and the government. It also provides a brief analysis of innovation, trends and key growth drivers for payments and lending segments, which have seen rapid growth in India in the last couple of years. It is followed by an analysis of an upcoming Fintech segment in India: InsurTech. The report concludes with an overview of the problems faced by the fintech businesses and also the opportunities that await them.

'Fintech in India: A Global Growth Story', joint publication by KPMG and NASSCOM 10,000 Startups, 2016[2]

The report has focused on the Seven key themes which have created transformational waves across the financial ecosystem in India. These fintech themes serve a dual purpose. While they help financial institutions renovate their back-end processes and provide a

[1] 'Fintech in India' (Swissnex India 2016) <https://www.indembassybern.gov.in/docs/Fintech-Report-2016.pdf> accessed 29 May 2023

[2] 'Fintech in India: A Global Growth Story' (KPMG 2016) <https://assets.kpmg.com/content/dam/kpmg/pdf/2016/06/FinTech-new.pdf> accessed 29 May 2023

competitive edge, they also offer customers a smooth user experience, unexplored value-added services and an interactive marketplace. Some of these themes such as next-generation payments and financial inclusion are quite mature in India in terms of fintech start-up ecosystems, government regulations and steps taken by the incumbent market participants. While P2P lending, robo advisory, Bank in a Box, security and biometrics are striding fast towards mass market implementation, blockchain has just marked its entry with a promising future in the financial services arena. The report has also provided insights and learnings from global experiences.

'Fintech Industry in India: Future of Financial Services', RBSA Advisors, 2021[3]

The report has laid down the background of concept of financial technology and how fintech has flourished in India. The report has provided details on the key used technologies such as blockchain, Artificial Intelligence, big data, robo advisory etc. The report has further encapsulated the fintech landscape in India, categorised and briefly explained the regulatory framework for each category. One section of the report deals with the factors impacting the fintech sector and another brings into light the future of fintech sector in India.

'Fintech in India: Ready for Breakout', Deloitte, 2017[4]

The report has dealt in detail with the different types of fintech such as alternate lending, banking technology, insurtech, payments, finance management and investment management. The report has shown a positive approach that fintech industry will stay and grow in India exponentially as there are several factors favouring the success of fintech companies. The report has also highlighted a few challenges to be faced by the Indian fintech but those can be overcome by taking certain measures.

[3] 'FinTech Industry in India: Future of Financial Services' (2021) <https://rbsa.in/fintech-industry-in-india-future-of-financial-services/> accessed 29 May 2023

[4] 'Fintech in India: Ready for Breakout' (Deloitte 2017) <https://www2.deloitte.com/content/dam/Deloitte/in/Documents/financial-services/in-fs-fintech-india-ready-for-breakout-noexp.pdf> accessed 29 May 2023

'Fintech: A New Revolution in India' [2020] JournalNX[5]

The research study talked about the digitization of payment in India and its importance in the current economic scenario. Financial Technology (Fin-tech) is a new technology that aims to compete with traditional financial methods in the delivery of financial services. The article offers the conceptual understanding and groundwork to understand the rapid and successful growth of newly emerging financial technologies. Fin-tech helps to boost businesses in MSME sectors, banks transformation, digitally cashless economy, and startups in India. The study helps to understand the growth of the fin-tech industry and the challenges faced by the Fin-tech industry.

Shashidhar K.J, 'Regulatory Sandboxes: Decoding India's Attempt to Regulate Fintech Disruption', [2020] ORF Issue Brief [6]

The paper has examined the current state of regulatory sandboxes in India and evaluated the successes of and the challenges to this relatively new regulatory framework and tool. It has also looked at gaps the industry perceives as key and outlines future expectations and why regulators need to build other formal mechanisms of encouraging innovation. The paper has dealt with the RBI Regulatory Sandbox in depth stating that RBI's regulatory sandbox exercise is an attempt to be more agile and absorb some of this disruption. 'Sandboxes' give regulators a chance to work with fintech innovators, mitigate potential risks and develop evidence-based policy.

Abhishek Iyer, 'SEBI Sandbox Regulations Framework: Testing the arms before battle?', [2021] ILJ[7]

The journal article has given a brief overview on the regulation of fintech businesses by the SEBI. This paper analysed the very concept of Regulatory Sandbox in the securities

[5] 'Fintech: A New Revolution in India' [2020] JournalNX- A Multidisciplinary Peer Reviewed Journal <https://media.neliti.com/media/publications/336588-fintech-a-new-revolution-in-india-8a4c668d.pdf> accessed 6 May 2023

[6] K.J. S, 'Regulatory Sandboxes: Decoding India's Attempt to Regulate Fintech Disruption' [2020] ORF ISSUE BRIEF <https://www.orfonline.org/research/regulatory-sandboxes-decoding-indias-attempt-to-regulate-fintech-disruption-66427/> accessed 6 June 2023

[7] Abhishek Iyer, 'SEBI Sandbox Regulations Framework: Testing the Arms before Battle?' [2021] India Law Journal <https://www.indialawjournal.org/sebi-sandbox-regulations-framework.php> accessed 2 May 2023.

market scenario, its background and the intricacies involved therein along with an analysis of the latest guidelines issued by SEBI which intends to cater the FinTech industry in a manner like never before. The author has specifically commented on the Regulatory Sandbox framework introduced by the SEBI in year 2020.

Dr. Neeta Tripathi and Iqra Tabassum, 'Growth of Fintech Unicorns in India: Recent Trends' [2022] GJMBR[8]

The research paper has focused mainly on the growth of fintech industry in India and put down all the factors that have favored it. Technological advancements and innovations have impacted financial services significantly. The authors have analyzed the growth of fintech industry in India and the reasons for its growth, government initiatives and incentives that have played a major role and pointed out some of the potential threats along with growth prospects of this industry in the contemporary time period in the Indian context.

'Chapter on Fintech Laws and Regulations 2022 India' [2022] GLI[9]

The Chapter has provided deep insights into various aspects related to fintech industry such as recent trends, growth rate of industry in India, initiatives taken by the government to regulate it and the type of fintech offerings in India. It has also provided information on the key regulations and regulatory approaches of various regulatory bodies such as the Reserve Bank of India, the Insurance Regulatory Development Authority of India and the Security Exchange Board of India towards this industry.

[8] Iqra Tabassum and Neeta Tripathi, 'Growth of Fintech Unicorns in India: Recent Trends' (2022) 22 Global Journal of Management and Business Research <https://globaljournals.org/GJMBR_Volume22/3-Growth-of-Fintech-Unicorns.pdf> accessed 4 May 2023.

[9] 'Fintech Laws and Regulations | India | GLI' (*GLI - Global Legal Insights - International legal business solutions*2022) <https://www.globallegalinsights.com/practice-areas/fintech-laws-and-regulations/india> accessed 25 May 2023

Aabir Acherjee, 'Regulatory Sandboxes in FinTech: Existential Need or Overhyped Appendage?' [2022] IR@IIMC[10]

The paper is focused on accessing the regulatory sandbox framework introduced by RBI, SEBI and IRDAI for testing the fintech businesses before they start operating in the market. A global comparison has been conducted among established international structures to understand the regulatory sandbox better. The author has also pointed out some flaws and issues that exist in this sector.

Dr. P. Rajeswari and Dr. C. Vijai, 'Fintech Industry in India: The Revolutionized Finance Sector' [2021] EJMCM[11]

The research paper has elaborated the latest evolution of Fintech, led by startups, poses challenges for regulators and market participants alike, notably in balancing the potential benefits of innovation with the possible risks of new approaches in the finance sector. Fintech has changed traditional financial institutions. FinTech is a term used to describe the growing technological innovations in the financial sector. Fintech is increasingly shaping the financial sector. This research paper has analyzed the Fintech Adoption, Fintech News Network, Indian Fintech Industry Structure, and Fintech Startup in India, and Fintech Trends in India.

Beni Chugh, 'Financial Regulation of Consumer Facing Fintech in India: Status Quo and Emerging Concerns' [2020] Dvara Research Working Paper Series[12]

The paper attempts to answer the question, how is fintech regulated in India? The paper first analyses the types of consumer-facing fintech activities that are currently prevalent India. It identifies fourteen types of consumer-facing fintech activities in India. The paper

[10] Acherjee A, 'Regulatory Sandboxes in FinTech: Existential Need or Overhyped Appendage?' (2022) 8 IR@IIMC <https://www.iimcal.ac.in/FinLab/email-template3/res/Artha_7.pdf> accessed 20 May 2023

[11] Rajeswari P and Vijay C, 'Fintech Industry in India: The Revolutionized Finance Sector' (2021) 8 European Journal of Molecular & Clinical Medicin <https://www.researchgate.net/publication/348435968_Fintech_Industry_In_India_The_Revolutionized_Finance_Sector> accessed 19 May 2023

[12] Chugh B, 'Financial Regulation of Consumer-Facing Fintech in India: Status Quo and Emerging Concerns', *Dvara Research Working Paper Series No. WP-2019-01* (2020) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3520473> accessed 2 May 2023

further examines and compares the extent of financial regulation applicable to each fintech activity in the typology. The paper concludes with a discussion on some ways in which the financial regulator's toolkit may be recalibrated to address the risks and preserve the opportunities attendant to fintech.

Dr. C. Vijai, 'Fintech in India- Opportunities and Challenges' [2019] SJBIR[13]

The article explains the evolution of the fintech industry and present financial technology (fintech) in the Indian finance sector. The fintech provides digitalization transactions and is more secure for the user. The benefits of fintech services reducing operation costs and friendly users. The fintech services India fastest growing in the world. According to the author, fintech services are going to change the habits and behavior of the Indian finance sector. The main purpose of this paper accessed the opportunity and challenges in the fintech industry.

Anusha Kanagala and P. Krishna Priya, 'Fintech Issues and Challenges' [2019] IJRTE [14]

The article at its outset discusses the basic types of financial technologies existing in the contemporary world with their functions. The authors are of the opinion that the new start-up companies are trying to replace the traditional transaction system with new, effective methods by applying technology in financial sectors for mobile payments, loans, money transfers and, even for asset management. At its end the paper marks the opportunities and challenges fintech industry has in the Indian business environment.

[13] Vijai C, 'Fintech in India- Opportunities and Challenges' (2019) 8 SAARJ Journal on Banking and Insurance Research (SJBIR) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3354094> accessed 12 May 2023

[14] Kanagala A and Priya PK, 'Fintech Issues and Challenges in India' (2019) 8 International Journal of Recent Technology and Engineering (IJRTE) <https://www.ijrte.org/wp-content/uploads/papers/v8i3/C4087098319.pdf> accessed 12 April 2023

Deirdre Ahern, 'Regulators Nurturing FinTech Innovation: Global Evolution of the Regulatory Sandbox as Opportunity Based Regulation' [2019] IJLT [15]

This article has characterised the regulatory sandbox as a form of agile, opportunity-based regulation, distinguished by a regulatory approach that is concerned with actively supporting innovators in nurturing cutting-edge innovation to benefit innovators, consumers, investors, and the wider economy. The author has stated regulatory sandbox as pathbreaking regulatory territory. The article has examined and analysed the role of a regulatory sandbox in nurturing and expanding competition.

1.4 Aims and Objectives

In the current time period, Fintech is considered as a financial institution that predominantly uses technological innovation to perform multiple business tasks ranging from the creation of digital money to managing accounts. India constitutes a flourishing market for Fintech companies, driven by a deep smartphone penetration surge that has increased from 398 million in 2018 to 907 million in 2023. Several Fintech start-ups have received considerable market shares in different sub-categories of the market. The industry is expected to be valued at around USD 150 billion by 2025. Fintech is still growing in India and is in its nascent stage due to which the regulations applicable to the fintech industry are complex and evolving. Further, there isn't a single regulatory authority or legislation to govern the same which has made the matter confusing. In this paper, an attempt has been made to understand fintech in a comprehensive manner, its evolution, growth and the factors that have made the industry thrive in the Indian markets.

The objectives of this research paper are as follows:

1. To provide a deeper understanding of the concept of fintech and the story of its evolution.
2. To examine the regulatory norms concerned with the fintech industry in India.

[15] Ahern DM, 'Regulators Nurturing FinTech Innovation: Global Evolution of the Regulatory Sandbox as Opportunity Based Regulation' (2019) 15 Indian Journal of Law and Technology <https://www.ijlt.in/journal/regulators-nurturing-fintech-innovation%3A-global-evolution-of-the-regulatory-sandbox-as-opportunity-based-regulation> accessed 23 May 2023

3. To analyse the implementation mechanism of the existing norms for fintech businesses.
4. To scrutinize the regulatory sandboxes introduced by different authorities to test the fintechs.
5. To point out the potential risks and challenges posed in the industry.

1.5 Scope and Limitation

All economic or scientific studies face certain limitations, and this one is no exception. The major limitation has been the inability to get into the field to gather information, so as to give a much more practical view to this research. The concept taken up for research is in its nascent stages only, therefore, the research has been done using readily available resources in the library and online data. The scope of the research is limited to the present regulatory framework and implementation mechanisms in India for the fintech industry. The study is further confined to the scenarios and regulatory framework in Indian territory only.

1.6 Research Questions

1. What is the conceptual framework behind the phrase 'Financial Technology'?
2. What is the existing Regulatory framework for the fintech businesses operating in the territory of India and the types of activities governed under it?
3. What are the Implementation mechanisms adopted by the Regulatory authorities in fintech sector and are the regulatory sandboxes effective?
4. Is the existing Regulatory framework for fintech business in India adequate for the coming years?

1.7 Research Methodology

Research Methodology is the specific procedures or techniques used to identify, select, process and analyse information on a particular topic. This study is descriptive, analytical and as such doctrinal method has been incorporated herein. Primary sources of data such as Statute, Bare Acts and Judgments have been used while Secondary resources such as Books, Journals, Research Articles, Newspaper Articles, official websites and other

internet resources have been adopted for the purpose of completing the research. During the whole study, the Internet has played an important role as it provided the researcher with an ample amount of reliable information.

A uniform mode of citation has been adopted throughout the research paper which is OSCOLA (Oxford University Standard for Citation of Legal Authorities) 4th Edition.

1.8 Chapterization

CHAPTER 1: INTRODUCTION

This Chapter encapsulates the background for the research paper and provides a brief overview about the fintech industry. The chapter includes other key components like the statement of the research problem, aims and objectives of the study, and the research questions. It also illustrates the methodology used in the paper, scope and limitations to the study, the literature review and the chapter design.

CHAPTER 2: CONCEPTUAL FRAMEWORK ON FINANCIAL TECHNOLOGY

This Chapter provides detailed information on the concept of Financial Technology- 'Fintech' along with some important definitions given by different scholastic personalities. The evolution of fintech industry, reasons for its growth in India have also been elaborated in detail. The chapter ends with the recent developments carried out in the industry.

CHAPTER 3: REGULATORY FRAMEWORK OF FINTECH IN INDIA

Under the heading of this Chapter, an attempt has been made to gather all the laws, rules, regulations, Directions, Guidelines etc. issued by the regulatory authorities such as the Reserve Bank of India, Security Exchange Board of India and Insurance Regulatory and Development Authority of India, governing the fintech industry in any manner whether directly or through interpretations.

CHAPTER 4: IMPLEMENTATION MECHANISM

This Chapter encompasses the Implementation mechanism employed under various statutes, mechanisms such as Regulatory sandboxes set by the authorities, their effectiveness and limitation, and certain other tools used by the authorities.

CHAPTER 5: POTENTIAL CHALLENGES AND RISKS IN FINTECH INDUSTRY

There are certain issues and concerns in every industry and the Fintech industry is no exception. This Chapter includes the potential threats to fintech businesses and their participants like cyber scams and data security issues, regulatory flaws, market disruptions, lack of trust and awareness in society and among investors, etc. These concerns make it much more necessary for the regulatory authorities to keep a check on the industry and bring about appropriate regulations.

CHAPTER 6: CONCLUSION AND SUGGESTIONS

The last Chapter of the research paper gives concluding remarks and an overview of everything that has been discussed in this seminar paper. Appropriate suggestions have also been made through which the regulatory regime of Fintech industry can be strengthened and the concept can be encouraged for the development of startups.

BIBLIOGRAPHY

CHAPTER 2:
CONCEPTUAL FRAMEWORK ON FINANCIAL TECHNOLOGY

2.1 Financial Technology- 'FinTech'

For the past several years, the phrase "fintech" or Financial Technology has been used to describe technology advancements that are relevant to the financial products and services provided by financial institutions in India and the rest of the borderless globe. This term was first coined in 1972 by a New York Banker. Together with other variables, fintech has changed the financial services industry's ecosystem and competitive landscape. The phrase "fintech" was explained and defined by practitioners, academicians, professionals, businesspeople, and policymakers in a variety of contexts, frequently incoherently and ambiguously. Fintech has been defined in various ways since its debut, but no single definition has gained widespread acceptance. So far, no real attempts have been made by many stakeholders to provide a universal definition of fintech.

It still needs to be derived. Efforts have been made by practitioners, researchers, and stakeholders to develop a uniform definition for the relatively broad term "fintech". Fintech describes the cutting-edge digital technologies that have made previously unavailable methods and products in the financial services industry possible. Fintech as an industry has emerged to make financial services more efficient. In 2019, the Financial Stability Board took a step ahead to explain the term and defines FinTech 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."[16] Some other important definitions of FinTech by different Scholars that can be facilitative in comprehending the term are given below.

"FinTech (financial technology) is a catch-all term referring to software, mobile applications, and other technologies created to improve and automate traditional forms of

[16] 'FinTech' (*www.fsb.org*12 May 2017) <https://www.fsb.org/work-of-the-fsb/financial-innovation-and-structural-change/fintech/#:~:text=The%20FSB%20defines%20FinTech%20as> accessed 17 May 2023

finance for businesses and consumers alike. FinTech can include everything from straightforward mobile payment apps to complex blockchain networks housing encrypted transactions."[17]

"FinTech is multi baking features, blockchain, fund transfer, robot- advisory and concierge services from payments to wealth management, using mobile applications." (Donner and Tellez ,1908)

"Technology applied to financial services (FinTech) has a significant impact on our daily lives from facilitating payments for goods and services to providing the infrastructure essential to the operation of the worlds" financial institutions." (Langley, 2014)

"FinTech is a service sector which uses mobile -centred IT technology to enhance the efficiency of the financial system. As a term it is a compound of finance and technology and collectively refers to industrial changes forged from the convergence of financial services and IT." (Kim, Park and Choi., 2016)

"FinTech are computer programs and other technology used to sport or enable banking and financial services. FinTech is one of the fastest growing areas for venture capitalists." (Oxfords English Dictionary, 2016)

Examining and analysing the definitions provided above, it becomes clear that FinTech is defined in terms of a sector, industry, technology, type of action, service, broadly the activities, functions, nature, computer, and moreover, it is novel, i.e., they described it as new emerging innovative or disrupting technology. To recognise the nature and extent of improvements and developments in banking services and financial entities, a fundamental shared understanding must be formed. In order to lay a strong foundation for scientific inquiry, this calls for some kind of solid consensus to be reached on a single, accurate meaning of the term "fintech".

