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EVOLVED OF DIGITAL TECHNOLOGY AND FINTECH STUDY IN INDIA: OPPORTUNITIES AND CHALLENGES FOR STARTUP COMPANIES

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ABSTRACT

Fintech is an acronym for Financial Technology, which gives alternate options for banking and non-banking finance services. Fintech is a new phrase in the financial sector. The primary purpose of this paper is to evaluate the Fintech segments and the Fintech startup sector. It depicts the growth of a Fintech startup firm and the current state of financial Technology (Fintech) in the Indian financial industry. By digitizing transactions, Fintech makes them safer for users. The benefits of Fintech services include lower operational costs and an easy-to-use interface. Fintech services in India are growing at the quickest rate in the world. Besides these challenges, there are enormous opportunities for Fintech Startups in India Fintech services will affect the routines and behavior of the Indian banking sector. As a result, there is a need to manage these problems proactively, resolving them by strategic decision-making, which will push FinTech Startups down the road of revolutionary growth. Besides these challenges, there are enormous opportunities for FinTech Startups in India. All secondary data, examination of literature, and research findings demonstrate that the FinTech industry would dominate India's future financial services sector.

Keywords: *Financial Technology, Fintech, Systematic Literature Review, FinTech Start-ups.*

Introduction

Fintech is a new type of financial business that uses Technology to improve financial processes. A New York banker invented the name "FinTech" in 1972. *Fintech* may alternatively be defined as "any new concepts that enhance financial service operations by offering technological solutions based on varied company scenarios," according to Leong and Sung (2018). Finance fosters a new generation of entrepreneurs leveraging Technology to rapidly expand and scale their businesses. This business has long been viewed as a susceptible, technological, and regulated industry dominated by a few mega-banks. However, with the Indian government's demonetization push in November 2016, FinTech became increasingly important in India. FinTech startups launched before 2016, such as Paytm, MobiKwik, Freecharge, PhonePe, Citrus Pay, PolicyBazaar, and Oxigen, have experienced a surge in popularity following demonetization. However, not every startup experienced this taste of success due to numerous challenges such as data security, Compliance with government rules, a lack of technical skills, Big Data and AI integration, Blockchain integration, successful customer acquisition methods, customized services, cybersecurity, and other issues. This indicates that these difficulties may hamper the FinTech industry's expansion. This research will look into the obstacles and possibilities that FinTech Startups face and potential solutions.

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Convergence of Financial Services and Technology

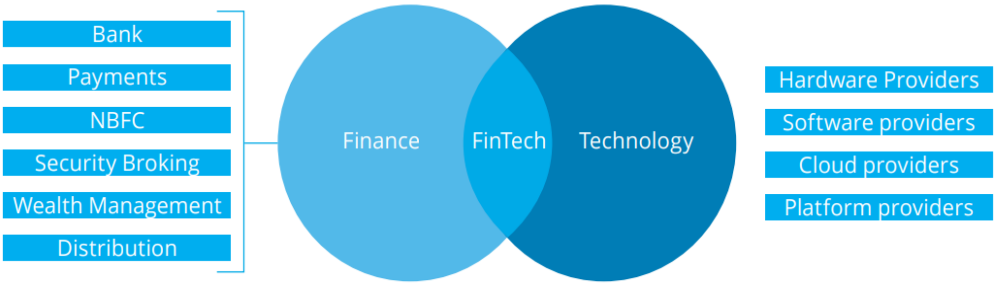


Figure 1

Source: Report by Deloitte and Internet and Mobile Association of India (IAMAI), July 2017

Brief History of Fintech development

FinTech has been a severe concern recently, even though the idea is not new. The first connection across the Trans-Atlantic transmission line happened on 16 August 1958, but it may have occurred as early as July 1866. The connection not only cut transmission time between North America and Europe from 10 days to 17 hours (when a message was delivered by freight), but it also contributed to establishing the global telex and subsequent financial services, generally known as FinTech 1.0.

To recapitulate, the progress of enabling Technology is intrinsically related to the advancement of FinTech. During FinTech 1.0, for example, the Trans-Atlantic transmission line and mainframe computers were crucial enabling technologies. These technologies allow the creation of financial technology products such as SWIFT and ATMs. The Internet and the Internet of Things were among the connected technologies created during FinTech 2.0; FinTech 3.0 will witness the development of even more data technologies. We are presently in a transition era between FinTech 2.0 and FinTech 3.0.

