FinTech - Catalytic Transformer of the Finance Industry

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Abstract

From providing easier and faster processes to financial institutions to delivering convenient experiences to users, the Indian FinTech industry is anticipated to grow by 22% at an average annual growth rate for the next 5 years, till the year 2028 which makes it an essential sector to be studied. This research work aims at providing insights into the evolution made by the finance industry with the transformation of financial services from traditional banking to Non-Banking Financial Companies to FinTech. It further stresses the government initiatives taken up for boosting the digital sector. The qualitative research methodology was adopted by relying on a review of research papers, reports, and journal articles in this domain. Although, there are many research papers on FinTech globally, however, there is not much research work on the augmentation of FinTech in India as compared to foreign nations mainly the USA from where this term was coined, and what the future of this sector might look like globally.

Keywords: FinTech, NBFC, Digital Bank, Neo Banks, Paytm, Stripe, Valuation, Banking, Finance, Technology

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1. Introduction

The term 'FinTech' can be better understood by the word breakup where 'Fin' stands for Financial and 'Tech' stands for Technology, thus forming Financial Technology. At the most basic level, FinTech integrates advanced technology for facilitating businesses, business owners and customers with an improved application and delivery of financial services. Apart from the traditional banking system, FinTech operates in a different setting. FinTech uses cutting-edge technology and artificial intelligence, whereas banks have massive deposits and a strong regulatory framework. FinTech simplifies and accelerates financial institutions' operations and processes. At the same time, it provides consumers with a highly convenient experience which is becoming the need of the hour. As a result, implementing a FinTech solution for the financial institution will be a win-win situation that will propel it to new business heights. It propagates zero-barrier applications and faster approvals. Financial institutions improve process efficiency through automation and customized FinTech implementation based on demand and type of company operations as per the report of KPMG, 2019[3] FinTech has become a one-stop destination for all financial services, it is not just about payment services rather the industry is becoming huge and has its distribution, which consists of personal finance, real estate, lending, crypto, and investment. However, the payment segment of the FinTech distribution holds the greatest share in this industry segmentation and thus contributes towards revenue generation.

The growth of FinTech is supported by the up gradation in the technology. Regular technological advancements like artificial intelligence (AI), Data Analytics, Big Data, and Robotic Process Automation make it much safer, faster, and more efficient. Digitization is taking place across the value chain. Consumer connections in the front office are shifting from face-to-face interactions to cell phones. European neo-banks such as Revolut, American Robo-advisers such as Betterment, and Asian InsurTech such as PingAn are few examples.

Section 2 reviews the recent literature on FinTech and its related topics. Section 3 mentions the methodology of this paper. Section 4 highlights the thematic view analysing the relation between technology and FinTech. Drawing from the emerging trend towards technology in

[3] Forging-with bleeds.pdf (kpmg.com) (accessed in November 2022)

finance, this study explains the evolution of the Indian financial services sector with technological advancements. Following this, section 5 describes the initiatives taken by the government to give a boost the FinTech industry. Section 6 lists down the top five FinTech companies in India and abroad. As the Indian FinTech industry is in the developing stage, it is essential to know the further improvements required for competing with the foreign FinTech industries. Considering this, section 7 is a comparative analysis between the FinTech companies in India and abroad. Following this, section 8 focuses upon the future, and the extensions of the FinTech industry. Section 9 concludes the paper.

2. Literature Review

2.1. Evolution & Growth of FinTech

There is a digital revolution taking place in the financial sector that requires the revelation of the drivers of digitalization in the finance industry (Dapp, 2014). The use of technology would consequently enhance efficiency thus, further changing the face of interaction between the bank and its customers. The web-based technologies leading to efficient use of information and falling transaction costs pave the way for many new players to enter the market. The research introduces digital structural change which is a key feature for banking sector and the need for digital revolution.It also shows the building of an internet economy along with the structural changes and market consolidation. The interlinked relationship between financial services and technology is further explored by Arner, et al. (2015) to understand the status and possible future developments. It also emphasized the necessity of regulators in the industry in the form of “RegTech”. As per Goyal, et al. (2021) “India is strongly poised to realize a FinTech sector valuation of USD 150-160 billion by 2025, translating to an incremental value-creation potential of approximately USD 100 billion.”

FinTech is defined as leveraging technology to deliver banking and financial solutions to individual and enterprise customers in Pant (2020) with the focus on different phases of FinTech and its evolution. FinTech in India has also been elaborated upon along with risks in the upcoming years. Understanding the role of the NBFCs sector in the financial industry and its future was highlighted by Sengupta, et al. (2021) along with a comparison with the commercial banks. Advancing the delivery of financial services to the poor, unbanked, and marginalized is required in the current times, and Lagna and Ravishankar (2021) have focussed on the same along with highlighting the opportunities for IS scholars to align their FinTech research with the pro-poor financial inclusion agenda. It also proposes further inclusions under five areas of research: business strategies, digital artifacts, business environment, micro-foundations, and developmental impacts.

2.2. Challenges & Issues of FinTech

Priya and Anusha (2019) says that FinTech is a game-changer and a disruptive technology that can shake up the traditional financial markets. Still, the new technologies will only be successful once the customers are satisfied with the privacy and security aspects, as Kandpal and Mehrotra (2019) aimed at the cyber security of the consumers of FinTech, and the support of the government is required for the same.