[17] 'What Is Financial Technology (FinTech)? A Beginner's Guide for 2022' (*Columbia Engineering Boot Camps*2 September 2021) <https://bootcamp.cvn.columbia.edu/blog/what-is-fintech/#:~:text=FinTech%20(financial%20technology)%20is%20a> accessed May 17 2023

A simple definition of FinTech can be that FinTech is a new financial industry that employs technology to better finance activities. This is in keeping with the most frequently noted commonality of the scholarly definitions of FinTech. At the outset, Fintech is the delivery of financial services in a novel, faster way. It includes mobile banking, digital lending and credit, use of blockchain and cryptocurrency, insurtech i.e., use of technology in the insurance sector to maximize savings efficiency, trading done with the help of AI technology and big data analysis, and banking as a service.

2.2 Growth and Development in Fintech

Since the dawn of civilization, technology has played a crucial role in many facets of the global economy, particularly when it comes to the financial activities of banks and other financial institutions. People started discussing FinTech historically after this period. Financial technology (FinTech) is the interaction between financial services and information technology. Innovative financial services have grown in popularity as a result of technological developments in the financial sector and the widespread availability of related information and communication technologies. A V Thakor also stated and was in agreement with the idea that FinTech development is not a novel idea.

FinTech has gained popularity over the past several years in the global financial industry. The efficient use of information technology in the financial industry has become integral to how financial institutions and other financial companies operate. In the history of the financial industry and for the scientific technology community, FinTech has grown to be a significant issue. Around the world, a number of FinTech hubs have developed, which can act as a benchmark for FinTech development for the developing capital market.

The FinTech capital industry in India is now experiencing the greatest growth worldwide. Over the years, it has transformed financial services, especially access to numerous financial services and payment options. It is important to understand the many phases and significant eras of development throughout FinTech's history.

Phase I (1886-1887):

The concept of financial globalisation initially emerges during this time period. The development of the financial technology industry began in the 19th century, starting in 1886, with investments made in communication infrastructure like the telegraph, transatlantic railroads, and steamships. In the USA, Medwire, a centralised payments transfer service, was founded in 1988 and is based on antiquated technology like the telegraph and morse code. Credit cards first became available in 1950. The goal was to lessen the amount of cash that customers needed to pay with. In 1958, American Express Company became the second company to provide credit cards after Diner's Club. While some might disagree, it might be claimed that these sorts of FinTech are irrelevant now, but they were prevalent then.

Phase II (1967- 2008):

Banks and other financial organisations brought about a significant transition from actual cash transactions to digital financial transactions during this time. Barclay Bank introduced the first-hand calculator and ATM in 1967. Early 1970 saw new developments in financial technology that were more significant. In 1970, NASDAQ was founded. It was the world's first digital stock exchange and a security for quick financial internet banking. To help with the high volume of payments made across borders, this organisation furnished the financial institutions with the most widely used communication protocol.

Banks began developing mainframe computers in the 1980s. which rapidly gained popularity. The idea of doing financial transactions online and the development of E-commerce business models began in the 1990s.

Online banking significantly altered how people felt about money and their interactions with financial organisations. Early in the twenty-first century, banks' internal operations, interactions with outside parties, and connections with retail clients have all been entirely digitalized. Trades-plus (E-Trade) and E-Trade were originally launched in 1982 with the intention of assisting clients. Following that, NBS/WF began offering online banking to their clients in 1983, and the first mobile phones were introduced in 1985.

E-commerce was first introduced in the middle of the 1990s to create trustworthy digital finance. The PAYPAL app was introduced in 1998 which represents a turning point for cashless transactions.

The traditional operations of banks and other financial institutions were also significantly impacted by the financial sector's rapid technological development. The public's perspective of the fintech industry was fundamentally altered by the financial crisis of 2008, and the subsequent rise was driven by the need for research and innovation. The end of this era can be seen in the worldwide financial crisis of 2008.

Modern FinTech (2008- present):

Due to the genesis of the global financial crisis in 2008, as well as the widespread increase in digitalization, public confidence and faith in traditional banking institutions have declined. What is now recognise as the FinTech business is fuelled by apps like Kickstarter. In reality, the vast majority of financial consultants and professionals began to acknowledge the significance of the new technology, or FinTech. FinTech brought about an extraordinary shift in how consumers view FinTech goods and services. The new era is characterised by the emergence of new players as well as established ones.

The introduction of bitcoin in 2009 had a profound effect on the financial sector, and since then, several other cryptocurrencies have emerged. This led to 2018's Great Crypto Crash. Alibaba creates smile-recognizing software to turn a grin into a dollar. Alternative credit scoring, digital wallets, and small-ticket loans were just a few of the other FinTech business ideas that emerged around the same time. Peer-to-peer networks (P2P), wallets, bitcoin (2009), Apple Pay (2014), and other innovations have reduced operating costs, improved resource utilisation, and made products simpler for average consumers to use. Baas, reg tech, digital landing, Insurtech, wallets, and several other service providers see greater chances for FinTech to continue as a global revolution. FinTech has in fact gained a substantial foothold in the global capital market today.

2.3 Evolution of FinTech in India

During the 2008 financial crisis, the world financial system suffered great losses. The events that followed profoundly altered the banking industry and gave rise to a new category of financial institutions known as fintech. The term “Fintech”, an acronym for “financial technology”, is used to describe a diverse set of innovations in both technology and business models that are reshaping the financial services sector by creating new markets and improving the efficiency of existing ones. More narrowly, it refers to the new businesses like cashless transactions, asset management, virtual currencies, crowd funding, and robotic advisors sites that are revolutionising the financial services sector. The financial industry is experiencing significant disruption, and the way we innovate in this sector is fundamentally altering its landscape. The technological and innovative landscape of financial services has undergone tremendous development.

The multi-billion-dollar fintech business has been expanding quickly in India over the past five years and is expected to keep going up. Asia's most well-funded FinTech nation, India is swiftly rising to prominence as one of the world's most prosperous FinTech economies. After an explosion of inventions, brilliant developments, and the introduction of new entrants into the financial industry, the 2008 global financial crisis altered people's perceptions of banks and financial organisations. These changes have altered the FinTech industry's appearance in India.

Until few years ago, Banks concentrated on FinTech's customer-focused financial products and services. Financial services, particularly FinTech services, have seen significant transformation as a result of the 2016 demonetisation effort. It has made interoperability and financial inclusion possible. This action has enabled bank clients who receive direct transfers of subsidies to integrate them into the established banking system.

ICICI was the first bank in India to offer internet banking, however it only offered a few services like getting account information and transferring money across banks. The way banking worked changed quickly as other financial institutions and banks began to follow the lead. Challenges including fraud, technological issues with payment systems, cross-border transactions, etc. have been confronted by this evolving financial system. The

FinTech business in India now has a modern aesthetic thanks to advanced technologies. The development of FinTech in India was sparked by a number of significant unique events.

HSBC (Bombay) was the first bank to introduce ATM cash withdrawals in 1987. The Central Bank of India introduced the country's first credit card in 1980. A customer card was first launched by Stanford Federal Credit Union in 1991 so that people could access financial activities on the brand-new internet. After the internet boom and the introduction of PayPal in 1988, the payment system advanced. Google introduced a wallet in 2011, and Apple Payment was introduced in 2014. These significant occasions altered the course of Indian FinTech. With the development of new technologies, digitalization has replaced traditional methods of handling money for most individuals.

Banks have embraced the banking service ‘Baas’ that permits other service providers to access their customers' financial information. Mobile payments, automated investment apps, online lenders, and crowdfunding platforms are just a few examples of the FinTech goods, services, hardware, and software that have brought about revolutionary developments in the financial industry. FinTech businesses are currently attempting to comprehend consumer behaviour patterns by utilising cutting-edge technology like machine learning and artificial intelligence. The rising major sectors for fostering the expansion of Indian FinTech are financial inclusion, wealth management, mutual fund management, and insurance.

New Fintech platforms have emerged across a variety of sectors as the ecosystem has grown beyond its initial focus on loans and payments. Payments, loans, regulation technology (RegTech), personal financial management, wealth technology (WealthTech), and insurance technology (InsurTech) are just few of the sub-segments that make up India's Fintech ecosystem. Since 2016, domestic Fintech has received over $10 billion in investment. Fintech in India has expanded into numerous key markets and has implemented a variety of business strategies within those spaces.

2.4 Factors responsible for the growth of FinTech in India

Over the last decade, significant efforts have been made in India to establish critical enablers for the fintech industry, which have laid the foundations for its development. India's financial technology (fintech) landscape is where it is now because of the country's distinctive combination of technological enablers, government involvement, economic prospects, and other factors. The Indian population has demonstrated a quick acceptance of new financial solutions and services offered by banks, financial institutions, and other entities. As a result, India has become the country with the most widely used fintech products and services.

The proliferation of cell phones, internet access, and high-speed connectivity are just a few of the elements that have contributed to India's thriving financial sector. By 2025, India's fintech industry is expected to be worth between USD 150 and 160 billion, according to a report by the Boston Consulting Group and the FICCI. The Reserve Bank of India, in its role as payment system regulator, has also taken many measures to improve the effectiveness and availability of safe, convenient, low-cost payment methods. Certain sections of the society who have been neglected by payment systems are another target of these initiatives. These following factors have driven India’s growth are explained below:

Government initiatives: Fintech in India is mostly dependent on government initiatives due to the country's highly regulated financial market. Financial and promotional initiatives are being taken by the Indian government and regulatory bodies like SEBI and RBI to facilitate the country's move toward a paperless digital economy and the growth of a strong fintech ecosystem. Several key government programs have contributed significantly to the growth of fintech:

a) Pradhan Mantri Jan Dhan Yojana (PMJDY): This initiative has led to the addition of over 400 million bank accounts in the banking sector, enhancing financial inclusion.
b) National Payment Council of India: NPCI's development of the Unified Payment Interface (UPI) capitalised on the exponential growth of mobile phones and the Jio revolution, reducing the cost of infrastructure for FinTech enterprises. UPI, which debuted in 2016, is a real-time payment system that enables monetary exchanges

between different financial institutions. This RBI-managed interface paves the way for immediate monetary transactions across mobile app-based bank accounts. The NPCI has developed a number of novel projects that provide a strong foundation for a FinTech industry that is digitally enabled throughout the nation which enables the startups in this field to make the most of the current moment and the many opportunities to develop and become a part of the mainstream banking activities. Each of these initiatives—Digital Know Your Customer (KYC), Aadhar Enabled Payment System (AEPS), BBPS (Bharat Bill Payments Scheme), and BHIM (Bharat Interface for Money)—is designed to simplify the process of making digital payments for Indians of all income levels.

c) Aadhaar: The use of Aadhaar, India's widespread identity formalization system, has been extended to various programs such as pensions, provident funds, and the Jan Dhan Yojana, strengthening the digital ecosystem.

d) Demonetization: The liquidity constraints following the demonetization announcement in 2016 transformed India's digital payment landscape. This event prompted the introduction of technologies like AI, blockchain, and IoT, leading to remarkable growth in the Indian fintech market, with a 100% increase from USD 1.8 billion in 2018.

e) Innovations in Digital Payments: Indigenous payment networks such as RuPay and UPI accounted for 65% of total digital transactions, reflecting the success of their efforts in promoting digital payments.

f) National Common Mobility Card (NCMC): Recently launched by the Indian government, the NCMC offers an interoperable, contactless transport card that can be used for various transactions, including transportation, tolls, retail shopping, and cash withdrawals.

g) RBI's Regulatory Sandbox: The Reserve Bank of India has introduced a regulatory sandbox environment to encourage ideas with the potential to revolutionise the international payments industry. The goal is to provide a clear, simple, low-cost, and technologically advanced payment system.

h) Securities and Exchange Board of India: With the Innovators Growth Platform (IGP) framework in place, SEBI has made it easier for startups to go public by lowering the bar for entry into the mutual fund industry.

i) Start-up India: Launched in January 2016, Start-up India is a flagship initiative of the Indian government aimed at creating a robust ecosystem for startups.

India Stack: It is a comprehensive set of application programming interfaces (APIs) that serve as a digital infrastructure, enabling governments, corporations, entrepreneurs, and developers to address the complex challenges faced in India. It is built upon the fundamental principles that services can be accessible, paperless, presence-less, and cashless. India Stack, which the government of India considers to be the most ambitious social effort in the world, seeks to build a strong public digital infrastructure with open application programming interfaces (APIs) to enable public and commercial digital endeavours. It has been crucial to the growth and maturation of India's information and communications technology (ICT) ecosystem. Aadhaar and UPI, two essential parts of the stack, have grown rapidly in recent years.

Continuous enhancements have been made to different aspects of India Stack during the 18-month period leading up to June 2020. These incremental improvements have yielded substantial benefits, such as reduced transaction costs and simplified onboarding processes for businesses. Moreover, India Stack has provided a widespread and adaptable platform that allows for personalized offerings on a large scale. This has facilitated the establishment of digital footprints in the country for new businesses, developers, enterprises, and the government. The success of India Stack has garnered international attention, with over 20 nations expressing interest in studying and adopting a digital identity system similar to Aadhaar, along with the software stack built around it. This recognition demonstrates the influence and potential of India Stack as a model for digital transformation in other countries.

Internet Penetration: India's digital economy has been propelled by the widespread use of smartphones and the expansion of the country's internet infrastructure. In January of 2021, there were 1.10 billion mobile connections, an increase of 47 million from December of the previous year. With more people connected to the internet and mobile banking, fintech companies in India can finally tackle the problems of low banking penetration (53%) and account inactivity (43%).

Technological advancements: Developments in the technology sector fuelled by the widespread use of smartphones, are driving transformative changes in the banking industry and service delivery. The adoption of innovative technologies is reshaping the market landscape, enabling better understanding of customer needs through big data and analytics. This, in turn, facilitates the provision of personalized products and services, cost-saving operational strategies, and the emergence of new business models such as Artificial Intelligence and Machine Learning. Utilizing cloud services and India Stack has also contributed to a reduction in infrastructure and transaction costs. Fintech companies leverage technology to streamline customer onboarding processes, reduce costs associated with customer acquisition, service provision, and distribution. Payments banks, for instance, utilize technology to expand their customer base while minimizing physical presence requirements.

Emergence of Start-ups: The development of fintech is intrinsically linked to the formation and progress of new businesses. The thriving fintech start-up environment can thank the need for digital financial services, the proliferation of linked devices, and the backing of venture capitalists. Established corporations are investing extensively in developing their own unique products in response to the disruptive effects of new businesses using cutting-edge technologies on traditional financial processes. To put it simply, peer-to-peer (P2P) lending is now the most talked-about idea in the FinTech startup scene. Like other FinTech solutions, P2P is quick, cheap, and designed for the common good. Startups are no longer seen as disruptors, but rather as change agents. The growth of India's fintech industry has led to the country's start-up ecosystem becoming the third largest in the world.

India's demographic: India’s demographics advantage plays a significant role in the adoption of fintech. With over 65% of the population under the age of 35, there is a strong appetite for innovative technologies. Indian consumers and businesses have rapidly embraced fintech solutions, moving away from traditional cash-based transactions and branch banking. There is a growing preference for cashless transactions, comprehensive mobile banking services, and personalized assistance, irrespective of location, language, or existing relationships. India, along with China, has the highest fintech adoption rate (87%)

among all emerging markets, showcasing the favorable demographic environment for fintech in the country.

Digitization of payment systems: Digitalization has become a crucial aspect of the fintech ecosystem. Even during the COVID-19 pandemic, digital payment systems have thrived, with merchants, customers, professionals, and shoppers embracing them. The demonetization drive in 2016 accelerated the shift from physical cash payments to digital and online payments in India. This shift has created a favorable environment for newcomers in the fintech industry. Customers now feel more secure and confident using digital payments compared to handling physical cash, further driving the demand for fintech solutions.

COVID 19 Pandemic: The pandemic had a significant impact on the fintech industry in India. Initially, there was a decline in funding for fintech startups due to the economic slowdown caused by the pandemic. However, by the end of the year, the industry started to recover, and there was increased activity across different fintech sectors. A report by Digital Fifth's Fintech in 2021 revealed that there were only a few major deals, while most investments were at smaller scales. Investors showed confidence in the market's potential to bounce back quickly, as they supported seed funding and believed in the vision and capabilities of the founders.

The pandemic also highlighted the importance of financial reserves, leading to greater interest from customers and investors in fintech solutions focused on savings. Fintech companies specializing in savings and investments had to adapt their products, attract new customers, and digitize their operations to align with changing market behaviour.

Credit-focused fintech companies faced challenges in loan collection due to the moratorium, which discouraged investors from funding new credit fintech ventures. Additionally, until October 2020, these companies experienced a shortage of cash due to restrictions imposed by the Reserve Bank of India, and market sentiments were not favourable for loan repayments until the third quarter of the fiscal year 2021.

The pandemic also accelerated advancements in the insurance sector, with increased financing for insurtech companies as more insurance purchases were conducted online. Despite the challenges faced by the overall fintech industry, digital payments experienced significant growth. Payment-related fintech firms have benefited greatly from the widespread use of digital payment methods and digital banking services among consumers.

2.5 Recent Trends

RuPay and UPI: The expansion of domestic payment network platforms like RuPay and UPI has gained significant momentum, with the support of the National Payment Corporation of India (NPCI). The NPCI is actively exploring opportunities to expand these platforms globally, including regions like West Asia, the United States, and Europe. In India, RuPay has emerged as a dominant player, surpassing MasterCard and Visa with over 60% market share. Due to the Reserve Bank of India's restrictions on MasterCard, banks have chosen to collaborate with Visa and the indigenous payment system, RuPay.

The Unified Payments Interface (UPI) has experienced remarkable growth, particularly during the COVID-19 pandemic. In June 2021, UPI recorded its highest-ever transaction volume, exceeding Rs 1.34 billion, with a total value of around Rs 2.62 lakh crore. By May 2021, 224 banks had joined the UPI platform, facilitating 2.6 billion transactions worth $68 billion. The introduction of e-Rupi vouchers, utilizing QR codes for transparent and leak-free delivery, is expected to further drive digital transactions and Direct Benefit Transfers (DBT) in India.