The Development of FinTech and Critical Technologies in Each Stage

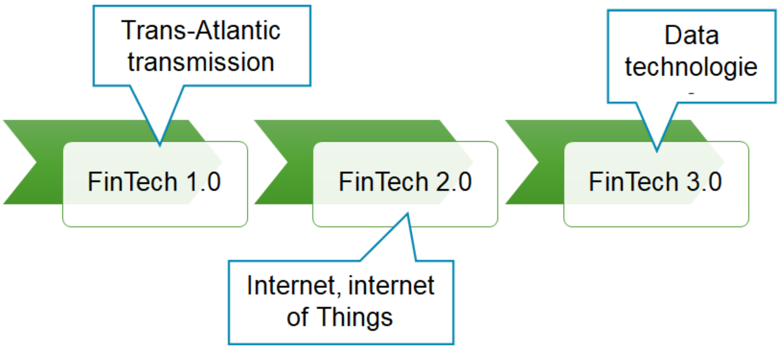


Figure 2

Source: Created by Researcher

Review of Literature

This study defines FinTech in three dimensions: innovation object (Business Model, Product/Service, Organization, Process, System), innovation degree (disruptive and incremental), and innovation scope (inter-organizational and intraorganizational) (Puschmann, 2017). The paper covers financial inclusion as a primary facilitator of the FinTech business, the causes of India's FinTech boom, and the privacy and security problems for FinTech (Prasad, 2019). Describes the difficulties influencing FinTech and the opportunities for FinTech in terms of financial inclusion, Technology, and financial services in the Indian market. The correct mix of incentives, rules, and regulations set by the RBI and the Government of India to allow digital platform solutions have also resulted in a safer and more integrated financial system (Kandpal & Mehrotra, 2019). (Kandpal & Mehrotra, 2019). FinTech Startups, Government, Traditional Financial Institutions, Financial Customers, and Technology Developers are the five disclosed parts of the FinTech Ecosystem. Blockchain technology, alternative financing, Robo advising, digital payments, and a change in the insurance industry are among the technologies that will determine the future of FinTech in India (Vijai, 2019). RegTech and SupTech handle a variety of financial difficulties and regulatory efforts that increase efficiency via automated procedures. Opportunities include establishing a central KYC registry, developing financial products, closing the gender gap, bringing more merchants into the digital platform, Smart Point of Sale (Pos) Terminals, and Quick Response Codes, among other things (Raj & Upadhyay, 2020). Explains the latest FinTech developments and the many sorts of FinTech firms. FinTech risks include partial market share loss, poorer margins, operational risk, and increased bank reliance on FinTech technology advances (Romnova & Kudinska, 2017). The influence of Technology on the banking sector and financial services are being studied. This shows that China is ahead of the rest of Asia regarding financial and technical innovation. The report also supports that FinTech firms cannot replace banking institutions' income. It also outlines how India might profit from digital payments and India's regulatory environment (Gupta & Xia, 2018). This article discusses FinTech services in Kenya, India, and China, their regulatory frameworks, and appropriate approaches for increasing financial inclusion via technology innovation in financial services. Many specialized financial services are available in Kenya and India, and peer-to-peer lending digital platforms in China as part of the financial technology revolution (Guild, 2017). In India, the FinTech revolution has caused havoc in the banking industry. Banks must recognize that the banking business is evolving and, as a result, respond promptly. Banks decide on their consumer offer. Banks will be challenged to either lose market share or gain market share. They will win if they use this as an opportunity to improve. If banks use opposing techniques to oppose the abovementioned situation, they will come out at the bottom. FinTech 2.0 represents a much more significant shift. An opportunity for banks and FinTech companies to work together, bringing something to the table for each other (Jadwani, n.d.). Prior financial services expertise of the founding team, degree of client-centricity in the Startup business model, interoperability in the Startup business model, strategic alliance, and regulatory environment openness to financial inclusion were identified as critical elements practical from a multilevel perspective. In this context, success is defined by two criteria: attaining social impact via financial inclusion and becoming a sustainable organization through increased financial performance (Soriano, 2018). FinTech ushers in a new paradigm in which the digital revolution propels the financial sector forward. FinTech is heralded as a game-changing concept with the potential to transform traditional financial operations. This page provides a historical overview of FinTech and an explanation of the FinTech ecosystem, concepts, and financing possibilities. This article demonstrates the usage of genuine alternatives in FinTech investment choices. The discussion then shifts to technical and administrative challenges in FinTech startups and established financial institutions. Lee and Shin (2018).