Suryono, et al. (2020) mentions the requirement of broad principles in which the rules must be adapted according to technological advancements, with this arises the need for a regulatory sandbox concept and monitoring of the platforms. “India is transitioning into a dynamic ecosystem offering FinTech start-ups a platform to grow into billion-dollar unicorns. From tapping new segments to exploring foreign markets, FinTech in India is pursuing multiple targets.” (Suryono, et al. (2020))

Baporikar (2021) examines the challenges that India will face alongside the development of the FinTech industry and explore the fact of how India as a cashless economy will cope with the emergence of FinTech across the globe.

2.3. Indian FinTech

As per FinTech in India (2017)[4], the report by Deloitte, the FinTech Industry is both complementing and challenging the traditional banks and financial services institutions globally. The sector can be analyzed by breaking it into six sub-sectors- Credit, Payments, Investment Management, InsurTech, and BankTech. The segments can also witness their own breakout moments with the right value proposition and by gaining customers' confidence. Vijai (2019) highlights how the Indian economy has responded well to the FinTech opportunity and accesses the opportunities and challenges by expounding the evolution of this industry. According to Rajeswari and Vijai (2021), "FinTech is the latest buzzword in the area of finance sector; the latest evolution of FinTech, led by start-ups, 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." Knowing the drivers of the FinTech sector is also important,

Mehta and Kumari (2021) focused on this by taking a quantitative approach to study customer awareness and inclination toward FinTech products. It also explores the difficulties that FinTech will face soon alongside its development. "The Indian financial ecosystem has strong growth potential." With this Abidi (2021) elaborates upon the foundation, growth, and development of FinTech in India. It also takes into consideration Covid impact on the industry.

2.4. Future & Extensions of FinTech

For guiding India toward a key FinTech hub to make it into a mature FinTech ecosystem by global standards it is required to assess the FinTech landscape in India along with the various stakeholders and identification of the key growth drivers, this is covered in (Fintech in India, 2016).The future of FinTech as per Mention (2019) seems to deliver double-edged consequences- catalysing consumer and market behaviour changes while disrupting the necessary employers, regulatory structures, and service models, and modernizing the financial architecture. Also, it mentions some hard realities that FinTech firms need to face

[4] Source: [FinTech in India: Ready for breakout] (accessed in September 2022)

despite promising technology. There are certain research gaps that need to be filled before this area could become an established academic discipline. Following this Kavuri and Milne (2019)has defined seven key research gaps with questions with which a base for the academic study could be formed.The seven gaps are changing industrial structure and organisation of financial services; new forms of financial intermediation (alternative finance) such as loan-based and equity-based crowd funding; changing payments mechanisms including central bank digital currencies and the shift to a cashless society; reaching vulnerable and excluded customers in both developed and developing countries; computation, artificial intelligence and large-scale data processing in finance; the relationship between the new financial technologies and financial regulation; identity, security, data privacy and their regulation in financial services.Ranabhat, et al. (2022)shows by following the PRISMA[5]framework that the adoption of digital financial inclusion in developing countries is getting essential and for the same identifying the research gaps for future research is needed.

This paper, by examining the existing literature on the FinTech industry explains the evolution of the Indian financial services sector with technological advancements. With the Indian FinTech industry in its developing stage, it is essential to figure out the scope of further improvements required for competing with the foreign FinTech industries. In contemplation of this, a less explored area of a comparative analysis between the FinTech companies in India and abroad is covered in our research work. The top five Indian FinTech companies (Paytm, Razorpay, BharatPe, Digit Insurance and PB Fintech) and foreign FinTech companies (Stripe, Ant Financial, Visa, Mastercard and PayPal), have been considered to study and analyse the status and pattern of these companies. Following this, the extensions of the FinTech industry have also been focused upon. Challenger banks and neo banks have been looked upon as extensions of the FinTech industry. The paper concludes with a glance at the future of the FinTech industry.

[5] PRISMA stands for Preferred Reporting Items for Systematic Reviews and Meta-Analysis, which is a 27-item checklist used to improve transparency in systematic reviews.

3. Methodology

A comprehensive review of the literature on FinTech, its evolution, growth, and future aspect of the industry was conducted to specify the study's parameters with a qualitative approach. The study has been undertaken based on top-cited academic publications. Reports and articles of prestigious companies such as KPMG and BCG have been considered while preparation of the research paper. The key data and trends for the same were taken from websites such as Statista and other prominent companies that conduct market research. The primary criterion of the review research paper is to compare the FinTech sector in India and abroad by opting for a comparative analysis approach. For aiding the analysis, the top five Indian and foreign FinTech companies have been considered.

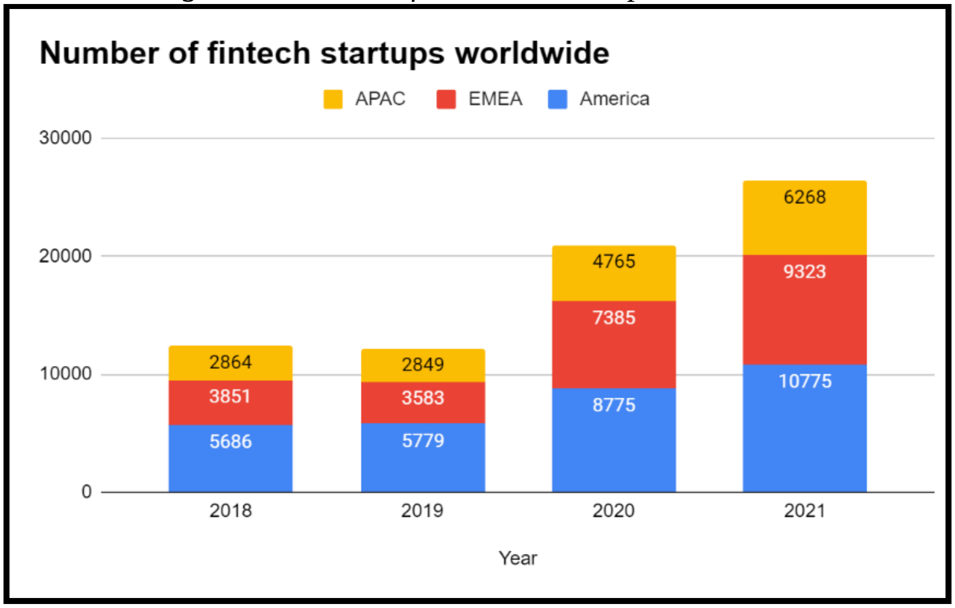
4. Thematic analysis of the FinTech Industry