Digital lending and insurance: These have emerged as rapidly growing segments within the Indian FinTech industry. After the global financial crisis of 2008, banks became more risk-averse, and getting loans became a herculean task, so the banks had to change how they operated internally. Peer-to-peer lending (P2P) came as a solution, which has grown significantly as a result of the unmet demand for MSMEs' loans, which further resulted in a credit supply shortfall of almost USD 200 billion. It is an extremely cheap strategy that relies on a sense of civic duty. P2P is here to stay and has all it needs to expand rapidly in Indian society. By leveraging contactless credit appraisal processes, digital lending platforms assess the creditworthiness of borrowers efficiently. Through collaborations with

FinTech companies, traditional banking institutions are enhancing their lending and insurance offerings, providing convenient online accessibility. The rise in credit demand has prompted FinTech firms to introduce quick loan solutions and expand the availability of digital Equated Monthly Instalment (EMI) products, even at physical locations. Additionally, the popularity of Buy Now, Pay Later (BNPL) services is expected to witness significant growth, particularly for digital purchases.

a) *LendingKart*, founded by Harshvardhan Lunia and Mukul Sachan in 2014, is an online financing company that specializes in providing loans to small and medium-sized businesses across India. Unlike traditional lending institutions, LendingKart offers a streamlined process with minimal documentation requirements and no need for collateral. The company's primary objective is to make capital funding easily accessible to entrepreneurs, allowing them to focus on managing their businesses rather than worrying about cash flow gaps. While LendingKart originated in Ahmedabad, Mumbai, and Bangalore, its operations now span across the entire country.

Neo-banking 2.0: It is driving the second wave of FinTech disruption, following the initial wave led by digital payment firms, digital lending platforms, wealth management solutions, and InsurTech startups. Neo-banks aim to revolutionize customer-centric consumer and business banking experiences by providing digital-only services. With their flexibility, these digital-only banks offer innovative solutions at lower costs compared to traditional banks, reducing the reliance on paper-based banking practices.

Technological advancements: Development in technology is playing a crucial role in the modernization of the FinTech industry. Artificial Intelligence (AI) and Machine Learning (ML) technologies have gained prominence, offering potential applications in various financial areas such as predicting stock market movements, providing economic insights, and enhancing customer spending analysis for financial institutions. Blockchain technology is also gaining traction in the financial sector, providing secure storage for transaction records and other sensitive data of the users. Each transaction is encrypted within the blockchain, minimizing the risk of successful cyber-attacks.

Bill Desk: For banks, organisations, and other establishments, Bill Desk enables electronic instalments and accumulations services. Additionally, Bill Desk permits the instalment of service fees, MasterCard, Visa, and ISP fees for banks like Citibank, HDFC Bank, and SBI as well as for businesses like Bharti Telecom.

Remittances: The non-commercial transfer of funds by a foreign worker or a member of a diaspora community for the purpose of supporting a household in their place of origin is referred to as a remittance. In the past, there were many obstacles, including high fees, a lack of money tracking, a lot of paperwork, numerous participants, and a lot of time needed. However, today, FinTech has made it possible to make online payments with fee transparency, end-to-end payment tracking, and multi-currency payments. The greatest beneficiary of remittances worldwide is India.

Payment wallets and UPI apps: These have gained significant popularity and are emerging as one of the predominant methods for conducting digital transactions in India. Numerous digital applications are playing a crucial role in promoting a "cashless India". These apps offer attractive and secure features, facilitating easy and safe transactions with fast processing and multiple options. They have made a remarkable impact on the Indian FinTech industry. Additionally, the incorporation of artificial intelligence (AI) and biometric technology holds promising potential for enhancing personalized payment experiences for customers and enabling the storage of multiple accounts within a single digital wallet.

a) *MobiKwik* is a sophisticated digital wallet management system that was established in 2009 as an Indian payment service provider. It offers a range of services such as prepaid mobile recharge, electricity bill payment, and more. The Reserve Bank of India has granted authorization to MobiKwik to operate as a payment system in the country. MobiKwik allows its wallet users to receive monetary credits, and it has become one of the leading players in the Buy Now, Pay Later (BNPL) sector in India. This system has revolutionized digital payments by providing convenience to consumers, and its usage has expanded to include various transactions such as bill payments, e-commerce

shopping, food delivery, petrol pump payments, retail chains, pharmacies, and local grocery stores.

b) *Google Pay*, established in September 2015 by Narayanan and Sumit Gwalani in India, is a digital wallet platform and online payment system developed by Google. It allows users to make contactless purchases using mobile devices such as smartphones, tablets, and watches. With Google Pay, customers can send or receive money with no fees, directly from their bank accounts to almost anyone. The platform prioritizes security, utilizing advanced measures like fingerprint authentication to detect fraud and prevent hacking. Small business owners and customers can easily use Google Pay for secure online payments, while also benefiting from features like ticket storage and money transfers. Google Pay incorporates physical authentication methods, such as fingerprint ID, and follows industry standards like the EMV payment Tokenisation Specification. Additionally, it offers the Consumer Device Cardholder Verification Method to ensure secure transaction verification for customers.

c) *Amazon Pay* was introduced in the USA in 2007 as an online payments processing service owned by Amazon. It primarily enables users to conveniently pay for their Amazon accounts when making purchases on external merchant websites. In India, Amazon Pay (India) Private Ltd offers a digital payment system known as Amazon Pay Balance. This system allows users to make online purchases on Amazon.in and partner websites and apps. The balance consists of two components: money and cards, providing users with a seamless and secure payment experience.

Effective financial management: It involves overseeing profitability, expenses, and the management of cash and credit within a business. The emergence of FinTech has brought about a revolution in the financial sector, transforming how individuals handle their finances. Traditional banks and financial institutions have embraced digital solutions to streamline financial management processes. The growth of electronic payments, e-KYC via Aadhar, online cash transfers, and online investment statements has made the future of an automated wealth management sector rather promising. There is a lot of space for improvement for companies in this industry because India's young and mostly unbanked population has been mainly missing from the stock and bond markets. Additionally, RBI and SEBI have promoted simplicity. Overall, this has caused a significant number of users

to be directed toward formal investments. Additionally, the advent of robo-guides or advisers has introduced automated algorithm-based financial planning services to assist customers in effectively managing their finances.

Financial Institutions including banks have been investing heavily in technological advancements such as Artificial Intelligence (AI), Blockchain Technology and Machine Learning to improve their internal functions as well as for better customer experience. The introduction of Blockchain or "Distributed Ledger Technology" (DLT) in the Indian banking sector is also gaining some traction and backing from regulatory agencies due to its regulatory applications. Blockchain-based systems offer significantly better trust and transparency.

From a regulatory and audit perspective, DLTs are generally appealing. The three main uses of the DLT could be (i) efficient payments transfer infrastructure; (ii) enforcement of smart contracts; and (iii) Digital Identity, which is a tamper-proof record of a transaction and gives users the option of deciding to whom to grant access to their personal information. On the other hand, Customer acquisition, KYC and Onboarding, Accounts and Loans, Customer Service, Brand Management, Risk and Credit, are among many more applications of AI in the banking industry.

Mobile banking began in India in 2002. The transactions now being carried out through PCs, laptops, or smartphones, were handled back then by SMS. In 1996, Industrial Credit and Investment Corporation of India's bank branches implemented the first electronic banking system. For online transactions, nearly all PSU banks and private sector banks offer mobile banking apps. The top 10 mobile banking apps in India work to provide users with less expensive financial services.

a) *ICICI iMobile* is a mobile banking application provided by ICICI Bank, which enables customers to perform a wide range of banking activities and transactions conveniently. The first bank to launch mobile banking in India was ICICI Bank in 2008. These activities include checking account balances, paying bills, opening fixed deposits and recurring deposits, transferring funds, making investments, purchasing insurance, and recharging mobile phones, among others. ICICI Bank has introduced various features

to enhance the customer experience, such as iPal, card services, and discover. To utilize these mobile banking services, customers need a smartphone and an active internet connection. Upon registration, customers gain access to several convenient facilities, including SMS banking, mobile money services, the ability to make payments through phone calls, and the national unified USSD platform.

b) *SBI YONO* is a digital banking application introduced by the State Bank of India (SBI). It serves as a comprehensive platform catering to various banking, insurance, investment, and retail needs of customers. With SBI YONO, customers can conveniently fulfil their corporate and general business banking requirements from anywhere. The app offers a range of features, including a single user ID and password for easy access, the ability to track transaction statuses, support for multiple account types, password reset options, and a customer dashboard for personalized banking experiences. Additionally, SBI has also introduced features like Green Reward Points and UPI cash transfers within the SBI YONO app. The app provides benefits such as instant account opening and solutions to business-related challenges, making it a valuable tool for SBI customers.

The Government of India is making every effort to promote FinTech products and services that would be very helpful to establish and promote a cashless society in India through numerous growth devices, apps, as well as by providing numerous types of incentives to public sector banks, private banks, and non-banking financial institutions. The Government of India along with the support of Reserve Bank of India is pushing forward financial inclusion initiatives like Jan Dhan, India Stack, Blockchain, Startups India, Aadhaar and Digital India, and the National Payments Council, as well as novel business models that make use of AI and ML. FinTech firms are making use of these programmes in order to expand their financial operations.

According to the Global FinTech Index-2020, India is home to six of the world's top 100 Tech cities. The FinTech industry in India has witnessed significant growth with the emergence of various start-ups that are pushing the boundaries of innovation. Some notable FinTech start-ups in India include Bharat Pay, Khatabook, Zest Money, Just Pay, Niyo Solutions, Krazy Bee, Zerodha, PhonePe, Paytm Payments Banks, CRED, Razorpay,

BHIM, Policy Bazaar, Groww, Cashfree, Open, and Instamojo. These start-ups leverage the infrastructure provided by NPCI/MPs and many major banks have also established their own digital wallets using this framework. These digital wallets not only facilitate payments but also incorporate social networking features. Additionally, digital entrepreneurs in India are promoting the online-to-offline paradigm to enable seamless payments at local establishments. With the increasing internet penetration, there is a growing number of customers utilizing FinTech services in India. The potential for further customer adoption in India's market cannot be overlooked.

The value of transactions made through digital payment systems in India has increased drastically to INR 4 trillion in 2020 from INR 2 trillion in 2019. The Indian FinTech market has also grown substantially, reaching $31 billion in size by 2021. By 2025, it is expected to have reached $150 billion, expanding at a CAGR of 31% between 2021 and that year. Among the various sectors within FinTech, lending tech is expected to dominate, accounting for 47% of the market, followed by Insurtech at 26% and digital payments at 16%.

Several startups have entered the capital market, offering services such as Slice, LazyPay, Paytm Postpaid, Flipkart Later, and Flipkart, which have made contributions to the growth of digital payments. The FinTech industry is actively working towards providing effective solutions to address the challenges faced by both existing and potential customers. The introduction of innovative FinTech products, devices, and technologies has created significant opportunities for the development and growth of crowdfunding in India.

India has the highest adoption rate for Fintech industry with 87% while the global percentage is 64. With more than 2100 Fintech companies operating here, India has the third largest fintech ecosystem in the world. These fintech businesses have only been there for 5 years on average. The introduction of ATMs revolutionised bank cash withdrawals, and fintech sector is now at an all-time high.

Portable banking, web-based business models, electronic payment companies, and banking digitization have also contributed significantly to the industry's evolution. Even though

India's FinTech industry is booming rapidly, it still has a lot to learn about how to deal with problems that come up as businesses spread out across the nation.

Currently, China and India are leading in FinTech adoption, with usage rates of 69 percent and 52 percent, respectively. However, emerging nations like India need to focus on developing robust physical banking infrastructure comparable to Western standards. In comparison, China has a higher adoption rate of FinTech than India. At a compound annual growth rate (CAGR) of 20.3% between 2021 and 2023, the global capital market is expected to increase from its 2020 valuation of $110.57 billion to reach $698 billion by 2030.

Visa and MasterCard are the world's largest companies, with market capitalizations of approximately $478 billion and $36.8 billion, respectively. ANT Financial or Ant Group from China ranks third, with a market capitalization of $312 billion as of February 2022. In India, the FinTech market is already valued at $31 billion and is expected to grow to $84 billion by 2025. [18]The financial industry, including payments, banking, insurance, personal loans, and asset management, has undergone significant digital transformation in the past five years. Approximately 46 percent of individuals rely entirely on digital channels for their financial needs. Traditional banks and financial institutions may face challenges if they fail to recognize the potential of the FinTech industry.

[18] Business Standard, 'Indian Fintech Market Poised for Multi-Fold Growth for Newer Biz Models' (*www.business-standard.com*13 September 2021) <https://www.business-standard.com/article/companies/indian-fintech-market-poised-for-multi-fold-growth-for-newer-biz-models-121091300030_1.html> accessed 4 April 2023.

CHAPTER 3:
REGULATORY FRAMEWORK ON FINTECH IN INDIA

We have witnessed tremendous advancement in the area of financial technology during the last few decades. This development has seriously disrupted payments and loans in India. Customers are adopting FinTech products and gadgets at an exponential rate because of the quick development of smartphone mobile banking services and the support for digital payments provided by the Indian government. Regulators now find it challenging to predict the effects of FinTech advances on different stakeholders and the Indian capital market. With the help of fintech, users can now interact with banks and non-financial entities via smartphone applications and digitalization.

Investment fraud, cryptocurrency securities, systemic risk regulation, the role of central banks, money laundering, and taxation are some of the concerns of the Regulatory authorities. Additionally, regulators are worried about the potential of artificial intelligence (AI) to cheat the system in order to gain profit. To restrict FinTech, legislation alone is not sufficient. Now more than ever, regulators must take a much more proactive approach.

New technologies enable participants to carry out tasks that were previously only managed by tightly regulated institutions. Innovative Fintech applications are exposing users to a variety of dangers and problems. While the risks associated with FinTech are clearly increasing, the Indian government must prioritise addressing all FinTech-related issues, especially those relating to regulatory issues. The creation of a suitable regulatory framework to oversee FinTech's goods, services, equipment, and tools is urgently needed in the current environment. Due to the non-linear and overlapping business models in the fintech industry, there isn’t any sole regulatory authority in India. The regulatory landscape for this sector is highly fragmented. The Indian government and different stakeholders also face serious difficulties as a result of the multiplicity of regulatory bodies, uncertainty, and security worries. However, the policy makers and the central bank of India i.e., RBI have realized the need to regulate this sector and taken several steps in this regard by issuing guidelines, circulars, master directions etc.

3.1 The Payment and Settlement Systems Act, 2007

It is the primary law in India that regulates financial transactions. Payments and transactions are subject to RBI authorization, regulation, and supervision under the Act. Without involving the stock exchanges or the clearing businesses set up under the stock exchanges, this payment mechanism enables payments to be made directly between a payer and a beneficiary for clearing payments, settlement, or both. Without the approval of the RBI, it is illegal under the Act to create a new payment system.

According to Section 4, all commercial payment systems must be licenced by the Reserve Bank of India.[19] To "allow payment to be performed between a payer and a beneficiary", the term "payment system", which may include payment service, clearing, settlement, or all of these, must be used. Credit/debit card systems, debit card systems, smart card systems, and prepaid payment instrument systems are all examples of payment systems.

To have a clear idea on payments, the draft Payments and Settlements Systems Bill 2018 (Ministry of Finance, Government of India) defines Payments Services to include "any business activity covering: (i) execution of payment instructions, including transfers of funds in relation to an account of a consumer with a system provider, (ii) execution of payment instructions where the funds are covered by a credit line, (iii) issuing of payment instruments and/or acquiring of payment instructions, (iv) issuing of prepaid instruments, (v) money remittance." Services such as payment gateways and third-party apps that can initiate payment transactions fall under this broad category, as do the aggregation and execution of payment instructions. Based on our limited review of business model, product, and application changes, we may classify these developments into two major categories: I digital payments, and (ii) USSD-based payments. The Act governs the use of credit and debit cards, wire transfers, smart card transactions, and payment protection insurance.

RBI has the authority to provide directives concerning the payment system and its participants under Section 17 of the Payments and settlement systems Act, 2007.

[19] S. 4, Payments and Settlements Systems Act 2007

Directions For Opening and Operation of Accounts and Settlement of Payments for Electronic Payment Transactions Involving Intermediaries, 2009

To protect the interests of its customers and guarantee that their payments are properly recorded and transferred to the merchants' accounts by the intermediaries who receive them, the Reserve Bank of India (RBI) issued the Directions for Opening and Operation of Accounts and Settlement of Payments for Electronic Payment Transactions Involving Intermediaries ("2009 EPT Directions") in November 2009.[20]

The 2009 EPT Directions define "intermediaries to include all entities that collect monies received from customers for payment to merchants using any electronic/online payment mode, for goods and services availed by them and subsequently facilitate the transfer of these monies to the merchants in final settlement of the obligations of the paying customers." Therefore, in addition to "payment aggregators" and "payment gateway service providers", "intermediaries" would also include e-commerce and m-commerce service providers who offer platforms for processing electronic payments. Any business or individual (not only utilities) who accepts electronic or online payments for the goods and services they provide is referred to as a "merchant". This includes all organisations that offer electronic commerce or mobile commerce services.

Any accounts established and maintained by banks to facilitate the collection of payments from consumers of merchants by intermediaries shall be deemed internal accounts of the banks and shall not be controlled or administered by intermediaries, as per the 2009 EPT Directions. The bank must conduct audits of its books at the same time and certify its compliance with RBI regulations every three months.

Master Directions on Issuance and Operation of Prepaid Payment Instruments (PPI Master Directions), 2017

The Master Directions on Issuance and Operation of Prepaid Payment Instruments (PPI Master Directions), which govern the issuance and use of PPIs, were released by the

[20] Argus Partners, 'FINTECH LAWS in INDIA -A PRIMER' (2020) <https://www.argus-p.com/uploads/blog_article/download/1587358049_fintech-primer.pdf> accessed 2 June 2023.

Reserve Bank of India in October 2017. PPI issuers are subject to a number of requirements under the PPI Master Directions, including the establishment of risk management and data security infrastructure, two-factor authentication for PPI cards, and required KYC verification[21]. The Reserve Bank of India has decided to introduce a new type of semi-closed PPI with some of the following features in an effort to promote digital payments of modest value and enhance the user experience. These features will be present in the updated PPI: It will be reloadable and issued as a card or electronically, but only from a bank account, and it will be issued by banks and non-bank PPI issuers after receiving the minimum amount of information about the PPI holder.