The Objective of the Study

- To Analyze FinTech segments in India.
- To demonstrate a list of Indian FinTech Unicorns.
- To identify challenges confronted by FinTech Startups.
- To recognize the Opportunities in the way of FinTech Startups

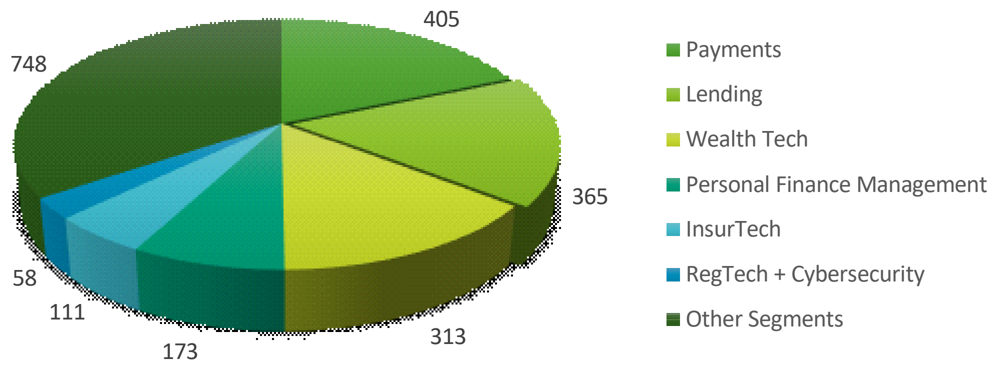
Fintech in India

In recent years, India's FinTech ecosystem has flourished, making it one of its largest and fastest-growing FinTech marketplaces. According to the FinTech Report 2020 2nd Edition released by MEDICI India, India holds the second position in the maximum number of new FinTech Start-ups formed in the last three years, with the US at the top of the list. Moreover, many factors, such as the availability of smartphones to everyone, access to high internet speed, and high connectivity, contributed to the flourishing of the FinTech ecosystem in India. Demonetization and COVID pandemic push the adoption of digital payment and lending systems in India because of the reformation of essential financial services that makes it more convenient for all sections of society. FinTech Startups play a crucial role in offering these revolutionized innovative services by utilizing mobile banking, Paperless lending, mobile wallets, and secure payment gateways. Financial institutions and FinTech firms collaborate for mutual benefits, and this strategic partnership avails them of other payment records. In recent times, FinTech expanded beyond digital payments to other financial services like InsurTech, WealthTech, Etc.

Besides all these, the key stakeholders of the Indian Financial Services industry also have immense interest in FinTech. Therefore, FinTech has become an essential focal point for all the key stakeholders – Regulators (RBI, SEBI, IRDAI, Etc.), Banks, Non-Banking Financial Corporations (NBFCs), Payment Services Providers, Investors, Broking firms, Wealth Management Companies, and Insurance providers.

Fintech Startup in India

Rapid investment in the FinTech sector stimulates the formation of new FinTech businesses. Because of their outsized success, investment in FinTech businesses is projected to rise considerably in the coming years. According to KPMG's Pulse of FinTech, a bi-annual assessment of FinTech investment patterns in India, investment in the first half of 2021 is $2 billion, virtually equal to the total FinTech investment of $2.7 billion in 2020 (The Hindu Business Line, 14 August 2021). (*The Hindu Business Line, 14 August 2021*). As of June 2020, India has roughly 2174 FinTech Startups, with the bulk headquartered in Bengaluru and Mumbai (*Report by RBSA Advisors, 2021*). Figure 1 illustrates the segment-wise distribution of FinTech Startups in India. Payment has 405 FinTech Start-ups, Lending has 365, WealthTech has 313, Personal Finance Management has 173, InsureTech has 111, RegTech and Cyber Security has 58, and Other Segments (which include Cryptocurrency, Blockchain, BigData Analytics, Machine Learning, Artificial Intelligence, Crowdfunding, Banking tech, Neobanks, Rewards/Loyalty/ Coupons, B2B FinTech/B2C FinTech/C2C FinTech, Trade.



