

# FinTech, the Future of Financial Services

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**Abstract:** *Despite a slowdown in the Indian economy due to elevated inflation and the post-Covid boost wearing off, the World Bank and many other renowned financial research centre expected that India's GDP will increase to 6.9% from 6.5%. In the entire economy revival expectation is increasing day by day not beyond of financial sector of India's economy. The financial sector is an integral part of the economy made up of firms and institutions that provide financial services to commercial and retail customers. This sector comprises a broad range of industries including banks, investment companies, insurance companies, and real estate firms. India's financial service sector has experienced a huge and remarkable growth in the last decades. This momentum is expected to continue. According to India Ratings & Research (Ind-Ra), credit growth is expected to hit 10% in 2022-23 which will be a double-digit growth in eight years. As of November 4, 2022 bank credit stood at Rs. 129.26 lakh crore (US\$ 1,585.09 billion). As of November 4, 2022 credit to non-food industries stood at Rs. 128.87 lakh crore (US\$ 1.58 trillion). Do You think that some weapons are there behind the growth of financial service sector? Yes, you are absolutely right, the reason behind of such remarkable growth in the financial sector is the development of FinTech. The term 'Fintech' refers to the financial technologies which are prepared to bring a transparent, more accuracy, convenient returned oriented tools for financial services.*

**Keywords:** Fintech, Economy, Financial Services

## I. INTRODUCTION

The term 'Fintech' "financial technology", refers to firms using new technology to compete with traditional financial methods in the delivery of financial services. Artificial intelligence, blockchain, cloud computing, and big data are regarded as the "ABCD" of fintech. Historians accept 1866 as the first valid fintech footprints. This was the year the transatlantic cables were setup leading to an era of creating network infrastructure & linkages around the world. Setting up of electronic fund transfer through Telegraph & Morse code in 1918 by Fedwire led to first baby step in digitalization of money. The two WW also saw a new set of coders & codebreakers mainly for the military purposes (though this set up the idea of coding & future digital development). The government also taking initiative towards financial inclusion programmes such as PMJDY, DAY-NRLM, Direct Benefit Transfer, Atal Pension Yojana among others have accelerated the digital revolution and brought more citizens, especially in rural areas, within the ambit of digital financial services.

## II. HISTORICAL BACKGROUND

Th history behind introduction of fintech was started since long back Fintech history dates back to the 19th century and even before that. In 1860, a device called PENTELEGRAPH was developed to verify signatures by banks.

Following are the era of fintech development:

Fintech 1.0 (1886-1967) is about infrastructure

This is an era when we can first start speaking about financial globalization. It started with technologies such as the telegraph as well as railroads and steamships that allowed for the first time rapid transmission of financial information across borders. The key events on this timeline include first transatlantic cable (1866) and Fedwire in the USA (1918), the first electronic fund transfer system, which relied on now-archaic technologies such as the telegraph and Morse code. The 1950s brought us credit cards to ease the burden of carrying cash. First, Diner's Club introduced theirs in 1950, American Express Company followed with their own credit card in 1958.

Fintech 2.0 (1967-2008) is about banks

This period marks the shift from analog to digital and is led by traditional financial institutions. It was the launch of the first handheld calculator and the first ATM installed by Barclays bank that marked the beginning of the modern period of fintech in 1967.

There were various significant trends that took shape in the early 1970s, such as the establishment of NASDAQ, the world's 1st digital stock exchange, which marked the beginning of how the financial markets operate today. In 1973, SWIFT (Society For Worldwide Interbank Financial Telecommunications) was established and is to this day the first and the most commonly used communication protocol between financial institutions facilitating the large volume of cross border payments.

The 1980s saw the rise of bank mainframe computers and the world is introduced to online banking, which flourished in 1990s with the Internet and e-commerce business models. Online banking brought about a major shift in how people perceived money & their relationship with financial institutions.

By the beginning of the 21st century, banks' internal processes, interactions with outsiders and retail customers had become fully digitized. This era ends with the Global Financial Crisis in 2008.