The new PPI has a spending limit of up to INR10,000. PPIs can be granted for international deals by companies that meet the requirements of the PPI Master Directions.[22] Semi-closed and open-system PPIs for eligible current account transactions (up to $10,000 per transaction and $50,000 per month) are available from Authorized Dealer Category I financial institutions (including all the procurement of goods and services).

As such, the money transfer service scheme permits authorized banks and non-banks to receive inbound remittances as long as the PPIs are fully Know Your Customer (KYC) compliant, reloadable, and provided electronically and the inbound payout does not exceed 50,000 per transaction.

Guidelines on Regulation of Payment Aggregators and Payment Gateways, 2020

In the analog world, payment gateways serve as point-of-sale devices. Payment gateways are currently not subject to any specific RBI regulation; instead, they are subject to industry standards outlined in the Payment Card Industry Data Security Standards.

A high-level committee was set up by the RBI in 2019 headed by Sh. Nandan Nilekani to look into the developments made with regard to digital payments. This committee submitted its report in 2020 after consultation with the stakeholders. RBI issued guidelines to govern the payments gateways and aggregates as per the observations made in the report.

[21] 'Master Directions on Prepaid Payment Instruments (MD-PPIs)' (*Rbi.org.in*2021) <https://www.rbi.org.in/Scripts/BS_ViewMasDirections.aspx?id=12156> accessed 4 June 2023.
[22] ibid.

These guidelines published in 2020, governed those payment aggregates and gateways that stored credit card information in India. Further, the guidelines have legal backing applicable to payment intermediaries as well.

Under section 18 read with section 10(2) of the P&SS Act, the RBI issued the "Guidelines on Regulation of Payment Aggregators and Payment Gateways" (PAPG Guidelines) in March 2020. On April 1, 2020, these rules would be enforced.

"Payment Aggregators ("PAs") are entities that facilitate e-commerce sites and merchants to accept various payment instruments from the customers for completion of their payment obligations without the need for merchants to create a separate payment integration system of their own"[23]. Merchants can communicate with acquirers via PAs. In the process, PAs collect payments from clients, pool them, and then, after some time has passed, transmit the funds to the merchants. "Payment Gateways ("PGs") are entities that provide technology infrastructure to route and facilitate processing of an online payment transaction without any involvement in the handling of such funds."[24]

The PAPG Guidelines outline stringent regulations for everything from the requirements for becoming an authorised PA or PG to the settlement and escrow account management by non-bank PAs of the amount collected by them, as well as governance, merchant onboarding, and security, fraud prevention, and risk management framework.

The PAs must follow the PAPG Guidelines, while the PGs are not required to follow the guidelines' suggestions for basic technological infrastructure.

In order to qualify, on the day when PAPG Guidelines come into force, the existing PAs must have a net worth of at least INR 15,00,00,000 (Rupees fifteen crore) by March 31, 2021, and INR 25,00,00,000 (Rupees twenty-five crore) by the end of third financial year, i.e., on or before March 31, 2023. New PAs must have a net worth of at least INR 15,00,00,000 (Rupees fifteen crore) upon asking for permission and must have grown their

[23] 'Guidelines on Regulation of Payment Aggregators and Payment Gateways 2020' (*Rbi.org.in*2020) <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11822&Mode=0> accessed 3 June 2023.
[24] ibid.

wealth to INR 25,00,00,000 (Rupees twenty-five crore) by the end of the third fiscal year following authorization.[25]

3.2 The Banking Regulation Act, 1949

The Banking Regulation Act governs all the activities of the banking companies. Section 6 of the Act prohibits the banking companies from conducting any business other than those mentioned under this provision. Some of the activities mentioned hereunder are "borrowing or lending money; buying or selling bills of exchange, promissory notes, coupons, drafts, bills of lading, railway receipts, warrants, debentures; buying or selling of foreign exchange; dealing stock, funds, shares, debentures, bonds; carrying on agency business for government or local authority such as clearing and forwarding of goods; (c) contracting for public and private loans and negotiating and issuing the same; (d) the effecting, insuring, guaranteeing, underwriting, participating in managing and carrying out of any issue, public or private, of State, municipal or other loans or of shares, stock, debentures or debenture stock of any company; (e) conducting the business of guarantee and indemnity, (f) managing, selling and realising any property which may come into the possession of the company; etc."[26]

In accordance with Section 35 A of the Act, the RBI has the authority to direct banking companies to comply with any banking policies as announced from time to time by the Indian government while also acting in the public interest, for proper management of the banking company and preventing such affairs of the company that are detrimental to the interest of depositors.[27]

Payments banks operate on a smaller scale, and do not issue credit cards or advance loans, but they operate similarly to other banks. Section 22 of the Act mandates the licensing of all the companies carrying out banking activities. These small payment banks also need to be registered as private limited companies and are granted licenses by the RBI in accordance with the provisions of the Banking Regulations Act.[28] The actions of banks,

[25] ibid.
[26] S. 6, Banking Regulation Act 1949
[27] S. 35A, Banking Regulation Act 1949
[28] S. 22, Banking Regulation Act 1949

notably the acceptance of demand deposits and on payments, are restricted by certain licensing regulations. Banking companies shall not carry their business unless a license is granted to them.

3.3 The Companies Act, 2013

All companies running business in India including the fintech businesses are required to be registered under the Companies Act 2013 and comply with all the rules and regulations thereunder. FinTech businesses like Paytm, Bharat pe, etc., are also incorporated and authorized under the Act. Chapter II of the Act provides the procedure for the incorporation of a company.

Section 3 deals with the formation of company for any lawful purpose by 2 or more person in case or more person when it is a private company and one person when it is one person company.[29] The memorandum of a company shall be signed by such persons, along with the name of the company, state in which registered office is situated, objectives for the formation of company, liability of members and the share capital of the company.[30] Specific details about the memorandum are given under Section 4 of the Act.

Section 7 prescribes the documents and information given to the Registrar of Companies in whose local jurisdiction the registered office is situated.[31] The documents required for registration are- Memorandum and articles of company duly signed by all the subscribers, declaration by advocate, chartered accountant engaged in formation of company, affidavit from each subscriber and director, address for communications, particulars about the subscribers, directors, and their interest in the company. The registrar issues a Certificate of Registration and corporate identity number after scrutinizing the documents and information, that makes the company a distinct personality.

[29] S. 3, The Companies Act 2013
[30] S. 4, The Companies Act 2013
[31] S. 7, The Companies Act 2013

3.4 The Consumer Protection Act, 2019

Companies in the financial technology industry are considered service providers for the purposes of the Consumer Protection Act. Section 2 of the Act defines 'consumer' as a "person who hires or avails of any service for a consideration which has been paid or promised or partly paid and partly promised, or under any system of deferred payment and includes any beneficiary of such service other than the person who hires or avails of the services for consideration."[32] Thus Consumer Protection Act applies on fintech companies as well of which the citizens avail services.

An unfair business practice under Section 2(47)(ix) occurs when "personal information supplied in confidence is disclosed, except as authorized by law or in the public interest." Similar rules are found in the Information Technology (Reasonable Security Practices and Procedures and Sensitive Personal Data or Information) Rules, 2011, which ban the publication of a consumer's personal information without the prior consent of the customer unless it is required by law. Due to the sensitive nature of the client information, they handle, fintech companies must follow this policy.

Section 17 entails that any individual may file a written or electronic complaint with the District Collector, the Commissioner of a regional office, or the Central Authority if they believe that a business has violated consumer rights, engaged in unfair trade practices, or made false or misleading advertisements that harm consumers as a group.[33]

3.5 Information Technology Act, 2000

India currently lacks any comprehensive legislation to protect data security and privacy. However, the 2000 Indian Data Protection or Information Technology Act and the Indian Contract Act 1872 are crucial laws to safeguard the security and privacy of client data.

The need of preserving customer privacy and data has grown as FinTech platforms gather and keep an increasing amount of user data, particularly behavioral and financial data about people. A reliable data privacy scheme is currently absent in India. The IT (Reasonable

[32] S. 2(7)(ii), The Consumer Protection Act 2019
[33] S. 17, The Consumer Protection Act 2019

Security Practices and Procedures and Sensitive Personal Data or Information) Rules 2011 and the Information Technology Act of 2000 (IT Act) are two of the most important laws protecting individuals' privacy when dealing with their data.

Rule 3 provides that a person's biometric information, medical records and history, data about sexual orientation, physical, physiological, and mental health data, etc., are all examples of Sensitive Personal Data and Information (SPDI)[34] that are subject to certain restrictions in regards to their collection, storage, transfer, processing, and disclosure under the SPDI Rules.

According to the SPDI Rule 5, any corporate entity that intends to collect sensitive personal data from a person must seek their prior written consent. Consent should be requested with regard to the collection of SPDI, its intended use, potential receivers of the data, etc.[35] Moreover, unless the transfer is necessary to fulfil the terms of a valid contract between the parties, consent must be acquired before transferring or disclosing SPDI.

Companies that handle sensitive information must also follow reasonable security practices and procedures, as outlined in the "International Standard IS/IEC 27001, Information Technology - Security Techniques - Information Security Management System - Requirements," or other standards approved and notified by the Central Government, as per the Rule 8.[36]

A Grievance Officer must be designated by every company that collects sensitive data, to handle and/or resolve complaints of data subjects, as required by SPDI Rules. The companies are also under the mandate to disclose their privacy policy and publish it on their website in compliance with the SPDI Rules and also list the type of sensitive information collected, purpose and manner of exploitation of data, among other things.

[34] R. 3, The Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules 2011
[35] R. 5, The Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules 2011
[36] R. 8, The Information Technology (Reasonable security practices and procedures and sensitive personal data or information) Rules 2011

Fintech businesses generally collect financial information of the users, which falls under the category of SPDI and thus SPDI Rules shall apply on them.

The protection of financial information is ensured by a number of privacy-focused laws that have been drafted by Indian authorities in addition to the SPDI Rules. The Insurance Regulatory and Development Authority of India (IRDAI) has enacted a number of regulations that stipulate, among other things, (i) insurers must protect the privacy of policyholders, (ii) insurance records must be stored in Indian data centres, and (iii) insurance service providers must immediately retrieve all data provided to external service providers upon completion of services. Insurance brokers, insurance web aggregators, common service centres, and insurance surveyors are all examples of insurance intermediaries and third-party administrators (TPAs), who are subject to strict regulations regarding the privacy and security of client information they receive in the course of servicing insurance policies.

A body corporate may be required to pay damages under Section 43-A of the Information Technology Act of 2020 if it fails to establish reasonable security and privacy measures for customer data.[37] Information disclosure without the subject's consent and in breach of a valid contract are both crimes punishable by three to five years in jail, according to section 72-A of the Indian Contract Act of 1872.

The ISI 7428, new standards for data privacy assurance, were released by the Bureau of Indian Standards in the middle of 2021. There are two parts to it: one which provides the standards known as the prescriptive part, and another one which contains specific practices to add to the prescriptive part's criteria known as the suggestive part. The Indian Ministry of Electronics and Information Technology published updated recommendations on the ethical code/rules for digital media on February 20, 2021. The new laws governing intermediaries require internet intermediaries to retain user data for 180 days, regardless of whether a registration is cancelled or revoked.

[37] S. 43-A, The Information Technology Act 2000

2018's Personal Data Protection Bill is a draft of a data protection law that has not yet been passed by the Indian Parliament. In order to safeguard the personal data of all European Union members, the General Data Protection Regulation (GDPR) was enacted into law in 2018. Businesses operating in India that transact business with the EU, process personal data coming from the EU, or collect personal information about EU citizens are subject to GDPR.

3.6 Prevention of Money Laundering Act, 2002

The major legislation that sets anti-money laundering standards are the Prevention of Money Laundering Act of 2002, the Prevention of Money Laundering Rules of 2005, and the RBI's master directors on KYC released in 2016. These authorities are primarily in charge of monitoring and enforcing anti-money laundering regulations like KYC standards.

Money laundering has been categorized as an offence under Section 3 of the Prevention of Money Laundering Act of 2002 as "whosoever directly or indirectly attempts to indulge or knowingly assists or knowingly is a party or is actually involved in any process or activity connected with the (proceeds of crime including its concealment, possession, acquisition or use and projecting or claiming) it as untainted property shall be guilty of offence of money-laundering."[38] The offence is made punishable under Section 4 with rigorous imprisonment of up to 7 years and fine. Chapter 4 of the Act talks about the obligations of the companies such as maintaining records, due diligence and access to information.

Rule 5 of the PML (Maintenance Of Records) Rules 2005, states that every reporting entity shall maintain information in respect of its clients[39]. Central KYC Records Registry has been considered to be a reporting entity controlled and owned by the Central Government.

Banks are mandated to follow specific identification procedures while opening accounts and keeping an eye out for suspicious transactions so that the same can be reported to the director of the Indian Financial Intelligence Unit. As per Section 35 A of the Banking

[38] S. 3, The Prevention of Money Laundering Act of 2002
[39] R. 5, PML (Maintenance of Records) Rules 2005

Regulators Act of 1949 and Rule 7 of the Prevention of Money Laundering Rules of 2005, the RBI periodically issues guidelines. The Banking Regulation Act and AML also prescribe punishment and penalties for non-compliance to the regulations.

All banks, financial institutions, and intermediaries operating in India must comply with specific regulations governing customer identification, record keeping, and reporting to India's Financial Intelligence Unit (FIU-IND).

3.7 The Foreign Exchange Management Act (FEMA), 1999

Numerous cross-border transaction services have been developed as a result of developments in India's FinTech sector, according to RBI rules released under the FEMA. Foreign exchange transactions are subject to the Foreign Exchange Management Act of 1999 (FEMA) and its implementing regulations. Foreign currency pre-paid cards can be issued to Indian citizens in accordance with the RBI's regulations set under the FEMA, which include usurers.

NBFC-P2P Lending Platform Directions 2017

In its 2017 Directions, the Reserve Bank of India established nationwide regulations for NBFC-P2P platforms. A non-banking financial institution (NBFC) that offers participants loan facilitation services, whether online or off, is referred to as an NBFC-P2P. For institutional lenders like banks and NBFCs, this excludes loan facilitation services. P2P or Peer-to-Peer Lending is a financial arrangement between two individuals without interference from an intermediary to avoid margins made by the financial institutions.

In 2020, Government notified that RBI will regulate all P2P lending platforms. P2P lending was given formal recognition by the RBI through a Master Direction in 2011 as NBFC-P2P lending. The Reserve Bank of India (RBI) provided detailed rules in 2017 for ensuring the smooth operation of businesses, the transfer of funds, and the protection of sensitive information. Master Directions on Non-Bank Financial Companies (NBFCs) P2P Lending Platforms oversee the activities of P2P platforms by outlining permissible activities, prudential regulatory specifications (such as leverage ratios, balance sheet limits, and operational suggestions), and so on. According to the Guidelines, P2P lending platforms in

India are required to abide by certain guidelines including lender exposure and borrowing limits.

As part of the Ombudsman plan, the NBFCs must register, acquire a Certificate of Registration from the RBI, submit data to Credit Information Companies, and appoint Nodal officers. Only after receiving a certificate of registration from the Reserve Bank of India may NBFC-P2P platforms conduct their P2P lending operations. The platforms must also comply with the given obligations.

- NBFCs cannot lend or provide a credit guarantee on their own
- They cannot permit flow of funds in the international market.
- They must store and process all data on hardware located in India
- NBFCs must undertake due diligence on all participants.
- All loans agreements must be documented.

The Reserve Bank of India, has increased the aggregate limits for both borrowers and lenders across P2P platforms to INR5,000,000.

NBFC Regulations

NBFCs have recently gained prominence in a variety of operations, including equipment leasing financing, loans, investments, and hire-purchase financing, among others. The RBI Act of 1934 governs and regulates all NBFCs. Every organization offering fintech services in India must be registered in accordance with the RBI's regulations.

According to the Reserve Bank of India Act, no non-banking financial company (NBFC) may open for business or conduct any NBFC-related activities without first obtaining a certificate of registration from the RBI.[40]

Registration and operation of NBFCS in India are governed by periodic master instructions and circulars issued by the RBI. The Reserve Bank of India (RBI) has established a list of requirements that must be met before a business can be considered a financial services

[40] S. 45-IA RBI Act 1934

company requiring a licence. Important rules for both NTBs and NBFCS that accept deposits were published by the RBI in September 2016.

NCPI Regulations on UPI Payments

It is a quasi-judicial organisation that oversees the functioning of India's payment and settlement systems as a specialist division of RBI. The Reserve Bank of India and the Indian Bank Association have joined forces to create this innovative and trustworthy payment and settlement mechanism payments are also governed by NPCI through the medium of periodic procedural norms.

NPCI having a utilitarian nature has been incorporated as a “Not for Profit” organization under Section 25 of the Companies Act 2013. It provides a system access to the banks that offer UPI facilities where the users can download reports, initiate chargebacks, can also upgrade the status of UPI transactions among other things. The use of technology in mobile UPI payment services has been permitted by the NPCI upon fulfilment of certain procedural requirements and eligibility criteria.

UPI payments in India are governed by UPI Procedural Guidelines, which were created by the NCPI. This framework mandates that banks provide money transfer services utilizing UPI systems. To run mobile applications for UPI payments, banks may enter into contracts with technology providers, but only in accordance with the NCPI's eligibility requirements and prudential norms.

Crypto regulations

Although the current legal status of cryptocurrency is still a grey area in India, activities in the cryptocurrency area come under the regulatory regime of the RBI. Any specific regulation/legislation is yet to be formed. In 2018, RBI prohibited all banks and NBFCs from dealing in cryptocurrency or involving in any activities, facilitating or providing services for settling virtual currency. However, when the matter reached the Supreme Court, the prohibition was overturned stating that RBI cannot impose any restrictions or prohibit dealing in cryptocurrency unless there is a legislative ground and law to back it. A Draft Bill to regulate cryptocurrency was introduced in the Parliament in 2019 but was not

passed. The object of the Bill states "An Act to prohibit the use of Cryptocurrency, regulate the Official Digital Currencies and for matters connected therewith or incidental thereto."[41] The government of India started earning revenue by taxing the profits from dealings in cryptocurrency or virtual digital assets, but Finance Minister clarified that this does not give legal status to 'crypto' yet.

3.8 SEBI Laws

In an attempt to keep up with the rapidly evolving technology environment, SEBI has made certain efforts. Recent technological advancements such as algorithmic, machine learning-based training, robot, blockchain, and artificial intelligence have affected how SEBI operates. The rise of social media is another significant breakthrough. Sponsors must have five years of expertise in the financial services industry, three years of profitability, and the maintenance of a net worth of Rs. 50 crores, SEBI declared in December 2020. However, SEBI has released new rules in an effort to quickly reach more investors with tech-enabled solutions and to encourage new entrants and FinTech start-ups in the mutual fund industry.