Finance and technology are connected since the beginning of human society. Its origins can be traced back to the nineteenth century, once the technology began to form its imprint on history, inflicting the FinTech business to grow.

The number of FinTech start-ups has increased exponentially globally. Figure 1 represents the growth of the number of FinTech companies through the years 2018 to 2021. The data has been taken based on APAC, EMEA, and America.

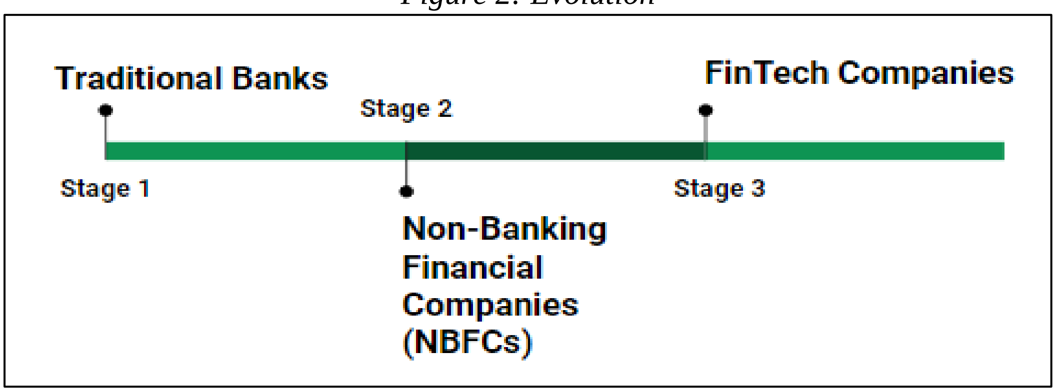
The start of the banking system was with traditional banks, which are still an essential part of the system. Then the non-banking financial companies (NBFCs) evolved to eliminate the gaps in the traditional system. Eventually, role of technology was brought into the banking sector which led to the introduction of FinTech companies. Figure 2 gives this description.

Figure 1: Number of FinTech start-ups worldwide



Source: Statista (accessed in November 2022)

Figure 2: Evolution



Source: Authors' creation based on the literature

4.1. Traditional Banks

They are financial entities that are permitted to accept deposits from individuals and companies and provide loans to them. Wealth management, safe deposit lockers, and currency exchange are among the other financial services provided by some banks.

Banks and FinTech are considered the biggest competitors. The only similarity between these two sectors is that both work to provide financial services to people. When it comes to innovation and advancement, traditional banks are falling behind, while FinTech is stepping up to the plate. FinTech may only make up a small part of the global financial system, but it is rapidly being used to replace banks.

Table 1: Comparison between Traditional Banks and FinTech companies

Basis	**Traditional Banks**	**FinTech Companies**
1. Structure & Working	These are restrictive due to formal procedures and methods.	The FinTech industry is a creative and customer-focused industry. It is developed in a way that is more accessible to people
2. Technology	It does not play the main role.	All the functions to provide financial services are run with the help of technology.
3. Customer Experience	Banks require the physical presence of the customer to avail of most of their services.	FinTech offers 24/7 access, remote account opening, and quick consultations which give consumers a better experience.
4. Risks Involved	Banks are strictly regulated and thus face much fewer risks when compared to FinTech. The services are exposed to less severe risks.	FinTech regulations are more lenient than traditional regulations, increasing the risk of doing business.
5. Regulations	National or central banks govern	The FinTech industry does not have

	banks in their own countries like RBI in India.	a single regulator. This is the main reason for their flexible working and easy adaptations.
6. Growth Potential	Traditional banks are still used by a large section for financial services. They still hold a decent market share and will continue to hold it, while sharing with FinTech.	The FinTech industry, which is driven by technology, has huge growth potential. FinTech is growing exponentially and has a large user base.

Source: Authors' compilation from the literature

4.2. Non-Banking Financial Companies (NBFCs)

It is usually being asked that when we have the banks to fulfil our day-to-day financial needs in terms of making deposits, savings, loans, and other activities, was there still a space for any other developments to be made. This is where Non-Banking Financial Institutions (NBFIs) or Non-Banking Financial Corporations (NBFCs) came into place. NBFIs are the financial institutions offering various banking facilities (they don't have a banking license) which are regulated by the RBI after obtaining NBFC registration.

They are considered better than the traditional banks for certain reasons. They follow a hassle-free loan process, flexible eligibility criteria for granting loans, prioritizing customers, complete online or digital process, as well as very competitive with the interest rates than traditional banks. Which one is better, NBFC or FinTech? To understand, which one is better, NBFC or FinTech, Table 2 below gives a comparative analysis of the two.