Fintech 3.0 (2008-2014) is about start-ups

As the origins of the Global Financial Crisis that soon morphed into a general economic crisis become more widely understood, the general public developed a distrust of the traditional banking system. This and the fact that many financial professionals were out of work, led to a shift in mindset and paved a way to a new industry, Fintech 3.0. So, this era is marked by the emergence of new players, particularly fintech startups, alongside the already existing ones (such as banks).

The release of Bitcoin v0.1 in 2009 is another event that has had a major impact on the financial world and was soon followed by the boom of different cryptocurrencies (which, in turn, was followed by the great crypto crash in 2018).

Another important factor that shaped the face of fintech is the mass-market penetration of smartphones that has enabled internet access for millions of people across the globe. Smartphone has also become the primary means by which people access the internet and use different financial services. 2011 saw the introduction of Google Wallet, followed by Apple pay in 2014.

Fintech 3.5 (2014-2017) is about globalisation

Fintech 3.5 signals a move away from the western dominated financial world and contemplates the expansion in digital banking around the globe, with improvements in fintech technology.

It puts the focus on consumer behaviour and how they access the internet in the developing world. For example, in China and India, markets that never had time to develop Western levels of physical banking infrastructure and so were open to new solutions more quickly.

This era is marked by an increasing number of new entrants and their last mover advantages.

Fintech 4.0 (2018-today) is about disruptive technologies.

### **III. BLOCK CHAIN TECHNOLOGIES**

Block chain technologies and open banking are continuing to drive the innovation of the future of financial services. The game changers here are neo banks that challenge the pricing and complexity of traditional banks, while earning customers' trust through simplified, digital-only experiences and low-to-no fees.

Machine Learning, on its part, is transforming the way people interact with banks and insurance companies, receiving bespoke offers and support. Germany's N26, for example, developing deep insights and predictions around customer behaviour to dynamically identify new card fraud patterns without human intervention.

Another major event in this period is the new wave of integrated payment providers, with platforms that can offer payments as an additional strand to an already comprehensive business management system.

And lately, mainstream use cases for NFTs, like creators strengthening their earning power with digital representations of their contents, or artists ensuring royalty distributions, or NFTs as tickets or membership cards.

#### IV. FINTECH TODAY

- As technology is becoming ever more central in the finance industry, we tend to consider banks and fintech startups as opposing forces fighting for their share of the market. It primarily works by unbundling offerings by such firms and creating new markets for them.
- Start-ups disrupt incumbents in the finance industry by expanding financial inclusion and using technology to cut down on operational costs.
- Fintech funding is on the rise but regulatory problems exist.
- Examples of fintech applications include rob advisors, payments apps, peer-to-peer (P2P) lending apps, investment apps, and crypto apps, among others.