The norms have been relaxed in such a manner that the sponsors must have a net worth of INR 100 Crores if they do not fulfil the profitability criteria at the time of application, in order to be considered by SEBI for the purpose of contributing towards the net worth of the asset management firm.

There can be three types of Crowdfunding activities (i) donor-based crowdfunding (ii) reward-based crowdfunding, and (iii) equity crowdfunding. A consultation paper on crowdfunding was published by SEBI in 2014 and was available to the general public. However, SEBI failed to implement any regulations or restrictions regulating crowdfunding in India that were laid down in the Paper.

A framework for regulatory sandboxes was also released by SEBI to encourage and facilitate the use of FinTech solutions with some relaxations during sandbox testing

[41] Banning of Cryptocurrency & Regulation of Official Digital Currency Bill 2019.

procedures. Sandboxes can be used to test applications for artificial intelligence and machine learning, digital KYC, and money transfer services, etc.

Guidelines on Algorithmic trading by SEBI, 2012

Although stockbrokers were the first to employ algorithmic trading, today's internet marketplaces and financial institutions provide retail traders with platforms that include algorithmic trading capabilities.

The Broad Guidelines on Algorithmic Trading were published by the Securities and Exchange Board of India in March 2012 and were updated in September 2016 for National Commodity Derivatives Exchanges. Stock/commodity exchanges must abide by these guidelines when they permit algorithmic trading.

- The guidelines require that the exchanges must have, among other things: Systems that can achieve uniform response times to all brokers.
- Economic disincentives for algorithmic orders with a high daily order-to-trade ratio (charges per algorithm order).
- Algorithms monitor systems to prevent order flooding.
- Mechanisms for appropriate risk control, such as pricing and quantity restriction checks.
- Monthly reports to the Securities and Exchange Board of India receives on algorithmic trading, and periodic audit reports to the stock exchange on algorithmic systems.

These regulations state that stockbrokers may only provide algorithmic trading with the prior consent of the stock exchange and that they must have risk controls and appropriate procedures in place before engaging in algorithmic trading.

Securities and Exchange Board of India (Investment Advisor) Regulations 2013

FinTech businesses have created robo-advising services, which are automated financial advisory services based on preset criteria and algorithms. These services are often provided through web-based and mobile applications that create automatic portfolio allocations

using the customer's information. In India, robo-advisory systems often don't offer trading capabilities and focus instead on giving investing advice to help investors balance their portfolios.

Robo advisory is "the provision of financial advice by automated, money management providers, thereby disintermediating human financial advisors." Consumers' alternative data may be used by the algorithmic decision-making mechanism to provide financial advice. Currently, advisory services are offered by both Registered Investment Advisers (RIAs) and Mutual Fund Distributors (MFDs).

As the Securities and Exchange Board of India (Investment Advisor) Regulations 2013 state, organisations and people that offer these goods and services are required to register as investment advisors unless they qualify for such exemptions as enumerated under the regulations.

The following conditions must be met by registered people in order to comply with these regulations:

- They must be qualified, have adequate capital, and operate in the best interests of their clients.
- carry out client risk profiling.
- Make sure the advice is appropriate given the risk level of the clients.
- To the best of your ability, fully disclose to consumers any possible conflicts of interest.
- keep complete records.

According to these Regulations, RIAs are permitted to utilize any "tools" for risk profiling of the user while advising clients. Any instruments used for risk profiling must be appropriate for their intended use, and any limits that are discovered must be remedied, according to Section 16 of the Regulations.[42] MFDs, on the other hand, are not directly subject to SEBI regulation. They are subject to regulation by the AMFI and adhere to its established code of conduct. In its Regulations, SEBI barely discusses the topic of robo

[42] S. 16, SEBI (Investment Advisers) Regulations 2013

advising. It does not specifically describe the tools' “limitations” and makes no mention of the tools' efficiency or reliability in risk profiling. Furthermore, it is not mandatory for the RIAs to demonstrate their efficiency.

Aggregators of Mutual Funds Direct Plans compile information and offer a platform for investing in Asset Management Companies' Direct Plans. Although the Direct plans and its products are governed by SEBI, there are no rules pertaining to the investment platform.

The revised mutual fund regulations were published by SEBI in December 2020. For companies floating a mutual fund asset management business, this decision to loosen profitability requirements was crucial (AMC). Companies known as asset management companies (AMCs) are responsible for managing the capital assets (equities, real estate, bonds, etc.) of its investors.

By removing this barrier to entry, the SEBI has allowed many tech businesses to begin selling mutual funds to the public. Even if a sponsor is not profitable at the time of application, they may still be approved to sponsor a mutual fund. However, in order to make a contribution to the AMC's net value, one needs a minimum net worth of Rs 100 crore. It will stay at Rs. 100 crore until the AMC has been profitable for five years running. The hope is that this will entice more young companies like Paytm to compete in the mutual fund industry.[43]

Before the introduction of these changes, a potential entrant was expected to have been in the financial services industry for at least five years, show profitability for at least three years, and have a net worth of at least Rs 50 crore. For issuers conducting an FPO (Follow on Public Offer), SEBI has eliminated the minimum promoters' commitment of 20 percent and the following lock-in rules. The SEBI has also reduced the mandatory holding period for new investors from two years to one. Companies that have emerged from insolvency are subject to revised rules regarding minimum public holding requirements.

[43] ‘SEBI Guidelines -Fintech Startups to Enter Mutual Fund Business’ <https://www.iasparliament.com/blogs/pdf/sebi-guidelines-fintech-startups-to-enter-mutual-fund-business> accessed 25 May 2023.

3.9 Insurance Act 1938

The value chain of the insurance sector is being upended by companies that are engaged in insurance technology, or InsurTech. Through its partnerships with insurance companies, they have assisted in accelerating the application process and automating the testing, testing, and claim processes. Some companies occasionally act as online aggregators, enabling customers to review the depth of coverage, the term, the price, and other important factors before choosing. These web aggregators require authorization from the Insurance Regulatory Development Authority of India (IRDA), the nation's primary insurance sector regulator.

This became a major flashpoint when some well-known FinTech companies in India got direct insurance broker licences from the IRDA to enable the distribution and sale of insurance products. A few participants have also earned their IRDA licence as corporate insurance agents.

The Insurance Regulatory and Development Authority of India (Insurance Web Aggregators) Regulations, 2017

Technological advancements were developed and put into practise in the Indian insurance industry to increase the effectiveness of the insurance business. The management and distribution of business in the insurance industry in India have been completely transformed by insurtech innovations. Through these technological advancements which include risk-free underwriting, on-the-spot purchasing, and claims processing, fintech has made it easier to manage the money for customers' insurance coverage. A development of fintech and RegTech is insurtech. The Insurance Regulatory and Development Authority controls all Insurtech activities.

Although there aren't any hard and fast rules against the use of technology in insurance, IRDAI is now considering the implementation of telematics in auto insurance and Insurtech more generally.

"An insurance intermediary who maintains a website for providing an interface to the insurance prospects for price comparison and information of products of different

insurers," the Insurance Regulatory and Development Authority of India (IRDAI) Regulations, 2017 state the purpose of an insurance web aggregator. They're websites that let one compare policies from various carriers side by side.[44] The IRDAI strictly controls these establishments. The governing body specifies the requirements for obtaining a licence, including the minimum amount of paid-in capital required and the maximum possible fee.

These insurance online aggregators are unable to function without a valid registration certificate from the IRDA. Marketing-wise, they do everything from selling insurance over the phone and online to providing product comparisons on insurance web aggregator websites.

There are certain obligations that insurance web aggregators must comply with:

- Displaying information about the products of insurers that have signed agreements with the aggregators.
- Carrying out lead generation for insurers.
- Using adequate encryption technologies for data.

Guidelines on insurance repositories and electronic issuance of insurance policies, 2015

The Repositories and Electronic Issuance of Policies Guidelines were published in 2015 to regulate the use of insurance repositories. For the benefit of insurers, businesses that hold an "IR licence" maintain electronic records of insurance policies. Repositories and Electronic Issuance of Policies Guidelines require all insurance companies that issue or maintain "e-insurance policies" to engage the services of an IR and enter into service level agreements with one or more Insurance Repositories.[45] E-insurance policy refers to a "policy document which is an evidence of insurance contract issued by an insurer digitally signed in accordance with the applicable provision prescribed by law and issued in

[44] 'INSURANCE WEB AGGREGATORS' (*IRDAI*) <https://irdai.gov.in/insurance-web-aggregators> accessed 19 May 2023.
[45] 'Revised Guidelines on Insurance Repositories and Electronic Issuance of Insurance Policies' (2015) <https://irda.revalweb.com/uploads/CEDocuments/Revised%20Guidelines%2029-05-15%20on%20Insurance%20Repositories.PDF> accessed 5 June 2023.

electronic form either directly to the policyholder or through the platform of registered insurance repository,"[46] These regulations specify the requirements for an entity to operate as an IR and require each IR to get a current certificate of registration from the IRDA in order to do so. This certificate's validity is for three (three) years.

An IR's responsibilities include arranging for an annual evaluation of the insurance regulator's controls, systems, procedures, and protections by an external system audit firm approved by the Insurance Regulatory and Development Authority (IRDA). Insurer-specific organisation is a requirement for the IR's many electronic records. Insurance policies issued electronically must include certain information, including but not limited to, a register and index of policyholders and their nominees, assignees, and beneficiaries, records of e-insurance accounts with a unique number, the date of assignment, and the specifics of endorsement.

Insurance Regulatory and Development Authority of India (Issuance of e-Insurance Policies) Regulations, 2016

The Issuance of e-insurance Policies Regulations mandate that policyholders who meet certain annual premium and insured sum requirements get electronic insurance policies from policy issuers. Annual premiums and minimum coverage requirements are different for each type of insurance and business covered by the rules, such as pure term, other than pure term, pension plans, individual health insurance, etc. In order to gather information for convenient processing and service, Section 3 of the Regulations requires all insurers who solicit insurance policies to develop an electronic proposal form comparable to the one available in physical form with the authority. Insurers can either deal directly with policyholders or use intermediary IRs to get their products into the hands of consumers[47]. Such insurance policyholders are mandated by law to maintain an online insurance profile. Directly issued insurance must be made available in paper form by the issuers unless an exemption applies. The process by which physical policies and other necessities for a valid

[46] ibid.
[47] 'Insurance Regulatory and Development Authority of India (Issuance of E-Insurance Policies) Regulations 2016' (*irdai* 2016) <https://irdai.gov.in/document-detail?documentId=604820> accessed 4 June 2023.

issuance are provided to policyholders who have purchased electronic insurance policies is also described in the rules governing the Issuance of E-Insurance Policies.

Guidelines on Insurance e-commerce dated March 9, 2017

The Insurance e-Commerce Guidelines for Insurers and Insurance Intermediaries facilitate the development of Insurance Self-Network Platforms (ISNPs) for the purchase and management of insurance policies. According to these guidelines, an ISNP is an electronic platform set up by any applicant with the blessing of the IRDA. The code of conduct for ISNPs and the procedures for authorising their formation to conduct insurance e-commerce in India are both detailed in the Insurance e-Commerce Guidelines.

Regulatory arbitrage results from regulators' continued reliance on an institution-based approach to regulation. Due to institution-based regulation, there are several instances of regulatory arbitrage apparent in the spectrum. “Insurance Web aggregators”, which offer a platform for choosing among the products of different insurers, are subject to very strict regulation and high paid-up capital requirements, whereas “credit product comparators”, which serve the same purpose for credit products, are not subject to any regulation. The distinction in regulation between P2P lending platforms and crowdfunding platforms is another odd example. Similar worries about the borrower's or company's seeking investor's credibility, the volatility of lending or investing, and the uncertainty brought on by the platform's abrupt closure are raised by both.

While crowdfunding platforms are currently unregulated, P2P lending systems are regulated for these risks. In reality, crowdfunding platforms offer a natural laboratory for investigating regulatory arbitrage and the friction brought about by an institution based regulatory regime. Crowdfunding platforms, which only act as mediators with no exposure to their balance sheet, are exempt from many of the risks that apply to AIF. Whether the current financial sector regulatory toolset is adequate to govern fintech raises an interesting challenge for future financial regulation.

CHAPTER 4:
INSTRUMENTS FOR IMPLEMENTATION OF REGULATORY FRAMEWORK

4.1 The Reserve Bank of India

The Reserve Bank of India (RBI) is India's primary financial regulator. It has been instrumental in advancing the fintech sector and promoting a cautious stance on consumer protection and law enforcement problems. The primary objectives of the regulator have been to create an environment that allows for the unrestricted development of fintech, to expand access to banking services for underbanked people, to regulate electronic payments effectively, and to provide clients with additional choices.

The RBI has been quick in reacting to the capital market developments and technological advancements in FinTech operations because it uses a 'light touch strategy' to deal with the challenges that FinTech has brought about significant changes in financial transactions.

4.2 The Institute for Development and Research in Banking Technology (IDRBT)

The RBI created the IDRBT in 1996 with the intention of fostering research in the field of banking finance technology and collaborating closely with tech firms. This institute, in collaboration with NPCI, developed a proof-of-concept (POC) demonstrating the viability of BCT in the Indian financial industry. The environment provided by this institute will be used to test applications and APIs created by banks and other financial institutions as well as to develop FinTech breakthroughs. IDRBT has carved out a distinct niche for itself as a research and development organization. It is in a good position to establish and manage a regulatory sandbox in cooperation with SBI, allowing innovators to test out new banking and payment solutions in preparation for widespread adoption. IDRBT, IIT, and Bhilli are focusing on a unified video KYC framework, blockchain technology, and machine learning.

4.3 Financial Stability and Development Council

The Indian Ministry of Finance established the Financial Stability and Development Council in 2010. Later in 2016, it was decided to establish a working group to investigate and report on the specifics of FinTech and its effects in order for the regulatory framework to be evaluated and reoriented appropriately to address the dynamics of the rapidly developing FinTech innovations. In 2018, the Reserve Bank of India established an inter-regulatory Working Group with participants from the RBI, SEBI, IRDA, PARDA, as well as from selected financial institutions, rating organisations like CRISIL, and fintech consultants. On January 13, 2020, it assessed significant advancements made in the domestic and global economies as well as in other financial sectors, particularly to analyse the scenario brought on by the third wave of the Covid -19 pandemic. It looked at the issues and problems involving regulated entities. The creation of an inter-regulatory authority structure to address new difficulties in India was the main objective of this group.

4.4 Ombudsman scheme for digital transactions

In 2019, RBI implemented the Ombudsman plan for digital transactions, which is similar to the Banking Ombudsman Scheme of 1995. The Reserve Bank of India (RBI) has designated a group of its most senior officials to act as an Ombudsman and to hear complaints from Fintech users about the illegal transfer of funds, the failure or delay in initiating refunds, and any other deficiencies in services, as well as any other complaints that fall under Clause 8 of the scheme. Fintech companies have been ordered by the Reserve Bank of India (RBI) to put in place procedures for handling client complaints about the quality of the services they provide.

FinTech products and services were regulated in their early years. It is necessary to adopt a strategy that takes into account India's market size, innovation-driven start-ups, environment, and welcoming government laws and regulations.

4.5 Regulatory Sandboxes

Financial regulators are afforded a front-row seat in regulatory sandboxes, where they may see emerging problems and work with fintech pioneers to mitigate them. On the other side,

fintech firms gain because they are able to put their experimental products, services, and business models to the test with real customers in a safe environment. Particularly, it is hoped that the sandbox will promote fruitful discussion between regulated parties and the regulatory body. As a result of many countries adopting regulatory sandboxes, Forty-six initiatives are currently in various stages of implementation across the globe.

Project Catalyst was initiated in 2012 by the Consumer Financial Protection Bureau (CFPB) in the United States to promote consumer-friendly innovation and entrepreneurship in the financial services sector, which forms the modern concept of sandbox framework. In order to protect consumers' rights, the Dodd-Frank Act mandates "fair, transparent, competitive, and creative markets for all consumers." Project Catalyst was seen by the Consumer Financial Protection Bureau (CFPB) as a major expansion of such mandates.

The current regulatory sandbox system was established in 2015 by the Financial Conduct Authority (FCA) of the United Kingdom.[48] "Businesses can test innovative products, services, business models, and delivery mechanisms without immediately incurring all the regular regulatory repercussions of engaging in the activity in issue," the FCA said of regulatory sandboxes as a "safe place" where they can do so.

Forty-plus percent of the FCA's test subjects were offered financial support either during or after the study. Second-wave fintech participant AssetVault said the sandbox experience sent a "positive signal" to investors about the company's ability to work with regulators and establish a unique brand in the market. The sandbox helped the organisation build internal discipline by placing a premium on procedures, paperwork, and monitoring the compliances. Seventy-five percent of the FCA's first batch of firms reached commercialization after completing testing. Several companies said that they were able to provide enough protections for customers by working with the regulator.

Nevertheless, there are several other issues and challenges concerned with regulatory sandboxes. The end users or the clients may not be wholly protected as the firms operating

[48] Hilary J Allen, 'A US Regulatory Sandbox?' [2015] SSRN Electronic Journal <https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf> accessed 20 May 2023.

in the sandbox are not properly regulated. [49] However, the firms are required to inform their customers that they are operating in a sandbox and outline the potential risks and dangers related to their goods and services that may occur. [50] This is done in order to aware the prevent the customers from thinking of the firm operating in the sandbox as an endorsement from the regulatory authority, that they are protected.

To avoid a conflict between the regulators' goals and the sandbox's legal mandate and to guarantee that the sandbox's goal is in line with current priorities, it is crucial to specify the purpose of the regulatory sandbox at the planning stage.

The Indian government has also been considering implementing and testing sandboxes. In addition to the Reserve Bank of India (RBI), the Securities and Exchange Board of India (SEBI) and the Insurance Regulatory and Development Authority of India (IRDAI) have announced their intention to create regulatory sandboxes.

4.5.1 RBI's Regulatory Sandbox

An inter-regulator working group was created by the RBI in 2016 to investigate the regulatory environment for allowing the delivery of low-cost financial goods and services in the context of the development of FinTech.[51] The report by the working group highlighted the necessity of creating a regulatory sandbox for FinTech. The idea for the RBI's regulatory sandbox first surfaced in the 2017 Household Finance Report[52], which called for the establishment of a controlled environment to enable small-scale testing and temporary relaxation of certain restrictions.

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[49] Christopher C Chen, 'Regulatory Sandboxes in the UK and Singapore: A Preliminary Survey' [2019] SSRN Electronic Journal <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3448901> accessed 20 May 2023.