Indian FinTech Unicorns

In the venture capital industry, the term "Unicorn" is quite popular and used in describing the valuation of over $1 billion of a privately held Start-up company. India has the most significant rate of fintech adoption in the world. It has approximately 2,100 FinTechs, with 67 percent established in the previous five years alone. India has the second-highest concentration of unicorns in Asia-Pacific and the third-highest concentration globally, after only the United States and China (Statista). Fintech unicorns are expanding in size and quantity in India. Table 1 highlights the 11 Indian FinTech Unicorns Startups with a valuation of over $1 billion: Paytm, Razorpay, Pine labs, Groww, Policy Bazar, BharatPe, Cred, Digit insurance, PhonePe, Zeta. Below is Table 1, comprising 10 FinTech Unicorns of India and their valuations: The word "Unicorn" is widely used in the venture capital market to represent a privately held Start-up firm with a valuation of more than $1 billion. India has the most significant rate of fintech adoption in the world. It has roughly 2,100 FinTechs, with 67 percent formed in the past five years.After the United States and China, India has the second-highest concentration of unicorns in Asia-Pacific and the third-highest globally (Statista).Fintech unicorns are rising in size and number in India. Paytm, Razorpay, Pine Labs, Groww, Policy Bazar, BharatPe, Cred, Digit Insurance, PhonePe, and Zeta are among the 11 Indian FinTech Unicorns with valuations exceeding $1 billion, as illustrated in Figure 1. which displays the values of the top 10 FinTech unicorns in India:

Table 1: Indian FinTech Unicorns

Years	Startup	Valuation	Year	Startup	Valuation
2010	Paytm	$25 Billion	2018	BharatPe	$2.85 Billion
2014	Razorpay	$3 Billion	2018	Cred	$2.2 Billion
1998	Pine labs	$3 Billion	2017	Digit Insurance	$1.90 Billion
2016	Groww	$3 Billion	2012	PhonePe	$5.5 Billion
2008	Policy Bazaar	$2.4 Billion	2015	Zeta	$1.45 Billion

Source: Created by Researcher

Challenges that Fintech Industry Faces

FinTech firms confront various hurdles in the company, including a lack of appropriate financial resources, long fundraising cycles, government restrictions, unmet objectives, quick technology improvements, client data protection, cyber theft, and escalating losses. FinTech startups are presently tackling the following challenges to ensure long-term success in the area. As a result, startups must take proactive actions to tackle these challenges and handle them through strategic decision-making, propelling FinTech startups along a road of revolutionary growth.

- **Information Security**

Virtual security is always a source of concern. Mobile banking and payment applications cannot ensure data security in the digital age. In contrast to traditional banking systems, virtual data security is not as simple as we may believe. Vulnerabilities in digital platforms might damage the user's data and their money. FinTech startups facing several cybersecurity concerns experience enormous illegal access and monetary losses during online client transactions. These are unjustified for consumers who have been victims of such scams. The most challenging problem for FinTech startups is to protect their client's data and identities from any dangers posed by hackers.

- **Ineffective Mobile and Technological Knowledge**

Sometimes FinTech organizations lack access to user-friendly mobile banking services; a customer becomes frustrated with a sluggish mobile banking app and desires a handy, easy-to-use solution. As a result, these types of mobile apps are rarely exploited to their full potential.

- **Government Regulations and Legal Compliance**

Many rules in India's financial industry unavoidably hinder the growth of FinTech startups. These government rules and compliance requirements are put in place to combat fraud. Nonetheless, these legal frameworks serve as significant obstacles for future FinTech entrants. Among these compliances are new global regulations (laws such as PSD2), anti-money laundering (AML) procedures, Know-Your-Customer (KYC) requirements, stricter enforcement of existing regulations, a lack of streamlined compliance processes, fines and penalties on businesses, all of which impede the growth of FinTech startups.

- **Integration of Big Data and AI**

Big data and Artificial Intelligence have made their presence in every organization and revolutionized the data fetching and storing process, especially for banks. With big data, organizations can collect users' personal information, social status, and financial behavior pattern. This data assists banks in assessing creditworthiness and credit rating. Big data AI automates the process, helps to detect online fraud, and manages digital transactions effectively. ,But Big data and Artificial Intelligence technology are not as easy to implement in banks and FinTech Startups' existing systems because it requires expertise in installation, assistance for working with it, and constant maintenance.

- **Integration of Blockchain**

Various fintech apps employ blockchain technology. Some firms do not regard blockchain as a feasible solution, while others see it as a method of boosting data transmission. Implementing a blockchain can boost the reliability of the Fintech firm. Because it allows you to analyze and track all parts of a transaction and restrict any adjustments, you can keep an eye on it. However, adopting a blockchain is a challenging effort for many financial organizations. Banks and other financial organizations have been hesitant to embrace the blockchain revolution. On the other hand, startups are more likely to attempt to disrupt the Fintech sector. They should, however, consider traditional banks and governments, as these organizations remain suspicious of new technologies.

