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Fintech adoption: A driving force for more digitalization of financial services in India

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Abstract

One of the fastest-developing countries across the globe in terms of population and banking technology is India. Digital transactions took place, especially after the COVID-19 pandemic, faster with the help of Fintech. Fintech combines the words 'financial' and 'technology.' It can be broadly defined as technology-enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets, institutions, and the provision of financial services" (Raj, Brij, and Upadhyay, Varun 2020). Fintech is a platform where many digital transactions occur quickly in every nook and corner of the country. Thanks to smartphone technology, approximately 250 million Indians use UPI daily, and nearly 50 million users have one or more credit cards. RBI's move is set to combine the convenience of both by offering customers instant payment experience of UPI with the benefits of short-term credit and rewards offered by credit cards (Desk, n.d.). "It can facilitate smartphone interbank transactions and is utilized for real-time payment processing. In January 2023 alone, UPI processed 8038.59 million transactions amounting to 1,299,058.78 crore". (NPCI 2023) (Desk, n.d.). How will this technology change banking in the future? What will this technology's impact, and finally, how will the customer benefit? A micro-level study tries to bring some outcomes of Fintech to banking operations, particularly to the ultimate use of people.

Keywords: Fintech, UPI, Banks, NPCI, Customer

Introduction

India is one of the fastest-developing countries in the world in terms of population and banking technology. Digital truncation took place faster after the COVID-19 pandemic with the help of FINTECH. "FinTech' combines the words 'financial' and 'technology.' It can be broadly defined as technology-enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets, institutions, and the provision of financial services" (Raj and Upadhyay2020). Fintech is a platform where lots of digital transactions take place quickly in every nook and corner of the country. Thanks to smartphone technology, approximately 250 million Indians use UPI daily, and nearly 50 million users have one or more credit cards. RBI's move is set to combine the convenience of both by offering customers instant payment experience of UPI with the benefits of short-term credit and rewards offered by credit cards (Desk, n.d.). "It can facilitate smartphone inter-bank transactions and is utilized for real-time payment processing. In January 2023 alone, UPI processed 8038.59 million transactions amounting to 1,299,058.78 crore" (Desk, n.d.). How will this technology change banking in the future, what will the impact of this technology be, and finally, how will the customer benefit? A micro-level study tries to bring some outcomes of Fintech to the banking operation, particularly to the ultimate use of people. A strong push from the Government of India has given the non-banking population easy access to financial products. Payment organizations have demonstrated the advantages of mobile-led solutions, and traditional banking organizations are now trying to make inroads into rural India by launching innovative mobile-based banking solutions.

Evolution of Fintech in India

The true story of Fintech started in India during 2016, when the demonetization of the Indian

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rupee currency notes happened. Although some fintech players have already existed in the country before 2016, the country was a cash-dominant economy. During the demonetization process, various new Fintech has entered in India. Initially, people were reluctant to use digital modes of transactions and other too. People felt compelled to use the digital mode of transaction as cash was missing from the economy. However, immediately people realized that digital transactions provide convenience, safety, and flexibility. The emergence of Unified Payments Interface (UPI) further facilitated the country's fintech sector (Gajbhiye). The advent of technology has led to a revolution in the finance industry with a significant shift in banking, new businesses, trading, and virtual money. Nothing have been happened 50 years back short of spectacular for Fintech in India, where ATMs revolutionized bank cash withdrawals, and the internet's introduction in the 1990s helped the fintech industry to reach new heights.

It has received over \$27.6 billion in funding and is visualized to reach over \$150 billion by 2025. Indian Prime Minister Narendra Modi called for a "Fintech Revolution" in India on 3 December, 2021. India's Fintech adoption rate is Eighty Seven Percent, significantly above the global average of Sixty Four Percent (*Scope of Fintech in india*. (n.d.-a).