[50] 'Guide to the Regulatory Sandbox' (*MoneySense*2018) <https://www.moneysense.gov.sg/articles/2018/10/guide-to-the-regulatory-sandbox> accessed 20 May 2023.

[51] 'Draft Enabling Framework for Regulatory Sandbox' (2019) <https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=920> accessed 21 May 2023.

[52] 'Report of the Household Finance Committee' (2017) <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/HFCRA28D0415E2144A009112DD314ECF5C07.PDF> accessed 21 May 2023.

Draft of Enabling Framework for Regulatory Sandbox was finally published in 2019 under which the First Cohort was based on the theme of 'Retail Payments', announced in 2019 and set to start in 2020. This Cohort accepted entities engaged in the business of retail payments including mobile payments, offline payments though mobile devices and contactless payments. Six businesses were said to have finished the First cohort's test phase by the end of 2021. The second cohort (announced in December 2020), third cohort (announced in September 2021), and fourth cohort (announced in October 2021) under the regulatory sandbox will focus on cross-border payments, MSME loans, and prevention and mitigation of financial crimes, respectively. Each cohort was estimated to last for about 26 weeks (6 months) with 5 stages[53]. The purpose of the timebound testing period is to form evidence-based policies. By utilising technology and creating a setting that would support and nurture innovation, the RBI also announced the establishment of the Reserve Bank Innovation Hub (RBIH) by the end of 2020.

Digital Know Your Customer (KYC) processes, marketplace lending, smart contracts, money transfer services, retail payments, wealth management services, financial inclusion products, financial advisory services, digital identification and Machine Learning and Artificial Intelligence (ML/AI) applications, blockchain applications, etc. are all examples of potential innovations that could be tested in the Regulatory Sandbox. However, sandbox testing is not available to businesses that deal with credit registries, cryptocurrencies, crypto assets, ICOs, credit information, or chain marketing services.[54]

The RBI framework also sets out certain eligibility criteria for the participating entities such as KYC, customer privacy and data protection, secure storage of data and secure transactions among others. RBI has set a limit of 10-12 participants selected through a comprehensive selection process for each cohort. These entities must also fulfil the fit and proper criteria and other series of conditions that include registration in India, minimum net worth of INR 25 lakh, information about directors, promoters, managerial resources, robust IT infrastructure and credit score as detailed in the framework. Earlier, RBI had

[53] 'Draft Enabling Framework for Regulatory Sandbox' (2019) <https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=920> accessed 21 May 2023.
[54] ibid.

stated that entry to sandbox will only be limited to start-ups, which was later modified to encourage innovation and allowed all companies rolling out new products.

During the sandbox testing period, entities will experience relaxations in the norms such as board compositions, liquidity requirements, financial soundness, management experience and company performance. These relaxations shall only last for a definite period to prevent any imbalances in the structural market.

The framework is intended to be accessible to all organisations, including banks and financial institutions, for products that are ready for testing, fill the vacuum in the financial ecosystem, and offer significant benefits for customers or the FinTech sector. This is aligned with the RBI's efforts to support FinTech innovation, enhance financial inclusion, and transition India to a cashless economy. The Indian experience demonstrates the enormous potential for FinTech to offer digital payment solutions in developing nations where access to physical financial institutions is difficult.

In October 2019, a group discussion was hosted by the Observer Research Foundation with fintech businesses, digital payment and banking community and representatives from the Maharashtra government to discuss the regulatory sandbox of RBI. Several participants raised the issue that RBI's sandbox is more rule-based than principle-based, which compels the entities to adhere to more laws and norms rather than focusing on the outcome. Participants want a regulation and control-free environment to achieve the company's goals. Another concern raised was that RBI's greater emphasis on data privacy and compliance by fintech firms to data-specific laws will cause an issue for them. Fresh graduates and innovators suggested setting up a helpline by the RBI to assist those who are new and do not possess legal knowledge and find it risky to enter the regulatory sandbox. Other participants stressed upon the need for Indian Regulators to collaborate with Global Financial Innovation Network to build capacity and enable cross-border testing. [55]

[55] Shashidhar K.J., 'Regulatory Sandboxes: Decoding India's Attempt to Regulate Fintech Disruption' [2020] ORF ISSUE BRIEF <https://www.orfonline.org/research/regulatory-sandboxes-decoding-indias-attempt-to-regulate-fintech-disruption-66427/> accessed 6 June 2023.

The Reserve Bank of India (RBI) is making an effort to learn about the challenges faced by India's burgeoning fintech sector, but additional solutions are needed.

4.5.2 SEBI's regulatory sandbox

In 2019, a Committee on Financial and Regulatory Technologies was constituted by the SEBI under the chairmanship of Shri T.V. Mohandas Pai. It included experts from the fintech industry, startup sector, academicians etc. On the basis of recommendations made by the committee, SEBI set up an innovative framework called the Regulatory sandbox which was made official through the Circular of 2020. The framework provides new business ventures not regulated by the SEBI access to certain data that is not readily available to them specifically related to trading and holding data in an anonymized form which enables them to test their innovations effectively before the same is put into effect in a live environment.

According to the SEBI's Guidelines, all enterprises registered under Section 12 of the SEBI Act, 1992 are qualified to participate in the sandbox, even if they use the services of a fintech company. The lone and primary applicant will be the organisation that registers to do sandbox testing of the solution. Firms interested in sandbox testing solutions may also be issued a temporary registration certificate and granted an exemption from the regulatory demands in the succeeding phases by SEBI.[56]

The applicant businesses were not, however, granted an exemption from SEBI's Anti-Money Laundering Rules, Know Your Customer Rules, Handling Customer Funds and Assets by Intermediaries, Risk Check, Fit and Proper Criteria Regarding Honesty and Integrity, and Investor Protection Framework.[57] Since they are fundamental to any company model that seeks transparency and customer friendliness, it is rather reasonable to keep them out. Exemptions regarding Risk checks, Customer money & assets, confidentiality of information, etc. shall not be compromised as SEBI is committed to

[56] 'SEBI Board Clears Regulatory Sandbox for Registered Entities' *livemint* (17 February 2020) <https://www.livemint.com/market/stock-market-news/sebi-board-clears-regulatory-sandbox-for-registered-entities-11581939727003.html> accessed 20 May 2023.

[57] Securities and Exchange Board of India, "Regulatory Sandbox Framework" (2020) <https://www.sebi.gov.in/legal/circulars/jun-2020/framework-for-regulatory-sandbox_46778.html> accessed 2 June 2023.

promoting the primary underlying value of investor safety and openness. Based on the entity's history, net worth, financial soundness, registration costs, and compliance with SEBI Guidelines, some relaxations may be allowed on a case-by-case basis or selective exemptions from certain regulatory criteria. Exemption from Enforcement of the Regulations in Special Cases is planned to be added as a new Chapter to the 36th SEBI Regulations. However, a practical approach to establishing the Regulatory Sandbox necessitates a framework that will protect the confidentiality of the Intellectual Property (IP) being used, whether it is owned/operated by the business itself or is a service provided by external FinTech organizations. The lack of a requirement to think about suitable liability or indemnity insurance to preserve user interests is another obvious omission.

The framework for the regulatory sandbox requires the given eligibility criteria to be fulfilled:

a) Genuineness of innovation: In order to succeed in the Indian market, the solution must be either radically new or dramatically distinct from everything else on the market[58]. The sincerity factor is extremely vague, leaving a lot of space for individual interpretation.
b) Genuine need to test: The applicant must demonstrate a compelling business case for conducting sandbox testing with live clients. The solution cannot be produced without loosening some sandbox regulations, so the petitioner must show that this is the case.
c) Limited prior testing: The applicant should have done some preliminary offline testing of the solution before requesting testing in the regulatory sandbox.
d) Direct benefits to users: Investors or capital-raising firms, the capital market, and the Indian economy as a whole should all be able to see tangible benefits from the solution. Only companies who can demonstrate quantifiable benefits to investors through their FinTech solutions will be pushed by SEBI because of SEBI's primary focus on creating value to investors or the capital markets at large.[59]
e) No risks to the financial system: Any solution must have a competent risk management strategy to contain safeguards to minimise and control potential risks and restrict the

[58] ibid.
[59] ibid.

consequences, if any, of failure. At stake are investor interests and the general health of the market.

f) Testing readiness of the solution: The applicant has the means to carry out sandbox evaluations. The candidate must display thorough preparation for testing, including well-defined goals, parameters, and success criteria.
g) Deployment post-testing: Successful applicants will be able to provide evidence of their commitment to and experience with scaling the solution's implementation in India. Applicants should detail their plans for leaving the sandbox and moving on.
h) Fit and proper person: The applicant must fulfil all of the necessary and appropriate standards, such as: competence, including financial stability and net worth and the absence of designation as a wilful defaulter; the absence of convictions and restraint orders; and the absence of character flaws.

It takes a lot of time and effort on the side of regulators to keep track of and run a Regulatory Sandbox. The process will be ""rolling," meaning that the applicant can submit an application to join the "regulatory sandbox" at any moment. Before sending in an application and Annexure-1 to SEBI, the applicant must make sure they qualify. Throughout the evaluation of the sandbox application and into the testing phase, SEBI will maintain communication with the applicant/participant. Any questions the applicant may have about the sandbox can be answered by contacting SEBI before the application is submitted. If the applicant is a qualified participant for the sandbox and the project meets the eligibility criteria, the CEO or a lawfully authorised officer of the applicant must sign a sandbox application form and email it to SEBI.

Within 30 business days of receiving a comprehensive application (the "Application Stage"), SEBI will evaluate it and let the applicant know whether or not they qualify for the sandbox. SEBI may provide the applicant with tailored advice depending on the nature and level of risk involved with the proposed solution.[60] During the "Evaluation Stage", SEBI and the applicant will work together to establish the precise conditions and

[60] Securities and Exchange Board of India, "Regulatory Sandbox Framework" (2020) <https://www.sebi.gov.in/legal/circulars/jun-2020/framework-for-regulatory-sandbox_46778.html> accessed 2 June 2023.

requirements of the applicable regulatory framework (such as test settings and control borders). The applicant will then determine whether or not it is capable of fulfilling these criteria. In the event that Applicant is competent and willing to meet the proposed regulatory criteria and conditions, Applicant will be granted permission to create and test the proposed FinTech Innovation(s) in the sandbox within the limits and control boundaries agreed upon with SEBI.

A notification will be sent to the applicant if their application is denied at any point. Rejection could occur for a variety of reasons, including as not meeting the sandbox's stated goal or the eligibility requirements. After an appropriate waiting period, the candidate may reapply for the sandbox once it is ready to meet the sandbox's aim and eligibility criteria. Once the application is accepted, it moves on to the testing phase. The participant must inform its customers that their solution is being tested in a sandbox environment and outline the primary dangers that come with using the financial service. The applicant must additionally collect user confirmation that they have read and comprehended these warnings.

If the applicant plans to make significant modifications to the solution during testing, the application must be submitted to SEBI at least one month in advance, together with a description of the modifications and an explanation of why they are necessary. The proposed alterations cannot be made without first receiving SEBI's consent. Each participant is obligated to submit periodic updates on the status of the evaluation. The test subject is obligated to provide SEBI with periodic updates on the test's status, including data on the following: Information on I KPIs, ii) important issues found through fraud or operational incident reports, and iii) actions or procedures taken to resolve these issues.

The sandbox participant must exit the sandbox at the end of the testing term, after which the SEBI regulatory relief will no longer apply. A final report must be submitted to SEBI within 30 days of the completion of the testing period and must include the following information: (i) Key outcomes and key performance indicators against specified measures for the success or failure of the test and finding of the test; ii) Lessons learnt from the test

if it was unsuccessful; and iii) A thorough explanation of all incident reports and the resolution of user complaints.

Each applicant will be assigned to a specific SEBI officer. Each applicant must designate a single point of contact for all communications with SEBI. If an application is denied, the applicant must wait a reasonable amount of time before submitting it again. To apply, complete application shall be sent to the SEBI Chief General Manager. It is intended that the sandbox testing phase last no more than nine months, with a possible three-month extension.

At the conclusion of the testing term, the Sandbox Participant's authorization and the loosened legal and regulatory restrictions imposed by SEBI will expire, and the Sandbox Participant will be required to leave the Sandbox.[61] After evaluations are complete, SEBI will decide if the product, process, service, or solution may be launched to the market on a larger scale. Participants planning to engage in regulated activities shall be evaluated according to the relevant licence, approval, and registration standards established by the relevant SEBI Regulations. If it doesn't work, ii) the applicant can always try to back out. Or the applicant might ask for more time in the sandbox by submitting a request for an extension. No more than three months may be added to the original deadline.

The applicant must submit a request to SEBI explaining the additional time needed and offering a compelling explanation of why the testing period must be extended at least two months before the conclusion of the testing period. Each request for a longer testing period must be reviewed by SEBI, and extensions are only granted in exceptional circumstances. The extension request decision made by SEBI is final. The applicant may leave the sandbox at any time without SEBI's approval by providing two months' written notice of its intention to do so. In this situation, candidates must repeat the steps taken before leaving the sandbox. Before leaving or terminating the sandbox, the applicant must verify that all outstanding obligations to users of the FinTech Innovation(s) being tested have been fulfilled or handled. The applicant must preserve records of acknowledgement from all of its users

[61] 'Securities and Exchange Board of India, "Regulatory Sandbox Framework"' (2020) <https://www.sebi.gov.in/legal/circulars/jun-2020/framework-for-regulatory-sandbox_46778.html> accessed 2 June 2023.

verifying that duties have been completed for a period of five years beyond the date of withdrawal from the sandbox.

Financial sector regulators have also formed the Inter-Regulatory Technical Group on Financial Technology (IRTG on FinTech) under the auspices of the Sub-Committee of the Financial Stability and Development Council (FSDCSC) to coordinate on FinTech-related issues such as the Inter-operable Regulatory Sandbox (IoRS).[62]

The Group is led by the Chief General Manager of RBI's FinTech Department and includes members from SEBI, IRDAI, IFSCA, PFRDA, and MeITY, as well as one person from DEA. The Group was tasked with facilitating the development of a standard operating procedure (SOP) for hybrid products and services that fall within the purview of more than one regulator and providing models for the IoRS mechanism for such products and services. Innovative hybrid financial products/services that fall within the purview of more than one financial sector regulator can be tested through IoRS. Innovators no longer have to talk to many agencies about their hybrid product thanks to a unified communication channel.

Benefits and Limitations offered by Regulatory Sandbox to SEBI

The fact that FinTech advances are recognised by SEBI speaks much about the agency's goals. The introduction of innovations to the securities market is a significant step that must be supported by solid data and convincing evidence that it will not fail. From the perspective of both the regulator and the testing entity, the following advantages result from the establishment and successful use of Regulatory Sandbox:

Once innovations are made available to the public, SEBI is able to better comprehend how they function and create laws that cater to best market practises. SEBI has the opportunity to conduct a thorough cost study before implementing investor-centric solutions in the

[62] 'Inter-Operable Regulatory Sandbox: Standard Operating Procedure Background' (2022) <https://www.sebi.gov.in/sebi_data/commondocs/oct-2022/SoP%20for%20Interoperable%20Regulatory%20Sandbox_Final_p.pdf> accessed 14 June 2023.

financial sector. The Securities and Exchange Board of India (SEBI) can test out a number of different FinTech ideas before deciding which ones to go out to the general public.

Because it serves real consumers, although in a controlled environment, the testing entity gains valuable experience analysing the performance of its FinTech innovation and better understanding customer needs.

After the invention has been tested in the Sandbox and proven successful, it can be improved greatly with the help of input from real-time users and the market regulator SEBI. When new inventions help the original market function more smoothly, SEBI can assess the potential for harm and design adequate protections to prevent it.

The innovators or businesses applying to use the Regulatory Sandbox also view this as an opportunity to test and evaluate their product, which will help them immensely in their eventual objective of producing investor-centric, market-beneficial, and bug-free world-class FinTech market breakthroughs.

On the surface, it would appear that there are few restrictions beyond the ones listed below.

It appears that a lot of leeway has been given to the reviewing department in terms of granting exemptions or loosening requirements. The applicant entity will be severely constrained by SEBI's ambiguous directions due to the lack of an exhaustive list. To facilitate the successful rollout of Sandbox, SEBI can be more flexible in outlining its regulatory goals. This will help the applicant organisation understand what it needs to do to comply with SEBI's regulations.

There is no assurance that a registered entity's use of the Regulatory Sandbox will result in the approval of the proposed FinTech innovation, and the registered entity may be required to incur some costs associated with conducting the live testing. There are no clear parameters or exact basis on why the exemptions or relaxations are being granted by SEBI, making the return on investment for an entity unsure. The instructions are extremely general and vague.

If SEBI had been more flexible about when and how a FinTech innovation might be implemented, the exit strategy would have been more efficient. The decision and action taken by SEBI in this regard will have far-reaching consequences. There shouldn't be anything else standing in the way of such FinTech inventions being offered to the general public if the market responds positively and the feasibility is favourable for investors and the market.

During the Regulatory Sandbox testing phase, SEBI has promised to grant various exemptions and relaxations to firms in terms of procedural compliance. This constrains the company because, even if their FinTech invention is approved for the Securities market, there is no guarantee that the same exemptions would be given in practise.

Last but not least, due to the uncertainty of the innovation's acceptance or rejection by SEBI, each company will take safeguards and carefully consider the results of the time, effort, and resources it invested throughout the Regulatory Sandbox testing phase. If SEBI does not provide a clear and open mechanism for allowing these innovations to impact the actual market, testing companies will be continually aware of the cost/effort benefit analysis that might not go its way when the test findings are submitted.

The Regulatory Sandbox and SEBI's overall framework have many advantages for both parties involved (SEBI and the FinTech innovator/entity). A regulator will seek out and adopt the most successful market practises wherever possible. The SEBI Regulatory Sandbox is a dynamic instrument that helps to bridge the gap between high-quality FinTech ideas and their market viability. The greatest ideas can be quickly implemented for the advantage of investors thanks to this way of live testing with real-time clients.

The counterargument to the aforementioned benefits is the limits, which are temporary and very much doable, but yet weigh heavily on the minds of entities when it comes to the comparison of testing resources and the ultimate objective of entering the market. To extract the most value from FinTech developments, it would be ideal if SEBI, as a market regulator, took a flexible approach, did not appear to have overreaching vigilance, and gave innovators a break wherever possible.