Table 2: Comparison between FinTech companies and NBFCs

Basis	FinTech Companies	NBFC
1. Acceptance of technology	They are a power-driven tech business.	They have a slow acceptance of technology and follow manual-processing steps.
2. Paperwork	Low	High
3. Convenience	It provides high convenience.	It has a moderate level of convenience.
4. Flexibility of rules	They are moderately flexible with the rules.	They are very less flexible with the rules.

Source: Authors' compilation from the literature

Each of them has its own benefits and drawbacks, though both deliver loans, they still have their respective different places in the financial environment. The FinTech industry emerged from the traditional banks, followed by the NBFCs.

With the approaching of the 21st century, India like many other active players emerged in this era with an abundance of smart advancements and entrants. The FinTech industry gained traction and became ubiquitous during the Global Financial Crisis of 2008. This was when people began shifting from the traditional banking system and developed their trust in these new entrants. India took its turn toward a cashless economy with the announcement of the 2016 demonetization and the Indian Government's move toward Digital India. All this lent nice support to the FinTech business.

As per Goyal, et al. (2021), the valuation of the Indian FinTech sector is predicted to be positioned at USD 150-160 billion by 2025 and for accomplishing this, a targeted investment of USD 20-25 billion is required over subsequent few years. The report also mentioned India as the fastest-growing FinTech market in the world as 67% of the 2100+ FinTech companies existing in India have been set up in the past five years.

4.3. Factors behind the evolution of the FinTech Sector

Figure 3 depicts the average transaction value per user in three different segments: Digital Commerce6, Digital Remittances[7], and Mobile POS Payments[8]. We can observe that the average transaction value is increasing every year. This reflects the expansion of the FinTech sector over the years.

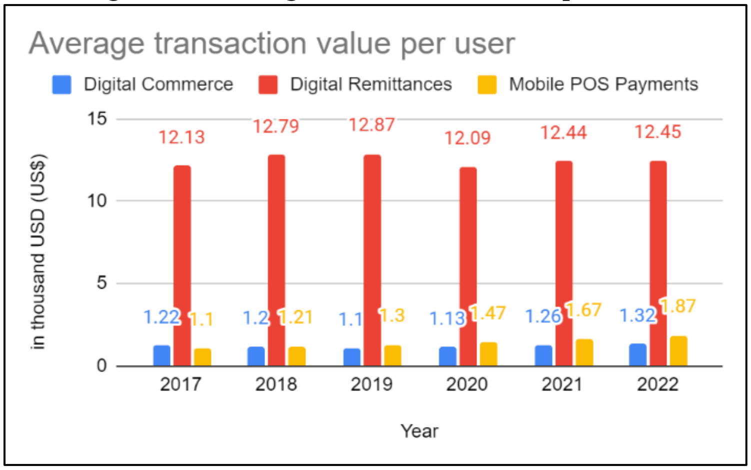
4.3.1. Easy Payments & Convenient Personalization

In recent years, instalments have undergone a big transition, because of the internet business, mobile commerce, and online instalments. The FinTech sector has expedited easy payment options for consumers across the globe. Numerous digital payment apps such as Google Pay, Apple Pay, Amazon Pay, PhonePe, etc., proved to be a booster for 'Cashless India'. As shown in figure 4, there has been a significant increase in the both the volume and the value of digital transactions. The volume of digital transactions increased from Rs. 2071 crore to Rs. 13462 over the years 2017 to 2023 which shows the impact of Cashless India campaign on Indian population.

Moreover, FinTech is enhancing the client experience by providing customized plans that are tailored to the client's requirements. Implementing Artificial Intelligence (AI) and Big Data for personalization will increase availability and capability, with the findings being used to advance current administration methods.

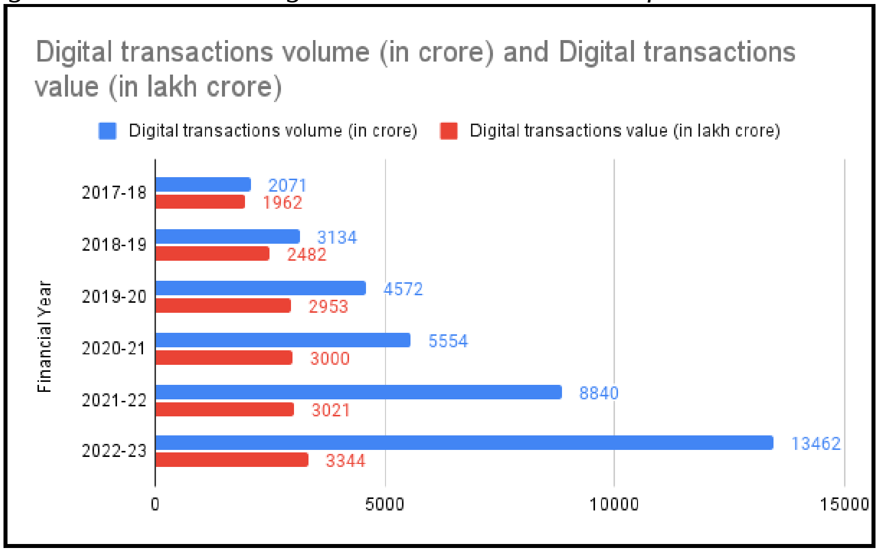
[6]Source: https://www.gartner.com/en/information-technology/glossary/digital-commerce (accessed in January 2022)
[7]Source: https://gocardless.com/en-au/guides/posts/what-is-digital-remittance/ (accessed in November 2022)
[8]Source: https://www.techtarget.com/searchcio/definition/mPOS-mobile-point-of-sale (accessed in November 2022)

Figure 3: Average Transaction value per user



Source: Statista (accessed in November 2022)
Note: The data for the year 2022 is calculated till the month of March.