- **Strategic Marketing efforts to Acquire Customers**

Recently, a few sections of society have gained more trust in traditional banking services and don't want to switch to digital mobile banking services. Therefore, FinTech Startups find it difficult to convert them and also fail to recognize the niche that suits their offerings, target customers, and marketing tactics

Opportunities

In 2017, the global average FinTech adoption rate was 33 percent, with India's FinTech adoption rate being 52 percent higher. According to Ernst & Young's Worldwide FinTech Adoption Index, the global average FinTech adoption rate in 2019 was 64 percent, with India leading the way with 87 percent. This remarkable adoption rate illustrates that the Indian FinTech industry can reach new heights and benefit all stakeholders. Several causes contributed to the emergence of the FinTech company, which will result in the birth of much more significant and innovative new FinTech Start-ups in the following years. In India, there are various prospects for FinTech startups. Here are a few examples:

- **Possibilities Beyond COVID-19**

According to a study report published in 2021 by RBSA Advisors, "Amid COVID-19, India has experienced a 60 percent growth in FinTech investments to US$ 1467 million in H1 2020 compared to US$ 919 million in the same period previous year" (FinTech Industry in India - Future of Financial Services, 2021). (FinTech Industry in India - Future of Financial Services, 2021). COVID-19 has opened up new investment and commercial potential for the FinTech industry. As a result of the social alienation issue, e-commerce and digital financial services have witnessed enormous expansion. Due to COVID, the payment and lending categories have experienced an increase in mobile app transactions. This pandemic promotes the habit of online payment, which leads more clients to FinTech services.

- **Increasing Strategic Partnership**

FinTech startups always seek strategic relationships with financial institutions, traditional banks, other FinTech Startups, and nonfinancial services businesses; they complement each other in their areas of competence and benefit from financing and compliance infrastructure needs. It lessens the probability of a business failing and, to some extent, reduces the financial strain.

- **Neo Banking – A Digital Bank**

In the current setting, the RBI does not give banking licenses to Neo Banks as wholly digital banks. Neo Banks can provide financial services by working with RBI-licensed physical banks to supply banking-like services. It is a highly enticing investment prospect for venture capitalists and private equity investors. Razorpay, Wisely, Kaleidofin, and NiYO are a few startups working on this technique. There may be a future for entirely digital banks, and if this is attainable with the consent of the RBI, FinTech Startups' dependency on physical banks will be erased.

- **India's Regulatory Initiatives**

The Indian government has launched many programs to improve the environment for Indian FinTech businesses, including Startup India, Unified Payments Interface (UPI), Digital India Program, Jan Dhan Yojana, Trade Receivable Discounting System (TReDS), and National Common Mobility Card (NCMC) (NCMC). Such initiatives encourage companies to integrate their efforts with government programs.

- **Increased Support from the Ecosystem**

The Reserve Bank of India suggested the Regulatory Sandbox Framework, Open Credit Enablement Network, and Account Aggregator framework for data consent in 2019. These frameworks transform the FinTech ecosystem by decreasing friction for existing models, early detection of hazards, regulatory Compliance, and enabling the speedier introduction of new products/services/innovations. It is producing new and diverse business chances in the FinTech industry.

Conclusion

Because of their ease and market reach, mobile technologies serve to elevate and develop the FinTech industry. They assist banks in boosting the efficiency of their banking procedures. According to a Boston Consulting Group research published in March 2021, Indian FinTech businesses would be worth US$150-160 billion by 2025, more than tripling their current value. Aside from this scenario, FinTach Startups face many obstacles, some of which have yet to be overcome. Technology, financial services, and government constraints are continually present in the FinTech sector. The success of every FinTech firm is based on establishing a balance between these three pillars and the existing financial system.

On the other hand, traditional banks find it difficult to assimilate new technologies and trends. Banks and FinTech businesses must continually interact for long-term success. More collaboration among institutions increases the number of anomalies in the financial business, which mandates adopting compliance rules to manage. To date, the Indian financial market has been neglected. The FinTech sector will witness tremendous development in the following years, with growing penetration in digital lending, WealthTech, InsurTech, and working capital loans. It is safe to say that the FinTech industry will dominate India's future financial services market.

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