4.5.3 IRDAI's regulatory sandbox

In 2018, IRDAI constituted a committee to look into the need for a regulatory sandbox in the insurtech sector under the leadership of Mr. Randip Singh Jagpal. The committee gave its recommendations in 2019. "The purpose of the Regulatory Sandbox is to foster growth and increase the pace of the most innovative companies, in a way that provides Insurtech in particular and the Fintech sector as a whole with flexibility in dealing with regulatory requirements and at the same time focussing on policyholder protection."[63] The committee recommended the creation of a regulatory sandbox and a dedicated team of professionals to supervise the innovative activities. This sandbox would have defined eligibility criteria, exit parameters, timelines and appropriate measures for control and protection in the experimental environment. The applicants would be eligible to apply for one or more among the 5 categories and this permission would be granted for a period of 6 months, extendable up to 12 months. The proposal will be deemed to be completed if it covers 5,000 persons or completes the premium of INR 5 Lakh.

To give effect to these recommendations, the authority published the Draft and then Final Regulations in 2019 with the objective of facilitating the creation of a regulatory sandbox and striking a balance between the orderly development of innovation in the insurance sector and protecting the interests of the policyholders.[64] The authority, in furtherance of the regulatory sandbox, issued guidelines in 2019 and updated guidelines in 2023, exercising its powers under Regulation 13 of the IRDAI (Regulatory Sandbox) Regulations 2019.

The requirements for joining IRDAI are vague. The IRDAI is accepting applications in 'Form RG-1' from anyone who is interested in fostering and implementing innovation in the Indian insurance industry.[65] The application will be filed in association with an insurer and potential risks related to the proposal shall be specified by the applicant. As the sandbox has been created for the purpose of encouraging innovations in the insurance

[63] Randip S. Jagpal, 'Report of Committee on Regulatory Sandbox in Insurance Sector in India' (2019) <https://irdai.gov.in/document-detail?documentId=390684> accessed 25 May 2023.
[64] 'Exposure Draft on IRDAI (Regulatory Sandbox) Regulations, 2019' (18 May 2019) <https://irdai.gov.in/document-detail?documentId=391491> accessed 25 May 2023.
[65] R. 5, 'Insurance Regulatory and Development Authority of India (Regulatory Sandbox) Regulations 2019

sector, the applicant must demonstrate how the new product will facilitate services to the consumers or increase insurance penetration. As per the guidelines, IRDAI will communicate whether the proposal has been rejected or accepted or requires certain modifications within a period of 45 days. The applicant will be given a chance to respond before the application is denied. However, the applicant must actually present the invention to the regulator rather than merely asking a regulatory waiver. The guidelines also make it clear that no exemptions will be made from the requirements of the Insurance Act of 1938, the Insurance and Reinsurance Development Act of 1999, or any other law that may apply.

IRDAI prefers a single point of contact with the entity whereby a responsible and experienced representative is nominated by the applicant for all communications made between the authority and the applicant. All customers participating in the sandbox shall be informed about the uncertainty of the outcomes and the applicant must receive prior consent from all participants regarding their willingness to participate.

Initially, the permission for testing is given for a period of 6 months but the applicant can request an extension of 6 months. But under no circumstances the duration shall extend to a period of 12 months. The applicants are also required to maintain the integrity of the system, confidentiality of the policyholders and adequate mechanisms for controlling, supervising, and evaluating the system, procedure and safeguards. The proposal shall terminate whenever there are over 100,000 subscribers, the premium collected exceeds INR 5 Crore, or by any other criterion determined by IRDAI.[66] After the completion of experiment period, the applicant shall not continue with the product and services in the market unless appropriate amendments, guidelines or circulars are in place. The applicant shall also provide exit options to the policyholders and migrate to other service providers at the end of the experiment. The insurer shall honor the liabilities incurred during the experiment after the policyholder exits.

[66] IRDAI Guidelines on operational issues pertaining to the regulatory sandbox 2023, Para 6

4.6 Other Mechanisms

a) Audit Management: Indian FinTech companies' operations are governed by strict rules and norms of the Detailed Application Control Review (DACR). Regulatory requirements are evaluated by auditing firms, who then present FINA with their conclusions and suggestions. BSA/AML/OFC, fraud, consumer regulatory compliance, and privacy are all subject to FinTech compliance audits.

b) Quality Management: The International Organization for Standardization (ISO) and the Payment-Card Industry Security Standards Council, among other organizations, could facilitate FinTech businesses in obtaining Industry quality management certifications.

c) Network Management and Security: The establishment of a shared or private security operation centre (SOC) by FinTech financial institutions is advised in order to monitor security incidents, event management systems, and compliance with all major IT operations' standard operating procedures (SOP). When integrated into their monitoring services, SIEM can be quite advantageous for financial institutions and other businesses.

d) Vulnerability Assessment and Penetration Testing: One of the best methods for locating potential security gaps in an organization's cyber security plan is to look for vulnerabilities. It aids FinTech companies in the methodical assessment of threats and weaknesses in the organization's systems, networks, apps, hardware, and other components of the IT ecosystem, both potential and actual. There are numerous methods available for conducting vulnerability assessments, including static and dynamic application security testing. To investigate and review their systemic risk, FinTech organisations should do VAPT tests. Today, banks and financial institutions, particularly non-profit organisations, should routinely conduct vulnerability assessments to make sure that any external risks are found and addressed as soon as possible.

e) Incident Response and Management Framework: FinTech organisations must have protocols for dealing with system issues caused by cyberattacks. A lack of liquidity in the markets is due to the possibility of sector participants going bankrupt as well as risk factors related to the outsourcing of some traditional bank services. All regulators

should adopt a pragmatic stance and put the defence systems of digital enterprises to the test.

Participants who worked for or closely with banks reported that the RBI was always accessible, and that fintechs required to partner with banks to fall under the regulator's purview. While most people believe the RBI is making an honest effort to understand the challenges facing India's nascent fintech industry, many also believe that more resources are needed to encourage innovation in this space.

It is recommended that the legal jurisdiction of the regulators needs to be harmonized and communication channels to be built between these as India currently has RBI, SEBI, IRDAI and other state-run regulatory sandboxes which at times leads to conflict.

It is necessary to enhance the regulator's internal capacity. RBI Guidelines provide that the regulatory sandbox would be supervised by three full-time officers. Fintech is evolving quickly, therefore it's important to comprehend these developments and their effect on consumers. More people working closely with the authorities are needed to achieve this objective. The Indian government needs to establish some kind of central agency or method for keeping tabs on the fintech industry and communicating with its innovators. This method should also aid in calming inventors' nerves and provide guidance on meeting applicable regulations.

Regulators in India must participate in international networks for knowledge exchange. As the fintech ecosystem in India starts to grow in other nations, it is crucial to make sure that these businesses adhere to global standards. It will also assist India in assuming a leadership position for original innovations. Financial regulators must keep up with the digitised financial systems' data governance, privacy, and changing data-specific legislations and laws.

Sandboxes are precious tools when used in the right setting. They aid in empowering the fintech industry with empirical data and a broad strategy set. For a developing country like India with young and innovative minds and a burgeoning middle class, sandboxes can pave

the way for regulating fintechs.[67] Countries like France and Germany have also adopted the concept of sandbox, while Singapore, known as an early mover has used sandbox as the last resort. There is no doubt that sandboxes are not a permanent solution, and proper, formal regulatory frameworks, legislations and regulations are irreplaceable. Sandboxes are designed to attain specific goals and should only be considered as a temporary measure, as a part of a broader policy.

SEBI and the authorities are currently testing the reliability of the firearm. That is to say, before releasing any FinTech innovations into the market, entities would love to embark on this excellent and extremely practical stage in order to fully understand and reap the desired fruit for their creations.

[67] Aabir Acherjee, 'Regulatory Sandboxes in FinTech: Existential Need or Overhyped Appendage?' (2022) 8 IR@IIMC <https://www.iimcal.ac.in/FinLab/email-template3/res/Artha_7.pdf> accessed 20 May 2023.

CHAPTER 5:
POTENTIAL RISKS AND CHALLENGES IN FINTECH INDUSTRY

Companies in the financial technology industry rely on big data analytics to tailor their offerings to customers' needs and preferences. The prevalence of sensitive and personal information in big data leaves individuals open to fraud and other privacy breaches. The information may be abused, and predatory behaviour may accompany it. Data usage has expanded and its impact is complex because of the use of machine learning and artificial intelligence, which has prompted the FinTech industry to prioritise data protection. Both technological and informational security are relevant here. Keeping customers protected from fintech firms' data breaches, access denials, and other threats to their private data. Therefore, strict regulations on the protection of individual privacy are required. Companies in the financial technology industry must ensure the security of their customers' data when using cutting-edge gadgets and software if they want to keep their existing clientele and attract new ones.

Some have predicted that the advent of FinTech will usher in a more streamlined financial system. These services could significantly improve banking, reduce income disparity, and speed up economic development, but they also have serious drawbacks. The absence of rules poses the greatest threat to the FinTech ecosystem. The financial system's regulatory structure must be urgently upgraded to account for the fundamental changes introduced by FinTech. As new developments in FinTech emerge, it will be necessary to draught new legislation and policies. Privacy, data protection, cyber dangers, and similar issues are among the most pressing that have not yet been solved.

Due to the rapid evolution of FinTech's new services and products, regulatory ambiguity and domestic and international security requirements are insufficient. Because of how quickly and frequently the technology landscape is evolving, there is a constant need to improve data security and infrastructure. One other significant difficulty in the FinTech sector is catering to people who are already comfortable with digitalizing their financial transactions and possess a high level of financial knowledge. Improved digital literacy

promotes responsible and secure use of digital tools. In addition to these, there are a plethora of new participants in the FinTech ecosystem who need to develop a strategy and market their wares to attract customers. To keep clients from defecting to competitors in the FinTech industry, they must consistently deliver above-and-beyond service. For the momentum to be maintained, it is necessary to build an integrated development paradigm that prioritises data privacy and security.

With technological progress comes new difficulties that FinTech firms must overcome. Some of the existing challenges for the fintech industry are given as follows:

5.1 Regulatory difficulties and uncertainties

The Indian market is difficult to enter and succeed in due to the country's stringent regulatory system, which was put in place to combat fraud. It creates an enormous hurdle for potential newcomers. There are many prerequisites that must be met before it may begin operations.

One of the problems that has recently developed in the field of FinTech is the issue of regulation. Cryptocurrencies are a prime example of this tendency because they are largely unregulated and have therefore become a breeding ground for scams and frauds in many nations. FinTech's varied solutions make it challenging to have a unified strategy for addressing these issues.

Due to the dominance of foreign firms, most Indian Fintech startups are folding. Due to Indian government regulations, Indian Unicorn businesses like Paytm face a fierce competition from international Fintechs. Many Indian businesses have abandoned the digital payment system as a result of the MDR being set at zero.

India is one of the few countries with a Payments and Settlements law that makes the Reserve Bank of India responsible for regulating and supervising the country's payment and settlement systems. Despite the regulatory boost, India has some distance to go before its business platforms are adequately protected. Some regulations, such as those governing how to withdraw money from an investment safely, the government's stance on cryptocurrencies, the National Payments Corporation of India's (NPCI) payment

regulations, etc., are still in the works, and real-time changes in the regulatory scenario will need to be incorporated to keep up with the ever-changing FinTech sector. Additionally, rather than being handled by cutting-edge businesses, international money transfers are still processed through antiquated banking systems. Foreign currency transfers through Fintechs can benefit greatly from a standardised set of practises (across jurisdictions), a standardised translated language, and standardised Know Your Customer (KYC) requirements, all of which are accompanied by proportionate legislation.

Whether it's RBI, SEBI, IRDA, or another agency, the fin-tech industry as a whole is eager for a unified set of rules to follow. The Reserve Bank of India (RBI) approved 11 fintech firms to get licenced as payment banks and so offer deposit, savings, and remittance services. While the RBI has released some guidelines for the mobile wallet and P2P lending industries, much more detail is needed. Since taxpayer funds are at stake, P2P loans and payments need immediate clarification. The regulatory environment is murky, making doing business here a high-risk proposition.

Increased regulation might hinder innovation, the hallmark of FinTech, and increase operational expenses, creating a double-edged sword for Indian FinTech firms. However, in the long run, the sector will be strengthened by regulatory certainty, which will help it earn customer trust and attract more money. It's conceivable that authorities will pay closer attention to FinTech firms as they expand. The Bharat Bill Payment System (BBPS), Payments Bank Licenses, the Unified Payments Interface (UPI), etc. are just a few of the initiatives that have been implemented. To regulate emerging industries like P2P and aggregators, RBI has taken a consensus-driven approach. The regulator's primary task is to provide conditions that encourage innovation while yet protecting consumers' personal information and privacy. Since innovations are happening at a breakneck pace, authorities often have to play catch-up and may react hastily to certain market behaviours.

5.2 Data Security Risk:

As the number and sophistication of India's FinTech firms grows, those firms will undoubtedly begin building connections to traditional financial institutions and centralised databases like the UID registry. Cybersecurity and privacy concerns may arise at the points

where different systems interact. In addition, data privacy and client safety must be top priorities for FinTech firms as they move toward data-based differentiation. However, in their pursuit of a deeper understanding of their clients, FinTech firms may gather personally identifiable information that is not related to their financial transactions. The interfaces and APIs that make sharing data between programmes easy may also be the most susceptible to cyber threats and provide fertile ground for the spread of malware. The FinTech industry, like traditional banks and financial institutions, will need to develop robust defence systems and procedures to address these concerns.

Information theft, platform outages, and data leaks have all grown commonplace in the financial technology industry. The financial technology industry relies heavily on data, AI, and machine learning. For players to control this risk and meet regulatory requirements for data security, they will need to invest heavily in methods to protect data. In addition, the Indian public should have a firm say in what information about themselves is shared with which apps and websites. A lack of awareness and digital education in this area has contributed to data leaks and the improper use of private information. Data, as everyone knows, is the new oil. Companies will collect massive amounts of data in this sector. Data security and privacy must be prioritised to prevent a repeat of the Cambridge Analytica scandal, which resulted in the closure of several companies and the prosecution of its founders.

It's a bitter pill to take for consumers when online fraud causes them to lose money. Financial technology companies have faced a significant challenge from fraudsters who use technology to steal people's money. Companies, then, need to exert considerable effort to make desired infrastructure upgrades and become more customer-centric.

Hackers can easily target Fintech systems due to their reliance on automation and digital data. Recent thefts at debit card firms and banks are examples of how easily hackers may breach security and create lasting damage. Customers' level of apprehension has increased as a result, and they are now less likely to make the full transition to digital currency. Concerns about who is to blame in the event of a cyberattack or the theft of sensitive personal or financial information rank highest among consumers' concerns.

5.3 Lack of trust and awareness:

In the realm of financial services, trust has always played a key role. Indian consumers are stereotypically more traditional and have historically preferred cash transactions. While the number of the population with bank accounts has grown, the unbanked and underbanked still know very little about what banks can do for them. As a result, it can be difficult to put faith in FinTech firms and use their services. As a nascent industry, FinTech has not yet earned consumers' confidence as a solid replacement for traditional banking. The widespread adoption of FinTech is predicated on a shift in how customers think about and use financial services. FinTech will have to shoulder the responsibility of improving financial literacy and public perceptions, but outreach to the intended audience to inform them of the advantages of adopting FinTech to gain access to financial services is also essential.

When it comes to making financial decisions, Indian consumers are recognised for their caution and sensitivity to cost. Fintech businesses have a long way to go to earn the trust of Indian consumers. Changing the mindset of store owners and customers who conduct most of their business in cash is a formidable challenge. Most elderly people have been making these kinds of purchases with cash for a long time, and it might be challenging to introduce them to new methods of payment unexpectedly.

More than 70% of India's population resides in rural areas, however the vast majority of users of these digital payment platforms are found in the country's major cities. Other barriers include a lack of literacy and inadequate Internet connectivity. Unfortunately, about half of the Indian population still does not have access to formal banking services. It takes longer to complete transactions even when many have bank accounts because of inadequate internet connectivity. Therefore, people prefer traditional monetary exchanges over their digital equivalents. The vast majority of Indians still lack the requisite degree of financial literacy, and that's even if we discount the advantages of having a bank account and access to the internet.

Gaining the confidence of investors is challenging in the Fin tech industry for the same reasons it is challenging in any industry today. It's getting increasingly challenging to raise

the necessary seed capital and other investments on time, which will have a chilling effect on operations and functioning.

Penetration of these services has so far been limited to metros and top-tier cities because of insufficient technology improvements, awareness, and adaption to these FinTechs. This disparity in availability, together with the sector's slow adoption in rural areas and smaller cities, will continue to be a big challenge for the industry. Until then, we'll have to stick to our current habits of using only local lenders and conducting most of our business in cash. Global Threat Due to the nature of the credit flow, the rapid expansion of FinTech companies has led to a corresponding increase in underlying delinquencies, making it crucial to have prudential regulation in place to stem the tide of system-wide risk. Fintech companies provide loans using debt and equity funds rather than deposits like traditional banks do. This means that investors, customers, and enablers are all potentially at danger.

India has a small native digital and financial literate population, and the country's present financial products and services are targeted at the richest 40 million people. About 400 million Indians have annual incomes of $3,000 to $15,000, but their demands are still unmet. Partner at Kalaari Capital Bala Srinivasa believes this presents an opportunity for incumbents and new Indian FinTech companies to leverage on and rethink the requirements of the country's vast unbanked population. Educating people in rural India is crucial to the success of this industry.

5.4 Impact of COVID 19:

Global economies and financial systems have been severely disrupted by the continued spread of COVID 19, with serious consequences for the availability of digital financial services and the operation of FinTech markets. Investors and lenders are helping many Fintechs, particularly insurtech, strengthen their financial positions. Many of them have reduced their staff numbers in an effort to cut costs because the revenue relies on transaction and volume. A shift in customer preferences is evident due to the necessity of online transactions, despite the fact that the total sector continues to grow as seen by investor sentiment.

Companies in the financial technology (FinTech) industry are diverse because they offer a wide variety of financial services using a wide variety of business strategies. As a result, the effect of COVID 19 on market performance varies by FinTech industry and region. There are signs of success for certain established FinTech companies that have obtained sufficient capital. However, the market conditions brought about by COVID 19 could lead to a decline for FinTech firms engaged in unsecured lending or international payments.

Digital Transactions - Aadhaar Enabled Payment Systems (AePS) allows a bank customer to use their Aadhaar number to access their bank account and make queries, payments, withdrawals, and deposits. Since the beginning of 2019, AePS volumes have been rising consistently. In contrast, during the COVID 19 forced lockdown, monthly transactions surpassed 400 million for the first time in April and May of 2020.