#### V. DIMENSIONS OF THE FINTECH

1. **Digital lending:** Digital lending refers to technology-driven nonbank lending. Access to expansive data, sophisticated algorithms and considerable computing power enabled new companies to compete with traditional banks by providing appealing new offerings to would-be borrowers. Company participants typically have digital platforms to facilitate funding. Borrowers include consumers and small businesses, with individuals and institutional investors providing capital. Offerings range from consumer and student loans to small-business loans, equipment-financing loans and lines of credit. Mortgages and auto loans are other emerging areas. Digital lending companies match borrowers and lenders, thereby benefiting from loan relationships and processing transactions. Digital lending (excluding mortgages) is a total addressable market of \$1 trillion in the U.S., and loan origination volumes could reach \$90 billion by 2020 from about \$25 billion in 2015, according to a January 2016 report by Autonomous Research that the U.S. Treasury Department cited in its own May 2016 report. Autonomous Research, a provider of research on financial companies, also indicated that digital lending could account for more than 10% of the U.S. lending market by 2020. The Financial Stability Oversight Council indicated in June 2016 that digital lenders generated significant U.S. growth in 2015, with estimates suggesting \$18 billion to \$36 billion in loans originated during the year and a cumulative \$40 billion to \$50 billion in loans originated to date.
2. **Payments:** The Indian payments industry is a nebulous system of banks, financial technology firms, social media companies and retailers. Between evolving technologies and social norms, this system is seeing a significant shift in how payments are initiated and processed. The proliferation of smartphones and the emergence of mobile payments and blockchain technology have unlocked innovation across the system, and in three areas in particular: Person-to-person payments, in-store retail payments, and credit and debit card transaction processing and settlement. Person-to-person (P2P) payments refer to the transfer of funds from one personal account to another, using either the Automated Clearing House system or debit/credit cards. Providers of this service include banks and technology firms such as PayPal and Facebook. ACH transfers cost less to process than credit card and debit card transactions as they bypass assessment fees charged by card networks. In-store payments are enabled by smartphone apps that use near-field communication (NFC), quick reference (QR) codes or barcodes to initiate payment, in place of a physical credit/debit card or gift card. The most popular apps in this space include Apple Pay and apps from retailers such as Starbucks. Innovators in the payments ecosystem Mobile payments In-store mobile payment apps P2P payment services Apple Pay Samsung Pay PayPal and Venmo Facebook Messenger Android Pay Merchant-branded apps (Starbucks, CVS Pay, etc.) Square Cash ClearXchangePopmoney B2B Electronic invoicing Global B2B payments Bottomline Technologies TradeshiftTipaltiPayoneer Western Union Viewpost Taulia AribaPay PayPal Payment processing Acquirers & processors Gateways Card networks Bank of America Merchant Services First Data Square PayPal Visa American Express Fiserv Vantiv Dwolla WePay Mastercard Discover Chase Paymentech Stripe Global remittance platforms PayPal MoneyGram XE Western Union TransferwiseTransferGo
3. **Blockchain:** Despite a complex infrastructure, the goal of blockchain technology can be summed up simply as decentralization through a shared ledger of transactions. The three main components are a peer-to-peer network with randomized groups, or nodes; a database, or digital ledger; and third parties. When a third party submits an entry or payment, to the ledger, the nodes work together seamlessly to either approve or reject

transactions. With no central authority, this eliminates the need to trust one party such as a payment processor. Everything is timestamped and protected by cryptographic signatures, or complex algorithms that provide data integrity. As such, if any party attempted to retroactively adjust transactions, it would be visible to every node in the network, essentially making transactions fully immutable once submitted.

- 4. Digital wealth management:** Within investment and capital markets technology, one of the most dynamic topics is the disruption of traditional wealth management. Robo-advisers have developed agile, automated technology that is changing assumptions about how money can be managed. Robo-advisers are retail-focused, automated wealth management services that use algorithms to evaluate risk tolerance and that generally manage assets in low-cost portfolios of exchange-traded funds. Their automatic allocation and rebalancing features let investors manage portfolios at a distance. Some robo-advisers offer fully automated advice, while others are a hybrid of digital and human services. Certain companies provide advising services directly to consumers, with little human adviser assistance, while others offer options with advice over the phone. Incumbent asset management firms have developed in-house digital offerings or recruited white-label robos to power their automated investing platforms. Consumer-facing robo-advisers are relatively low cost, have transparent fee structures and offer intuitive user experiences. While traditional wealth management firms focus on wealthier customers, digital advisers may appeal to younger clients and the mass affluent demographic. Some robos are lowering their investment minimums in hopes of attracting younger customers. This trend could broaden access to a wider group of individuals with smaller amounts of assets to invest.

### **5.1 Crowdfunding Platforms**

First, what are these crowdfunding platforms? These platforms enable internet or app users to send or receive money from different digital platforms at the same time. Yes, you are no longer required to beg in front of conventional banks for loans, all you have to do is find investors who are ready to support you, and your work is done.

## **VI. IMPORTANCE OF FINTECH**

Businesses are no longer limited to implementing old-school ways or conventional ones, all thanks to the fintech revolution. Today one is surrounded by a plethora of alternatives and options ranging from crowdsourcing to net banking to mobile payments. More or less, unlike earlier, now anyone can set up his or her own business in no time with the help of fintech.

For those who don't know what Crowdsourcing is? By using such financial services anyone can create instant plans on how and most importantly where to get finance from. Here you don't need to meet others in person. Instead of spending so much time convincing your investors today, businesses can pitch seamlessly.