India's Fintech Market

"India is one of the world's fastest-growing FinTech marketplaces. With China, India has the highest FinTech adoption rate in the world" (Arun Singh *et al.* 1, 2018). In India, at a Compound Annual Growth Rate (CAGR) of 20 percent, the value of transactions, including financial technology, is anticipated to surge from \$66 billion in 2019 to \$138 billion in 2023. Additionally, as Fintech platforms and services mature with a huge user base and product-market fit, they have explored new ways to diversify their revenue streams, giving rise to Super applications. Super apps bring together a diverse set of services under one umbrella, allowing for multiple daily use cases. Super applications are gaining traction in the Indian market due to increasing levels of digitization, falling smartphone pricing, and demand for COVID-induced digital services. It is also important to note that large technology companies such as Google, Amazon, and WhatsApp have altered their product lines to provide specialized services in India. Some examples of these specialized services include Google Pay, Amazon Pay, and WhatsApp Payments.

Segments in Indian fintech firms

Payment Technology (PayTech)

To break into this industry, fintech companies in India offer payment gateways, card networks, application programming interfaces (APIs), and payment security. Third-party application providers (TPAP), prepaid cards and wallets, bill payments, QR code payments, payment aggregators, and point-of-sale systems are all examples of consumer-focused services that can be utilized (POS). Paytm, PhonePe, MobiKwik, and Google Pay are some of the most well-known names in this competitive landscape ("Future of FinTech Companies in Indian Perspective").

Lending Technology (LendTech)

Examples of LendTech include personal loans, salary loans, gold loans, auto loans, student loans, and peer-to-peer lending, as well as lenders and suppliers of Buy Now, Pay

Later (BNPL) services, AI and anti-fraud technology, data interchanges, marketing, and insurance services. Paying with services such as Google Pay, M-Swipe, and Razor Pay are becoming increasingly common as customer and shop payment options ("Future of FinTech Companies in Indian Perspective").

Insurance Technology (InsureTech)

Insurtech uses technological advancements to achieve savings and efficiency from the current insurance business paradigm. Fintech is utilized in the provision of services by the insuretech industry, including claims processing, a sales platform, underwriting risk management, insurance infrastructure API, and a policy administration system. Policy Bazaar currently has the position of the market leader in this particular sector ("Future of FinTech Companies in Indian Perspective").

Wealth Technology (WealthTech)

WealthTech brings money and technology together to create digital solutions that improve personal wealth management, investing, and portfolio management. The proliferation of digital payment methods, electronic know-your-customer verification through Aadhar, online money transactions, and online investment report generation has opened the path for the development of a completely automated asset management system. Two notable wealth technology companies operating in the financial technology market are Zerodha and Small Case ("Future of FinTech Companies in Indian Perspective").

Regulatory Technology (RegTech)

A form of technology known as RegTech is employed in the management of various regulatory procedures within the financial sector. Monitoring, reporting, and compliance with regulatory requirements are all part of its responsibilities. The utilization of big data and machine learning technology provides real-time data on money laundering operations that are carried out online, thereby lowering the risk that the compliance department is exposed to ("Future of FinTech Companies in Indian Perspective").

Online Payments

According to Statista, UPI suppliers in India reported 2.8 billion digital payment transactions in June 2021, with a total value of over five trillion Indian rupees. Payment gateways, payment processing, cash delivery, internet payments, and a range of other banking solutions are all simplified and accelerated by neobanks. Paytm, PhonePe, RazorPay, and other leading fintech companies in India are involved in digital payments ("Future of FinTech Companies in Indian Perspective").

Some of the leading companies that will play an essential role in the future of Fintech in India, like Paytm, CRED, BharatPe, Policy Bazaar is brought to you by TurtleMint, CoinDCX, RazorPay, MoneyTap, The Pine Laboratories, Services of Finance Offered by Shiksha.