Figure 4: Increase in digital transactions in terms of volume and value.



Source: Ministry of Electronics & Information Technology (accessed in July 2023)

4.3.2. The partnership of FinTech with corporations and banks

Nicely coordinated efforts between FinTech trend-setters and Corporates, with Corporates preferring to take a position in FinTech over acquiring arrangements, may be witnessed. Also, banks collaborate with FinTech to resolve inconsistencies and supply advantages through administration, a seamless client experience, and advancement in cutting-edge features to simplify chores. Examples of partnerships between FinTech and Banks as of 2023 are Tradeshift and HSBC, Stripe and Goldman Sachs, Deutsche Bank and Traxpay, and Citi and IntraFi.

4.3.3. Simple Management of Personal Wealth

Investment Advisory organizations have experienced a rising change with the improvement in the electronic riches counsel called Robo-guides. This assists the clients in making money-related decisions through calculations. Such inclusion of the technical features boosts the use of FinTech.

4.3.4. The facility of Cloud Banking & Secure Digital Payments

As no additional speculations are needed for asset and equipment management, the use of distributed computing will drastically save expenses. Cloud adapts to dynamic requests and provides flexibility to meet clients' shifting needs. Cloud assets may also scale up and down as needed, making it easier to integrate new technologies. Security is paramount in money-related transactions that have become handy due to the facility of cloud banking. According to an EY analysis[9], block chain technology will be progressively popular with its benefits like transparency, changelessness, discernibility, and audibility. It will provide a level of security for the trade of currency and sensitive data, allowing clients to benefit from its simplicity and lower operational costs.

[9] Source: https://www.ey.com/en_gl/digital/blockchain-why-finance-and-auditing-will-never-be-the-same (accessed in October 2022)

ISSN: 2583-8814 (Online)

5. Government Initiatives toward FinTech Industry

As per Findex 2021[10], 22% of Indians lack an account in any financial institution. Across banks, INR 267 billion (USD 336 billion) have been lying in around 90 million dormant accounts for more than 10 years, as of December 2020. Following this, the Government of India created a regulatory environment in the country that encouraged new enterprises to take the lead and gain recognition for themselves in the banking industry. In 2018, more than 125 FinTech start-ups were successfully launched, as per the Fintech Futures[11].This is seen as the increased investment and funding by both international and domestic banks, as well as the establishment of a foundation for India's FinTech start-ups to fund payment wallets, finance tools, and other financial services.

5.1. Digital India Programme

Digital India Programme[12] is a flagship program of the Indian Government with a vision to transform India into a knowledge economy and digitally empowered society. The vision of the Digital India Programme is digital infrastructure as a core utility to every citizen, governance & services on demand, and digital empowerment of citizens. High-speed internet, mobile phones, and bank account enable citizens to participate in the digital and financial space. Among these, the high-speed internet facility is a core utility for the delivery of such services. All this has improved the ease of doing business and led to collaborative digital platforms for participative governance.

5.2. Ombudsman Scheme

Ombudsman Scheme[13] provides bank customers with a quick and affordable venue for the settlement of grievances regarding specific services provided by banks. System Participants

[10] Source: file:///C:/Users/LEN0VA/Downloads/9781464818974.pdf (accessed in November 2022)
[11] Source: https://www.fintechfutures.com/2019/01/initiatives-by-indias-government-to-boost-fintech/ (accessed in November 2022)
[12] Source: https://csc.gov.in/digitalIndia (accessed in October 2022)
[13] Source:

disregard Reserve Bank guidance about Prepaid Payment Instruments, on payment transactions through Unified Payments Interface (UPI) / Bharat Bill Payment System (BBPS) / Bharat QR Code/ UPI QR Code.

5.3. Steering Committee

Steering Committee[14] constituted by the Department of Economic Affairs in 2019, Ministry of Finance highlights the positive impact of FinTech on sectors like Agriculture and MSMEs and recommends a comprehensive legal framework for consumer protection considering the rise of FinTech and digital services.

5.4. International Financial Services Centre Authority

International Financial Services Centre Authority[15] (IFSCA) is headquartered in GIFT City of Gujarat and was established on April 27, 2020, with the main objective to develop a strong global connection, focusing on the Indian Economy’s needs, and serve as an International Financial platform. In the Union Budget of 2021-22, the government announced its support for a world-class FinTech hub development at the headquarters.

5.5. E-RUPI

E-RUPI[16] is a digital solution launched by the Government of India to allow a cashless payment solution for COVID-19 vaccination. It can be shared with the beneficiaries for any specific purpose or activity by organizations via SMS or QR code. This seamless one-time payment mechanism is easy, safe, and secure for the beneficiaries because it keeps their

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https://loksabhadocs.nic.in/Refinput/New_Reference_Notes/English/08122021_120807_102120474.pdf (accessed in November 2022)

[14]Source: https://www.techtarget.com/searchcio/definition/steering-committee#:~:text=A%20steering%20committee%20is%20a,supports%20business%20goals%20and%20objectives. (accessed in October 2022)

[15]Source: https://www.ifsca.gov.in/ (accessed in October 2022)

[16]Source: https://www.npci.org.in/what-we-do/e-rupi/product-overview (accessed in October 2022)

details completely confidential. With this, the users can redeem the vouchers without a card, digital payments app, or any internet banking access. The entire transaction process via this voucher is comparatively faster and more reliable as the required amount is already stored in the voucher.