Transferring money across borders was a curse earlier! Time to get acquainted with TransferWise – the innovation which turned the table entirely. Not just large enterprises but even startups are found moving cash conveniently at cost-effective rates.

you won't find the post convincing till I don't provide some accurate reasons stating how important the Fintech software is. So without any further ado, here it goes!

- **Scope of Fintech: Loans** – There is a massive difference between the operating methods of banks and financial institutions now and then. You will be able to spot several Lending clubs (loan) markets.
- **Payments** – With the rise of the internet and mobile technology, mobile payment now can be easily done. . In fact, online payments whether it's to shop or buy food or book tickets cannot be underestimated. Transfer of money is now possible with fewer conversion fees and no fraud.
- **Managing the Funds** – With the emerging technology, it seems that we humans have changed to a great extent in regards to our habits especially how we save money, invest or manage them.

## **VII. CHALLENGES OF FINTECH**

### **7.1 Data Security**

Data security has become one of the major concerns in the Internet world – be it mobile banking, payment apps, or Fintech in general. As we know, traditional banking systems are confident with security guards, CCTVs, vaults, and

heavy bulletproof doors to keep their data safe and secure. But when we talk about virtual security, things are not as easy as we think. Vulnerabilities are much more discreet and have potentially more impact on users, as not only their money is at stake but their personal data too.

### **7.2 Compliance with Government Regulations**

Finance is one of the most regulated sectors. There will always be interference from the government even if you leverage the traditional Fintech software that doesn't use blockchain and other crucial technologies.

Before creating an application or utilizing the software, make sure to check it for legal compliance. Moreover, if it's needed, you can hire a legal consultant to lead you through all the basic details and policy. Before entering the market, make sure your legal department is aware of the latest government policies so you can amend them immediately.

### **7.3 Lack of Mobile and Tech Expertise**

In the fintech industry, some of the finance companies or banks don't have proper or convenient mobile banking services. However, some banks try to replicate websites, but in this digital world, nobody would prefer a mobile application. Every user wants a seamless and convenient option to use.

Therefore, a lack of expertise in fintech mobile app development services results in non-user-friendly applications that don't use mobile devices to their fullest potential. For example, apps may not benefit from NFC chips, geolocation features, fingerprint unlocking, and other features. A fintech bank can offer amazing experiences using these features and technologies.

Your mobile must have the following features to enable users with fintech app development services:

- QR-code for Payments in public transport
- NFC chip in shops
- Automatic scanning of a credit card number with a lense
- Two-factor authentication with a finger-print

This can be done using the full integration with the hardware of devices.

### **7.4 Big Data and AI Integration**

Artificial Intelligence Adoption Percentage in Projects

According to Accenture, 82% of US bankers and 79% of bankers globally believe that AI will revolutionize the way banks fetch data and interact with customers.

As we know, big data and AI have made their impact in every organization. Using big data, organizations can collect personal information about users, social status to financial behavior, habits, and in-app activity.

However, fintech organizations face various challenges to implement these technologies. They require expertise and constant maintenance.

### **7.5 Blockchain Integration**

You will find many fintech applications which are integrated with blockchain technology. Some of the companies don't find blockchain as a feasible solution, while others consider it as a solution for better data exchange.

You can make a Fintech industry more trustworthy by implementing a blockchain. As it allows you to analyse and track all the phases of a transaction and prevent any changes to it so that you can always have an eye on it. However, integrating a blockchain is quite a challenging task for many financial organizations.

## **VIII. CONCLUSION**

India's economy will be a better future, Proper implementation of fintech will boost financial inclusion. Brace yourself up as the fintech companies are going to get bigger and better. Let's keep our fingers crossed and keep watching the space to know more about what exciting lies ahead in the Fintech space. This chapter examines the light and dark sides of fintech through the lens of the supranational agencies responsible for monitoring the impact of developments in market structure on the stability of the global financial system. While fintech is fast growing and offers opportunities to enhance quality of financial services, improve customer satisfaction, increase financial inclusion, support economic



growth and welfare gains, the potential exists for known and new risks to emerge and threaten financial stability, economic growth, and social welfare.