Review of Literature

"Fintech companies are changing and remodeling themselves to adapt to future technology and make India the Fintech hotspot. India has a mix of Fintech evolving quickly, and users are willing to adopt digital platforms. Though the Fintech sector in India is tremendously growing,

it still needs to explore how to solve the issues that might arise when these companies expand to rural areas". <https://www.mastersindia.co/blog/future-of-fintech-in-India/>.

Samuel K and Arya Pradeep (2022), they concluded that "Fintech companies around the world are disrupting the banking industry through the offering of digital financial products and services on platforms that are easily accessible to consumers and financial institutions. Fintech companies are grouped into many segments, such as crowdfunding, insurance, payments, data exchange, and digital wallets".

Anjan V. Thakor, found that "the use of Fintech in lending is not limited to P2P platforms. There are also shadow banks and financial intermediaries that provide maturity transformation services like depository institutions but do not fund themselves with deposits that use Fintech. They are neither P2P platforms nor banks. These shadow banks offer essentially the same lending services as commercial banks but do not finance with deposits. They make extensive use of information technology in lending".

There are a greater number of Fintech startups focused on payments that are rapidly evolving, given changing use cases, customer propositions, and business models. With the support of a favorable regulatory environment combined with the young demographic willing to try and test new technologies, the Indian payments industry is an excellent place for Fintech startups to explore. "India's digital payments market is at an inflection point and is expected to more than triple from \$3 Trillion today to \$10 Trillion by 2026. As a result of this unprecedented growth, digital payments (non-cash) will constitute nearly 65 percent of all payments by 2026, i.e., 2 out of 3 transactions (by value) will be digital. UPI transactions in India witnessed a growth of 650 percent at the semi-urban and rural stores in India. Growth of nearly 25 percent and 14 percent in value and volume, respectively, in assisted financial transactions across semi-urban and rural retail counters in the country in 2022" (Govt. of India 2024 *Invest India*).

Statement of the problem

The banking sector, with the advent of digital infrastructure, plays an important role in developing their service to the people of the country in a faster and safer way. How will these kinds of Fintech help the customer as well as to sustain the banking sector in the future? Fintech in India now focuses on financing clients and MSMEs, too. This sector has also developed to include old-fashioned financial insurance, personal loan, and jewel loan. The expansion of the fintech industry in India is being fueled by different macroeconomic forces, such as enabling government and regulatory initiatives, India's demographic dividend, rising national disposable incomes, a sizable population that is not banked, improved internet access and smartphone penetration, and a rapidly growing e-commerce business.

Government provide infrastructure in the IT sector, like digital literacy and financial literacy programs, have speed-up the growth of India's Fintech industry, moreover, Aadhar, UPI, account aggregation, and other technologies, as well as enabling regulatory environment, have aided and augmented India's technological transition.

Over the last few years, India has seen a substantial expansion of its financial technology ecosystem, positioning it as one of the largest and most rapidly expanding financial technology markets in the world. Furthermore, during the

first three quarters of 2021, investments in India's financial technology sector totaled US\$4.6 billion. Pine Labs was the recipient of US\$600 million of these investments, followed by BharatPe (US\$370 million), Of Business (US\$207 million and US\$160 million), and Digit Insurance (US\$217 million), and Khatabook (US\$100 million). Khatabook was the only company to receive US\$100 million. Recent payments totaling US\$4.7 billion were made by PayU, the payment division of the consumer internet firm Prose, to BillDesk, an Indian payment gateway service provider.

It has been observed that new customers are easier to onboard in the smartphone banking space. According to Experian estimates, 22 million Indian consumers sought credit every month prior to COVID-19, with 70 percent abandoning their applications due to complexities (*Scope of FinTech in India*).

Cooperative banks also play a vibrant role in delivering fund-based services in rural areas.