The creation and implementation of *authentication solutions* such as digital KYC, video-based customer identification, and digital signature on documents have provided various safeguards and a hassle-free system for FinTech start-ups and customers to take advantage of the sector's technology-enabled solutions.

6. Top 5 Indian and Foreign FinTech Companies

This section gives a brief summary of Indian and Foreign FinTech companies. Table 3 gives a comparison of top five Indian FinTech companies on various parameters, while Table 4 gives a comparison of top five foreign FinTech companies.

Table 3: Top 5 Indian FinTech companies

	Paytm	Razorpay	BharatPe	Digit Insurance	PB Fintech
About	Established in 2010 by Vijay Shekhar Sharma, Paytmbegan as a utility payment platform. It is owned by One97 Communications and licensed by RBI.	Razorpay was started by HarshilMathur and Shashank Kumar in 2014.	Founded in 2018 by Ashneer Grover and ShashvatNakrani serves small merchants and Kirana store owners with a collection of FinTech products.	Formed in 2016 by KameshGoyal with its digital-first strategy promising to make the insurance purchase and claim procedure easier and had been granted regulatory clearance by Insurance Regulatory and Development Authority (IRDA) in September 2017.	The parent company of PolicyBazaar and PaisaBazaar was founded by YashishDahiya, AlokBansal, and AvaneeshNirjar in June 2008. It originated as a price comparison website and a knowledge source for insurance and related programs which later grew up to become an insurance policies marketplace.
Valuation	$6.48 billion	$7.5 billion	$3 billion	$4 billion	$3.6 billion
Status	Listed	Unlisted	Unlisted	Listed	Listed
Business Model	It generates revenue using the transaction fee from the merchants and convenience fee from the consumers	For small and medium companies, revenue is obtained through transaction charge of 2-3% and for large enterprises, customized plans do the needful.	Its revenue comes from its merchant and consumer-lending products.	Much of its revenue is generated from its products which include the insurance plans and their premiums	PolicyBazaarmakes money via a commission model
IPO	Yes	No	No	No	Yes
Unicorn	Yes	Yes	Yes	Yes	Yes
Competitive Advantage	Paytm has just released the Paytm for Business app in 2018, which allows businesses to manage transactions and accept digital payments through QR codes.	Razorpay's encoded service allows businesses to receive payments from their consumers at the point of delivery using non-cash payment methods. To introduce the eCOD (eCash On Delivery) feature, Razorpay has already teamed with Shadowfax and several online merchants, including Licious and GoZefo.	It was the first one to create an interoperable QR code, ZERO MDR payment acceptance service, and UPI payment-backed merchant cash advance service.	It also plans to expand itself through physical presence and to support this,the company will follow a spoke-hub distribution paradigm. The company aims to cogenerate and design innovative products through neo-lending strategies.	Expecting PB FinTech to get benefit from its dominant position in the digital insurance and credit market, some analysts have given a 'Subscribe' rating for the long term to the IPO.
Growth Strategy	By identifying the unmet needs and meeting them prioritizing customer support and creating a good user experience, it has had a great growth path. The strategy for the same includes helping small businesses to go digital, providing diverse services, sponsoring events and offering discounts and cashback to attract customers.	Three new products: Magic Checkout, Tax Payment Suite, and Rize were launched by Razorpay as the next leg of growth. The payment methods included Net banking, BNPL, UPI, wallets, debit, and credit cards, also it was advantageous to businesses and merchants to handle their financial operations through a single dashboard.	With the goal to ameliorate the consumer experience on its POS devices, it will continue to expand via strategic alliances with financial institutions, banks, and brands. It is also planning to launch a Merchant Shareholding program. It has shopkeepers at the centre of its business strategy, which has paid rich dividends to the company.	It follows the 'simplicity' tool which according to it is the biggest differentiator in the current complex industry to achieve growth and customer satisfaction. They attract customers with innovative products such as mobile screen damage insurance.	Considering an efficient growth strategy is working on experiments and finding the opportunities in the SME and corporate business, although they prefer to avoid the experiments involving huge cash burn upfront. With a focus on customer convenience, they plan to set up physical offices in major cities in India.