Suppliers of Digital Technology As the traditional banking business adopted digital solutions to satisfy consumer requests, technology suppliers saw healthy growth in the early Coronavirus-hit market. This pattern is to be anticipated in the post-COVID 19 era.

Digital Investment Services: During the initial phases of the COVID-19 afflicted market, when volatility was at an all-time high, utilisation figures for retail brokerage FinTech firms were among the highest ever recorded. In the months of March and April of this year, Central Depository Services (India) Ltd. saw an increase of more than 12 million new accounts. At an average of 1.5 to 2 lakh new clients per month, Zerodha's growth since the introduction of COVID is about 100 percent. In March alone, Zerodha added 3 lakh accounts. Consumers' reactions to extreme market swings make this an inevitable eventuality.

5.5 PhonePe app collapse:

Financial technology businesses that relied on yes bank were frantic when the RBI imposed a freeze on the company. According to multiple sources within the industry, Yes Bank's Application Programming Interface (API) was the primary factor in luring so many new businesses. Through an application programming interface (API), fintech companies can

gain access to a bank's digital goods and services that would otherwise be inaccessible to them.

When it came to establishing partnerships with fin-tech companies, Yes Bank was among the most proactive financial institutions. In order to use UPI, non-banking payment companies must team up with a bank. All PhonePe UPI handles for sending and receiving money come from the same yes bank. The PhonePe QR-codes that yes bank issues are not working at brick-and-mortar stores. It would be a significant difficulty for PHONEPE to replace all QR codes.

The failure of YES Bank had a ripple effect on other companies. The RBI has placed restrictions on the use of the current account service, which might have an impact on a startup's ability to pay employees and make payments to vendors and suppliers. The payments, which are typically quite sizable, are unable to be withdrawn from the accounts. SWIGGY, FLIPKART, MYNTRA, MAKEMYTRIP, and REDBUS are just some of the startups that use yes bank to process UPI payments. UPI is a popular tool, but they can still take payments via cards or internet banking if they like. Yes Bank was used by a lot of fintech loan businesses since it could verify user accounts by taking a tiny amount of money out of them.

The impact that eliminating MDR fees will have on UPI applications- The number of debit cards has remained stable at over 900 million, and the rate of growth of UPI transactions, which had been virtually doubling every month until 2018, has slowed to the single digits. For another time, let's discuss whether or not zero MDR will aid in the development of new payment systems. The fact remains, though, that in the short term at least, running a payment company without any fee income would eat into profits. With more than 40% of the market share in terms of the volume of transactions, Pay tm is by far the most popular payment gateway in the country. The company lost money in FY19 due to the high price of attracting new clients and retailers. The payments giant backed by soft banks spent Rs 3,508 cr acquiring new customers, or around 28% more than it brought in via operations (Rs 3,232 cr). Payments processors, banks, and networks like VISA and MASTERCARD all charge merchants a transaction fee for handling digital payments, known as the

Merchant Discount Rate (MDR). UPI payments over Rs. 1,000 were subject to a 0.3% cap and debit card payments over Rs. 2,000 were subject to a 0.6% cap till 2019.

5.6 Financial ecosystem:

There has been a shift from rivalry to cooperation between fin-tech startups and established financial institutions. Partnership, acquisition, incubation, and other forms of financial institution collaboration with the startup community are just a few examples. But there are several obstacles to working together. When it comes to things like productivity, size, and general acceptance, each follows its own standards. The traditional sector cannot afford to be left behind; otherwise, they will quickly become the NOKIA of the Fintech sector. It's high time for the traditional banking system and fintech companies to work together. There needs to be a coordinated effort by the many players in the financial sector to keep up with the rapid rate of technological development.

Many people in rural India lack basic financial information like a bank account, credit history, or proof of home ownership, making it difficult to address the issue of poverty. This has been a major contributor to the underdevelopment of the financial sector. Loans and lending in India, for instance, are time-consuming and laborious due to requirements that call for several paper papers, such as evidence of identity, pay stubs, notarized copies of all documents, signature verification, in-person verification, and a physical inspection of the property. Even if millions of undocumented and unverifiable Indians meet the income sufficiency condition, the risk of lending to them is highly high due to the lack of essential financial data.

Modern FinTech companies require data and infrastructure that are difficult to come by in India. To better serve their clients, FinTech firms require more data. Credit bureaus and conventional banking systems currently serve only a fraction of the working population.

Additionally, most businesses prioritise customers/payers over merchants' acquiring infrastructure. Retailers' inadequate digital infrastructure is a major challenge. Immediately, stores need to put more money into their digital systems. In order to broaden

the population's usage of and access to digital infrastructure, the government has taken substantial steps over the past three years.

5.7 Changes due to Consumer demand:

One of the most important criteria that determines how much money and how quickly a FinTech company may expand is the type of product or service it offers. There's no denying that the pandemic has had a major impact on consumer demand. Industries that formerly received little attention are now seeing a rise in interest. Banking and business-to-business oriented FinTech enterprises are less at risk. Impact is expected to be high in trade finance and unsecured SME loans, but low to medium in retail trading and brokerage, multi-line insurance digital investment management, and health insurance.

5.8 Discovery of Platforms:

Due to the rapid expansion of the FinTech industry, several companies have begun operating in areas previously dominated by others. There are a large number of FinTech businesses, making it difficult to stand out from the crowd. Unless consolidation becomes the norm in this market, it will be difficult for businesses to gain growth, market share, and customers.

There is an urgent need for creativity in creating niche vertical items that are exclusive to the Indian market. Numerous new financial services have recently emerged in India, including micro-investment products, pay-per-day insurance, prepaid plans for individual medical procedures, small-dollar unsecured loans, rapid point-of-sale credit, and more. Startups today have not yet investigated the market thoroughly enough to provide practical, inexpensive, and lucrative solutions. For instance, there hasn't been any significant innovation in areas like credit schemes for female entrepreneurs, social financing, or crowdfunding. Startups can seize a once-in-a-lifetime opportunity to cash in on India's sizable Fintech market by developing answers to these problems, which can include both incremental improvements and radical new approaches.

CHAPTER 6:

CONCLUSION AND SUGGESTIONS

6.1 Conclusion

There has been an uptick in financial services innovation across the board, from the creation of new products to improvements in delivery methods and service offerings. A new generation of nimble companies delivering services across all areas of financial institutions' business has emerged as a result of technological progress and commoditization trends. New financial technology companies are reimagining how banking is done. Long-term success metrics will hinge on whether or not these businesses can compete with, and even improve upon, the services and level of trust a customer has come to expect from their bank.

The Asia-Pacific (APAC) area is a compelling market for Fintech due to its rising economic power and large population of end consumers. India has the world's fastest-growing economy and the second-highest concentration of Fintech firms in Asia Pacific, behind only China. In the past several years, there has been a meteoric rise in the popularity of Fintech products. The renewed interest from banks and government bodies is encouraging for the industry's growth prospects. Even while governments and regulators are working on new frameworks and laws to foster innovation and entrepreneurship, banks are taking an active role in the Fintech boom by pursuing partnerships and investments with startups.

Startups in India have access to a sizable consumer base because of the country's rapidly growing digital technology infrastructure and expanding demand for digital services. Since India has been the centre of the outsourcing and captive services industries for decades, it has a large pool of both new and experienced workers that Swiss businesses may take advantage of. Many multinational corporations and Indian banks have established innovation centres and accelerators dedicated to financial technology in the country of India. Since this trend has only recently begun, it is only expected to grow.

The strong financial infrastructure established by government and regulatory agencies is being used to facilitate Fintech advancements. Financial inclusion and new banking services are also the focus of a number of policies and programmes. The problems highlighted in the report are still present. Starting a business in India requires a solid foundation of consumer education, trust-building, and legal authorization. The financial sector in India is a massive opportunity just waiting to be tapped. Financial literacy is on the rise, thus any startup looking to break into the Indian market must prioritise product-market fit, customer education, and the creation of cutting-edge business models in order to succeed.

There's little doubt that India's financial technology industry has a promising future. India's fintech business may have great potential if it can forge partnerships with more traditional banking and this innovative sector, with the support of increased government initiatives. A further USD 100 billion will be added to the market value in the following five years thanks to India's expanding Fintech industry. For a prosperous economy to thrive, Fintechs must close the digital divide and encourage widespread customer participation from consumers in all segments of the economy, including the production and consumption sectors.

Companies in the financial technology industry are testing rapid lending products and broadening the availability of digital equated monthly instalment (EMI) products in brick-and-mortar establishments to meet the persistent demand for credit. White-goods and electronics stores rarely offered digital EMI, often known as “Buy Now Pay Later” credit options, online. Businesses in previously untapped markets, where banks were previously reluctant to extend credit, are beginning to adopt the strategy pioneered by companies like Bajaj FinServ Ltd. PhonePe will focus on allowing “hyperlocal commerce” for India's 100 million kiranas and SMEs, as well as the at-home and gig entrepreneur segments, thanks to the company's successful experiments revolving around khata (digital ledger) and ATM services.

New Norms Proposed By SEBI To Make It Easier For Startups To Go Public: SEBI has launched a consultation paper inviting feedback on their proposed Innovators Growth

Platform (IGP) framework for the listing of startups on stock exchanges through January 11, 2021. While it has made numerous suggestions, only a select number are

Providing promoters with differentiated voting rights (DVR), protecting existing institutional investors with over 10% capital from dilution by granting them superior voting rights (SR), and relaxing delisting and takeover regulations. The present 10% cap on Accredited Investors (AIs) can be removed if they hold 25% of pre-issue capital for only 1 year, down from 2 years, and their pre-issue capital held by these investors will contribute toward the entire 25% minimum needed to achieve eligibility conditions. The proposal calls for a doubling of the current shareholding threshold from 5% to 10%, with future changes of 5% (instead of the current 2%) triggering disclosure. The definition of an accredited investor, which presently only includes people and body corporate, should be expanded to include family trusts.

The second batch of RBI's regulatory sandbox effort will focus on cross-border payments, and the third cohort will focus on MSME loans. In addition, almost $40 Bn is traded in OTC foreign exchange products every day in India. The Reserve Bank of India (RBI) hopes that the creation of the Cohort would speed up the development of new technologies that can help make international money transfers more affordable, secure, convenient, and transparent. The minimum net worth criterion has been loosened from INR 25 Lakh to INR 10 Mn, and partnership firms and limited liability partnerships are now eligible to participate in the regulatory sandbox.

The regulatory sandbox is a great resource for gathering empirical data with legal weight to demonstrate the efficacy of cutting-edge FinTech solutions. SEBI is encouraging major firms who think their FinTech innovations have the potential to disrupt the way capital markets in India have traditionally worked. At the pilot level, you don't expect the processes to be alive and active.

The Regulatory Sandbox is a well-established system in several countries, with its possible debut in the UK dating back to 2016. Since then, other nations like Canada and the United States have taken similar measures to usher in a simulated, though regulated, version of the actual world that is off-limits to the masses the target market seeks to serve. The parallel

path taken by the RBI and IRDAI suggests that they both see the benefits of implementing a regulatory sandbox in the Indian environment. To guarantee that the most cutting-edge FinTech technologies make it to the securities market, authorities like SEBI have outlined a framework called the “Regulatory Sandbox”.

Although FinTech is relatively new in India, the market's potential can be maximised with the right real-world opportunities. The Regulatory Sandbox is a fantastic method since the risks involved are minimal and can be carefully analysed. This 'learn-by-doing' approach to testing technologies that aim to assist the public at large in their trade on the Indian stocks market was mentioned before. Having their creations put through their paces in the real world and provided with immediate feedback and performance reports is a huge boon to the final product's potential for improvement.

Financial technology companies, or “Fintechs”, have had a remarkable impact on the banking and financial sector since the 2008 Global Financial Crisis, demonetization, and COVID 19. The MEDICI India FinTech Report 2020 2nd Edition found that in the last three years, the number of new FinTech startups in India was nearly equal to that in the United States. In addition, digital payment systems have been at the vanguard of the FinTech industry in India. After InsurTech, WealthTech, Neo Banks, RegTech, etc., Lending is India's largest FinTech subsector.

In an effort to bring the country's massive unbanked population into the fold of formal financial services and to bolster its primary FinTech areas like payments and lending ecosystem, India has experimented with a number of rules and reforms over the past several years. Increased internet and smartphone penetration, together with government and regulatory initiatives like demonetization, Jan Dhan Yojana, Aadhaar, etc., have all aided to the widespread acceptance of FinTech in India.

FinTechs will need to prioritise trust and client engagement as they see an increase in digital customers. Given the current state of cybersecurity, this is especially important. Security and ease of use must be prioritised if a FinTech company wants to compete successfully with other leading brands in the industry.

The financial technology industry is well-known for its cutting-edge advancements in customer convenience. It's not shocking that banks and other financial institutions would use data analytics to provide individualised service to their consumers at the neighbourhood level in the future. More expansion is expected in the financial services industry as companies respond to new opportunities presented by technological development. The financial technology industry will explode in the next decade, and this is just the beginning.

There are currently 21 unicorns in India, with Paytm being the most valuable at $16 billion. India's FinTech industry was worth INR 1,920 Bn in 2019, and it's projected to be worth INR 6,207 Bn by 2025, growing at a CAGR (compound annual growth rate) of 22.7% between 2020 and 2025. We anticipate sustained growth in the FinTech sector over the next few years, despite the fact that the industry is still in its infancy. Digital lending (alternative finance) and open banking will receive increased attention as a result of the upcoming reforms. The development of FinTech will ultimately lead to massive business prospects and the empowerment of companies in the digital age.

6.2 Suggestions

Some of the basic structural issues facing Indian financial services may be alleviated if Indian FinTech companies had a wider reach, better customer experience, less operational friction, and more people using the digital channel. Incumbent banks and financial service providers would have a harder time competing with digital FinTech startups due to their slower and less efficient procedures and higher operational cost models. FinTech's potential lies in its ability to increase market share, influence consumer habits, and bring about structural shifts in the financial services sector.

There are three ways in which Indian FinTech firms can revolutionise the financial services industry:

1. Financial technology businesses are anticipated to lower prices and boost service quality. The savings made by using streamlined business processes and passing the

savings on to customers are made possible by eliminating the need for expensive physical infrastructure and outdated IT infrastructure.

2. The financial technology sector will create novel approaches to risk analysis. Increased access to financial services in India could be achieved through the use of big data, machine learning, and alternative data for underwriting credit and creating credit scores for customers with low credit history.
3. Because of FinTech, the future of the financial services industry will be more robust, secure, and reliable. FinTech firms are less homogenous than traditional banks and can serve as excellent learning templates on how to enhance both competencies and corporate culture.

There is much that established firms can learn from new FinTech entrants as well. Most banks and financial services providers in India have established best practises through time in areas such as compliance culture, operational excellence, risk and internal controls, and employee engagement, which fintech startups may learn from and embrace. Other than these, certain recommendations could be:

1. Create an adaptable digital network

   It is crucial that the country's digital infrastructure is both flexible and encouraging if the fintech ecosystem is to thrive. India should increase investment in mobile, internet, and IoT infrastructure to provide reliable and consistent connections and communications across all platforms.
2. Involve educational institutions and other groups in creating a skilled workforce in the fields of technology and entrepreneurship. India needs to tread carefully as more and more of its working-age population leaves the country in quest of better economic prospects. The country's educational system must prioritise instilling in its students the technical and entrepreneurial skills necessary to realise this vision. Universities and colleges should be pushed to initiate and propel an environment conducive to innovation from the get-go.
3. Provide consistent tax breaks for entrepreneurs and VCs. With programmes like “Digital India” and “Start-up India”, the government of India is actively fostering the growth of India's financial ecosystem. Particularly in regions with high rates of literacy,

educational institution penetration, and innovative entrepreneur density, state governments should provide supplementary benefits.

4. To spread the word abroad and instil a culture of open learning, a number of events will be held both in and out of the country. India may learn from the expansion strategies of other global centres in the financial and technology industries by hosting international events and inviting the heads of start-up firms. As a result, India's digital prowess may be highlighted, potentially luring foreign direct investment. Use the most effective initiatives for market regulation that have been developed elsewhere. Although it is prudent to proceed with caution and restraint when trying to understand the intricate workings of fintech in India's highly regulated financial services market, it is crucial to internalise the strategy and vision of the regulatory initiatives from more developed markets that can aid in the growth of the fintech industry.
5. Create a non-profit organisation focusing on the fintech business to serve as a unifying voice for the field. The proliferation of cutting-edge new businesses across the country underscores the need for a unified trade group with a focus on the financial technology industry to coordinate its members' efforts and establish a legitimate market for their products. This is anticipated to improve efficiency, promote the sharing of knowledge and information, and give the industry a louder voice.
6. The Reserve Bank of India (RBI), public sector banks (PSUs), private banks (PBs), the National Payments Corporation of India (NPCI), and other economic bodies in India should all be represented on the governing body. Assignments should focus on evaluating and improving India's existing conventional banking systems. Examples include efforts to reform alternative funding in India; Disseminating programmes like electronic Know-Your-Customer (e-KYC), Aadhaar-linked payments, account switching, and digital passports.
7. Helping financial technology startups get off the ground: There is a need to create a structure that can nurture creative ideas while also pointing budding entrepreneurs in the right way. Some of the suggestions are highlighted as: a) Compliance, risk, and regulatory framework development with government and regulator support; b) Expertise in product and service development beyond the prototype stage, as well as efficient marketing to international competitors; c) Facilitating proof-of-concept (POC)

projects between fintech companies and Indian banks to test and improve products. This encourages international banks to use India's fintech solutions; d) Providing support for fintech's physical infrastructure by providing office space, hardware, and other logistics; e) Transforming underutilized public and private buildings into start-up havens by establishing incubation centres.

8. Rally domestic and international venture capital An ecosystem with high returns and cutting-edge products is essential for attracting and retaining both domestic and international investors. To achieve this goal, we can: a. build a marketplace where fintech can showcase its products and services and give a quick overview to interested parties, such as investors; Raising the profile of the fintech industry and demonstrating its potential to potential investors; Improving fintech startups' access to seed financing, so that they can begin operations with a buffer of cash after a business plan is approved; Allotting funding for fintech investments and hosting innovation contests for fintech firms; Forming more collaborative fundraising efforts with private actors and financial institutions.
9. Utilize incubation resources: collaborate with ecosystem participants who can help you take your product or service beyond the prototype stage and into successful promotion among global competitors. Establish working partnerships with technology development/implementation companies that will serve as system integrator partners
10. Raise money from VC firms at home and abroad a) Think about ways to raise money by teaming up with businesses and banks. Participate in industry events and push collaborations with the established businesses to b) raise awareness among investors and demonstrate the potential.

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