Objectives of the Study

1. To study the growth of Fintech firms in India
2. To study the penetrating level of Fintech Indian Banks to provide the best services
3. To explore the possibilities of adoption of Fintech in Cooperative Banks in India

Current Market Size and Growth Rate

The Indian fintech market size is estimated to be around USD 145.09 billion in 2025 and USD 102.61 billion in 2023. The Indian fintech market is expected to grow at a CAGR of 30.55% from 2025 to 2030¹ and 18.30% from 2024 to 2032. Historically, the market has shown steady growth driven by increasing smartphone and internet penetration (*India Fintech Market Size, Share | Industry Report 2033*, n.d.), government initiatives, and technological advancements. "The India fintech market size reached USD 102.61 Billion in 2023 and looking forward, IMARC Group expects the market to reach USD 513.77 Billion by 2032, exhibiting a growth rate (CAGR) of 18.30 percent during 2024-2032. The market is experiencing steady growth by increasing smartphone and internet penetration, facilitating access to digital financial services, the implementation of regulatory frameworks encouraging innovation and consumer protection across the globe, and continuous technological advancements" (*India Fintech Market Size, Share | Industry Report 2023*, n.d.).

Regulatory support and government initiatives

"The entirety of the financial industry has been a body of regulations set up by the Reserve Bank of India (RBI) and the Securities and Exchange Board of India (SEBI) to lend to the industry overall a greater degree of transparency, security, and efficiency. In addition, programs such as Pradhan Mantri Jan Dhan Yojana (PMJDY) are accelerating the move towards financial inclusion and letting millions of unbanked individuals come under the umbrella of a formal financial system" (*India Fintech Market Size, Share | Industry Report 2023*, n.d.).

Major Market Drivers: "According to the India fintech market report, the market is majorly driven by technological upgrades and the availability of digital space on the back of the high penetration of smartphones and the internet amongst Indians. Government regulation encourages

growth; therefore, this is also propelling the market" (*India Fintech Market Size, Share | Industry Report 2023*, n.d.).

Key Market Trends: "Mobile banking, digital wallets, and online lending platforms are growing correspondingly to the increased consumer demand for fast and accessible financial services. The emergence of AI, blockchain, and big data analytics allows Fintech to provide personalized solutions with greater safety" (*India Fintech Market Size, Share | Industry Report 2023*, n.d.).

Geographical Trends: Urban areas with high internet penetration and tech-savvy populations are leading the fintech adoption curve in India (*India Fintech Market Size, Share | Industry Report 2023*, n.d.).

Payments: Driven by the growth of digital payments, mobile wallets, and UPI transactions.

Lending: Fueled by the rise of digital lending platforms, peer-to-peer lending, and online credit marketplaces.

Insurance: Growing due to the increasing adoption of online insurance platforms, insurtech innovations, and digital distribution channels.

Wealth Management: Expanding with the rise of robo-advisory services, digital investment platforms, and online wealth management solutions. These segments are expected to grow rapidly, driven by increasing demand for digital financial services, government initiatives, and technological advancements (*India Fintech Market Size, Share | Industry Report 2023*)

Mobile Banking

The increase in the use of smartphones has compelled banks to develop mobile applications that offer convenient Fintech banking services. These applications are used in mobile banking. According to a study by Allied Market Research,

the global mobile banking market is expected to reach around US Dollars 1824.7 million by 2026 (*The Impact of Fintech on Banking Industry & Financial Sector*, n.d.).

Today, all the commercial banks have a mobile banking application with a user-friendly interface that delivers almost every service available in traditional banks. They have also introduced a feature called fingerprint recognition for users. The application performs this function without any biometric app or hardware (*The Impact of Fintech on Banking Industry & Financial Sector*, n.d.).

"A mobile banking app provides quick access to funds, and the user can perform several banking functions such as quick bill payments, check deposits, account balances, statements, and many more (*The Impact of Fintech on Banking Industry & Financial Sector*, n.d.). Over the years, AI has become essential in Fintech banking services. According to Business Wire, the global AI in the banking market is estimated to reach \$ 64.03 billion by 2030, up from \$ 3.88 billion in 2020, with a CAGR of 32.6% during the forecast period. And AI combined with machine learning is vital for fraud detection. Banks use software for fraud detection that generates alerts whenever there is a potentially fraudulent transaction. Later, it is backed up by a human investigation that determines whether the attack is real or false" (*The Impact of Fintech on Banking Industry & Financial Sector*, n.d.).