Source: Authors' compilation from the literature

Table 4: Top 5 Foreign FinTech companies

	Stripe	**Ant Financial**	**Visa**	**Mastercard**	**PayPal**
About	Stripe is an Irish American company formed in 2009.It is headquartered inSan Francisco, United States, and Dublin, Ireland which offers financial services.	Ant Group, formally known as Ant Financial and Alipay, founded on 16th October 2014, is a subsidiary of the Chinese Alibaba Group.	Visa Inc. is a global firm headquartered in California, USA. VISA was founded by Dee Ward Hock on September 18, 1958.	Mastercard Inc. is an American multinational corporation located in New York. It was founded on 3rd November 1966.	PayPal Holdings, Inc. is a worldwide financial technology corporation based in the United States that operates an online payment system in many nations.
Valuation	$50 billion	$64 billion	$464.93	$357.21 billion	$74.42 billion
Status	Listed	Listed	Listed	Listed	Listed
Business Model	Stripe's revenue-earning comes from payment processing fees, atlas, radar, sigma, issuing, treasury, and premium support.	Offering services such as insurance, credit, loans, credit scoring, and wealth management contribute to the revenue of the company.	Visa operates on a transaction-centric business model, earning income from payments as well as transaction volume from its customized cards.	Mastercard earns money by collecting a charge based on the gross dollar amount of activity to financial institutions that issue Mastercard-branded payment instruments.	PayPal makes money through transaction fees, international payments, business accounts, withdrawal fees, interests, pay flow, and working capital.
IPO	Yes	No	Yes	Yes	Yes
Unicorn	Yes	Yes	Yes	Yes	Yes
Competitive Advantage	It has built a programmable infrastructure such as Global Payments and Treasury Networks (GPTN) for the global money movement.	The FinTech company uses the "BASIC" technology strategy to provide better future services and make the technology available to the public.	It attempts to capture the new sources of money movement, i.e., new flows like P2P, G2C (Government-to-consumer), B2b (Business-to-small business), etc. It also provides some Value-Added-Services to diversify the revenue.	To supplement its efforts and eventually diversify its revenues, the company used acquisitions as a tool, its buyouts helped expand the concerned markets with new revenue streams and thus strengthen its core product solutions.	It had the first-mover advantage in online payments, and it is now getting closer to other financial services like crypto for expanding its financial services. Its varied offerings with greater flexibility and ease of use are what make it different from its competitors.
Growth Strategy	The company uses a Product development-based growth strategy - DHM which stands for Delight customers in, Hard-to-copy, Margin-enhancing ways. Market penetration, market development, product development and diversification are the four basic categories of growth strategies.	This company uses the "BASIC" technology strategy to provide better future services and make the technology available to the public. This strategy is a combination of five aspects: Blockchain, Artificial Intelligence, Security, IoT, and Cloud Computing.	The company's strategy is to fast-track the revenue growth in consumer payments with capabilities like cryptocurrencies, Tap to Pay, Tokenization, Click to Pay, etc.	The firm is concentrating on technology in the B2B sector. To complement its efforts and eventually diversify its income, the corporation employed acquisitions as a tactic.	PayPal has introduced a slew of new products aimed at broadening its ecosystem and increasing user interaction. This includes Venmo credit card, QR code payments, cryptocurrency trading, and "Buy Now, Pay Later" (BNPL).

Source: Authors' compilation from the literature

7. Comparison between Indian and Foreign FinTech

After having a look at the top companies in the FinTech sector, it is now a requisite to perform a comparative analysis between Indian and foreign FinTech. This section of the report performs the comparison based on certain factors to perceive the developmental status of India compared to developed nations in the FinTech industry. For the same, the US has been taken as the base nation.

Table 5: Comparison between Indian FinTech and Foreign FinTech

Basis	India	US
Valuation of companies (based on top 5 companies considered)	The valuation of top FinTech companies in India ranges from $3 billion to $15 billion.	The valuation of top FinTech companies in the US ranges from $95 billion to $425 billion.
Listed/Unlisted	Most of the companies in India are not listed and haven't launched their IPOs. Companies such as Paytm, BharatPe, and PB FinTech have or will be releasing their IPO.	Almost all foreign FinTech companies are listed. All the top FinTech companies in the US are listed and have released their IPOs.
Regulator's Approach	The Reserve Bank of India has decided to set up a separate FinTech department. It will also help in providing a framework for further research to pin down the challenges and opportunities associated with it.[17]	The CFPB (Consumer Financial Protection Bureau) looks after the FinTech sector. It will govern the consumer's financial transaction data for the consumers to switch banks more easily or take benefit from the FinTech-enabled services[18].

[17] Source: The Reserve Bank of India and the Regulation of Fintech (accessed in November 2022)
[18] Source: CFPB Invokes Dormant Authority to Examine Nonbank Companies Posing Risks to Consumers (accessed in November 2022)

ISSN: 2583-8814 (Online)

Regulatory Acts	Payment & Settlement Systems Act, Guidelines Regulating P2P Lending, NCPI Regulations regarding UPI payments, NBFC Regulations, and Regulations governing Payment Banks are some of the FinTech regulations imposed in India.	Gramm-Leach Bliley Act, Fair Credit Reporting Act, Fund Transfer Act, CFPB Regulation E, Securities Act, and Exchange Act, Securities Act and Exchange Act, are some of the acts passed to regulate FinTech activities in the US.
Government Initiatives	The Pradhan Mantri Jan DhanYojana (PMJDY), Ombudsman Scheme, National Payments Corporation of India (NPCI), Digital India Programme, E-RUPI, and the RBI's Centre for Financial Literacy program are some of the key measures introduced to enhance the working of the FinTech sector.	The US government introduced the CARES Act to reduce the impact of Covid 19 on small businesses and support them. The Fed has also introduced various facilities to provide FinTech with funding. These schemes include Primary Market Corporate Credit Facility, Term Asset-Backed Securities Loan Facility as well as Main Street Business Lending Program.

Source: Authors' compilation from the literature. *Note:* The base country for the report is the US as most of the top FinTech companies across the world are US-originated, thus considering the bigger picture Indian FinTech companies were compared to the US-based for international comparison.