"Fintech is a potential disruptor of the financial services labor market, which accounts for 6-7% of US employment. AI and ML will erode many of these jobs. However, the debate on whether we will see the process evolve through Intelligence Augmentation (IA) versus AI (Artificial Intelligence) is still open. The former will lead to less job loss. It may be easier to replace high-end trading jobs (through AI) than low-end customer service roles (IA). Firms record traders' keystrokes and screens and use the data to train algorithms to mimic traders. These artificial agents can be improved through techniques such as reinforcement learning" (*The Impact of Fintech on Banking Industry & Financial Sector*, n.d.).

Table 1: Digital Banking Transactions in India

		2014	2021	2022	2023	2024
Mobile banking (All Banks including Coop.banks)	Volume in crore	11537359	3745894318	6143797675	9334030869	13365224974
	Value (in cr)	44217785.29	11493399674	16995795064	23169535115	30463927379
NEFT (inward and outward are same)	Volume in cr	71.67	3170.0	4018.4	5476.79	7307.34
	Value in cr	4577843.86	2204302.80	2627354.00	3049364.43	3331461.27
RTGS (inward and outward are same)	Volume in crore	7545986	16765021	18926270	21189226	23183906
	Value in crore	5737887	10741314	11551439	13124561.27	16037693.85

Source: <https://www.npci.org.in/>

The above table shows digital baking transactions in India. It was found that during the year 2014, mobile banking transactions were very low, that is, just one crore volume transactions, but in the middle of 2024, the transactions rose to more than 1336 crore transactions against 3046 crore value of money transactions. Further, it was highlighted that RTGS and NEFT transactions also considerably increased because of digital initiatives in our country.

The Ways CBS Technology Transformed Cooperative Financial Institutions

- The integration of Core Banking Solution (CBS) technology has significantly improved services in cooperative banks in India:

- Centralized Operations: CBS enables online banking, NEFT/RTGS transfers, and direct benefit transfers across branches.
- Modernized Banking: CBS modernizes banking systems, offering the latest products and services.
- Improved Efficiency: CBS streamlines processes, reduces manual intervention, and improves overall efficiency.
- Cost Savings: CBS allows smaller cooperative banks to access the network, saving substantial money.
- Enhanced Customer Experience: CBS improves customer service through call centers, chatbots, self-service kiosks, and digital channels.

Conclusion

This paper concludes that there have been lots of Fintech startups that are evolving day by day; the question is for the banking sector; how will they make use of the technology to the customer to retain them for the future? Because Fintech is used in the non-banking sector through Aadhar seeding, though it is being used in bank accounts, there is disruption in banking operations. This Fintech seems to protect the accountability of the account holder forever. Moreover, User-friendly technology will help rural people adopt Fintech, rapidly boosting financial inclusion through business correspondents, banking personnel, mobile bank technology, etc., and the credit card-UPI linkage enabling to a hassle-free and smooth and speedy payment experience for individuals and merchants. "The core theme of RBI Payments Vision 2025 is e-payments for Everyone, Everywhere, and Every Time. The Vision aims to provide every user with safe, secure, fast, convenient, accessible, and affordable e-payment options through Integrity, inclusion, innovation, institutionalization, and internalization" ("India" Govt. of India, 2023) Fintech is graceful to take the country to new heights in financial inclusiveness, economic development, and innovation. The Fintech phenomenon is unleashing India's financial potential by democratizing access to credit, driving payments, and enabling more innovation across the economy. With the increasing digitization of financial services delivery, banks are expected to significantly increase their technology spending to support this digital scale.

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