From Table 5, while the US-based FinTech is more developed in terms of its valuation and being listed, Indian FinTech is exponentially growing to achieve that status. The minimum valuation of top FinTech companies in the US starts from $95 billion, whereas for Indian companies, it is from $3 billion which reflects the gap in the developmental status of both nations (as per the top ten companies considered above). On one hand, all the top US-originated FinTech companies have released their IPOs, on the other hand in India; most of the top companies are in the process of launching their IPOs. However, the Indian FinTech sector has seen substantial developments in the previous five years, with growth continuing to accelerate. As per The Winds of Change-a report by E&Y[19], considering the number of FinTech start-ups and publicly listed players, the US is the largest Fintech hub, but India is the fastest-growing marketplace for FinTech with the highest adoption rate of 87% against the global average of 64% as said by Shri Piyush Goyal, Honourable minister of Ministry and Commerce while addressing the 2nd Global Fintech Fest-2021[20]. When compared with the US, it was noticed that both, the US government and the Indian government are working towards safeguarding the FinTech sector and making it a trustable industry for customers. Moreover, the central banks i.e., Federal Reserve and RBI are ensuring the smooth functioning of the industry.

8. Extensions and Future of the FinTech sector

8.1. Extensions

8.1.1. Challenger Banks

Challenger banks are tech-led neobank start-ups or non-financial services that are pivoting into financial services as well as digital-only offerings by incumbent banks. The emergence of Challenger Banks has changed the banking outlook significantly over the last decade. Metro Bank was one of the first challenger banks and had its banking licence approved in 2010. With more of their focus on digital technologies and enhanced customer experience, they look to disrupt the established banks. To differentiate themselves, they leveraged mobile-first technology by initiating innovative new products and offering superior customer services, along with this they follow a model with minimum operating costs which allows them to provide services to their customers at significantly lower prices when compared with the traditional banks. They opted to primarily target the customer segments which were

[19] Source: The Winds of Change (accessed in November 2022)
[20] Source: PIB Delhi (accessed in September 2022)

previously ignored instead of focusing on the larger customer segments of the traditional banks.

With their growing popularity, these 'new-age' banks are expected to reach $356 million by 2025 as per the report of SunTec.[21] Unlike the UK, India does not grant virtual banking licenses to challenger banks. However, NITI Aayog (2022)[22] shows that there is a possible action plan for proposals of licensing and regulatory frameworks for digital banks.

8.1.2. Neo Banks

Neo banks are modern financial institutions that only operate online. They offer digital, mobile-first financial solutions for loans, payments, and other activities. The idea of neo-banking as a concept first surfaced between 2013 and 2015. First-movers including Monzo, Revolut, N26, and Atom Bank had their origins in the UK and Germany. Back in 2016, Niyo Solutions was the first FinTech Company in India to explore neo-banking. They bridge the gap between traditional banking services and clients' changing expectations in the digital era. This was the major reason behind emergence of neo banks. They're changing the FinTech landscape and might eventually overtake traditional banks. Neo banks are an extension of the FinTech sector. RazorpayX, Jupiter, Niyo, Open, and EpiFi are some of India's top neo banks.

Neo banks have several benefits which include low costs due to few regulations and credit-based risks, convenience due to digitalization, and speed due to innovative technologies. There are some cons of neo-banks as well. Neo banks are not regulated by RBI and as a result, may face some hurdles. Neo banks do not have physical branches. These companies don't have their bank licenses in India; thus, they rely on bank partners to provide licensed services. RBI, the central bank of India does not permit 100% digital banking yet. The Reserve Bank of India (RBI) continues to place a high value on banks' physical presence.

[21] Source: Syncing Traditional Banks With Their 'Challengers' (accessed in October 2022)
[22] Source: Digital Banks: A proposal for licensing & regulatory regime for India (accessed in November 2022)

However, the neo-bank market is expected to grow at a tremendous rate of 53.4 percent from 2022 to 2030, according to Statista.[23]

8.2. Future of FinTech

People have moved towards FinTech, and this is the result of technology that has made financial payments much easier than before. The need for technology-backed banking has risen because of the digital transformation movement by FinTech and the emergence of digital payments, digital wallets, crypto currencies, and digital currencies like Bit coins, Lit coins, Name coins, NXT, and others.

To produce cutting-edge apps and solutions that would help them expand their market presence, retain current clients, and draw in new ones, many banks and financial institutions began seeking FinTech software development services. To draw in more customers and provide them access to top-notch digital banking services, it is efficient to design digital solutions with a customer-centric mindset that embraces the most recent FinTech developments. The advancement in the future of FinTech will take some more years.

As Figure 3 earlier depicted the average transaction value per user can be inferred that the transaction values are expected to increase every year in the future. It is evident that a positive future in the FinTech sector is expected across the three different segments

9. Conclusion

The connection between finance and technology can be spotted since the emergence of the telegraph and Morse code, which are now obsolete. The observation of online banking began in the 1980s, and with its gaining popularity, many active players emerged in India by the 21st century. Compared to foreign FinTech companies like that in the U.S.A., India still seems to be at a budding stage. But it can be easily observed that the Indian government

[23] Source: Market size of neobanks from 2021 to 2023, with a forecast for 2030 (accessed in July 2023)

considering it an essential sector like every other economy is taking initiatives for building a digital economy.

Finance Minister Nirmala Sitharaman said in her Budget 2022 speech that boosting the digital economy and FinTech was a top priority for the government. The Indian government has launched several initiatives to boost FinTech and enhance inflows. The US government has also been playing a major role in the enhancement of the FinTech industry. Many governments and central banks are working towards achieving the goal of the digital economy. These initiatives have led to the transformation of the sector.

There is no doubt that the FinTech sector is indeed a key sector for an economy. However, the question on whether the FinTech sector can ever overpower traditional banking is yet to be answered, which at this stage, can only be speculated, and requires more research in the future course of time.

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