

## Revolution in Digital Transformation: A Systematic Study of Fintech

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### Abstract:

*The emergence of technology has infused a holistic change among various sectors in general and financial sector in particular. The plethora of benefits bought by technology has completely transformed the financial landscape across the nation. The digital acceptance among the users starting from introduction of credit card to the invention of crypto currency has put the financial sector on fast-track. The advancement in the industry with the aid of technology has given birth to a brand new sector called as 'Fintech'. It is the revolutionary integration of financial services with the technology. This paper primarily focuses on identifying the systematic contribution of fintech to the digital transformation and the economies of scale achieved through the adoption of Fintech services across the industry. Secondly, this research paper made an attempt to establish the correlation between the digital revolution and fintech services which includes digital payment, insurance, digital lending, stock trading, digital banking, credit & wealth management, and blockchain. Lastly, the paper throws light on the emergence of fintech startups in India due to shift in the digital transformation. This research is a descriptive study based on secondary data collected from various published and unpublished sources, research reports issued by agencies and related institutions. The study revealed that there is a hiccup in framing policies regarding digital assets by the governing agencies. The focus must be given to protect data of the users and providers of Fintech services.*

**Keywords:** Fintech, Digital Revolution, Blockchain, Fintech Startup, Paytech.

### Introduction

In India, with every second person having a mobile phone and an internet connection is entering a new age

revolution called as fintech revolution alongside digital revolution. Digital revolution goes back to 1950's with the introduction of transistors however, the

**Please cite this article as:** Maheshwar S & Girisha M.C. (2025). Revolution in Digital Transformation: A systematic study of Fintech. *SRUJANI: Indian Journal of Innovative Research and Development*. 3(6), 121-131

glimps of digital revolution can be traced backed to 19<sup>th</sup> century with the invention of computer by Charles Babbage. Since then the development in the digital arena has been predominantly high. The transformation from personal computer, network and internet to very recent Cloud computing, Big data analytics, Artificial intelligence, Internet of Things has completely changed the landscape of digital adoption. As a by-product of digital transformation, a brand new segment has emerged globally known as 'Fintech'. Fintech is a business that renders new services to financial business with the use of technology. It is a perfect blend of Finance and Technology to offer new age services to businesses and customers. Events like demonetisation and Covid has forced the businesses and consumers to shift towards the adoption of fintech. Emergence of fintech companies like Paytm, Phone pay, Policy bazaar has spurred the fintech revolution to next level. A person without a conventional education is also using fintech services comfortably at par with the person who is financially literate. However, fintech is not just paying the bills, it ranges from a simple act of transferring the money through UPI to the complex area of development and trading of crypto currencies like Bitcoin and Ethereum using blockchain technology.

### **Review of Literature**

For the present study, research articles from various national and international journals have been thoroughly reviewed.

Ahmed T. Al Ajlouni and Monir Al-Hakim (2018) emphasized that payment, clearing, and settlement services are significant contributors to the financial technology (fintech) industry, accounting for 41%, and highlighted the potential of fintech products to catalyze banking growth. Dr. P. Rajeswari and Dr. C. Vijai (2020) discussed India's remarkable progress in the fintech sector, noting a compound annual growth rate (CAGR) of 20% and India being the second-largest fintech hub globally. Further, Dr. C. Vijai (2021) forecasted the Indian fintech software market to reach USD 2.4 billion by 2020 and pointed to India's high adoption rate of fintech solutions, supported by favorable government policies. Marta Barroso and Juan Laborda (2022) examined the challenges and systemic risks posed by rapid fintech disruptions, advocating for collaboration between banks and fintech firms to foster innovation. Dr. H. Kanaka, Durga, and Dr. K. Sarvani (2023) focused on fintech startups in India, highlighting their exponential growth from 2014 to 2020 and their valuation's projected increase to USD 160 billion by 2025.

A comprehensive study by Prafulla Kumar Dwibedi et al. (2023) revealed that financial inclusion in India improved significantly, with the Financial Inclusion (FI) Index rising to 60.1% by March 2023, and noted a dramatic increase in digital transactions facilitated by UPI. Ashish Saxena et al. (2022) identified investment and payment sectors as dominant areas

within fintech, with blockchain adoption still in its infancy. Shweta Kulshrestha (2023) explored how financial technology enhances financial literacy and inclusion among low-income households, emphasizing the need for regulatory frameworks to ensure trust and accessibility. Dr. Jinti Sharm and Bipasha Sharma (2024) found that the younger population (18-28 years) predominantly uses fintech services, with ATMs and mobile banking apps being the most popular channels. Lastly, Onkokame Mothobi and Kago Kebotsamang (2024) highlighted the importance of network coverage in driving fintech adoption and financial inclusion in sub-Saharan Africa, noting that investments in rural network infrastructure can significantly expand digital financial services.

### **Statement of the Problem**

Banking is on the prime areas along with credit business in finance industry which has undergone tremendous change in the way it operates. The upgrade in the field has opened new doors of opportunity to explore untouched segments. Starting from credit card to neo banking, the digitech transformation is reaching new heights every often to bring enormous change in the industry to commit uninterrupted services to the businesses and customers at large. It is the need of the hour to highlight the recent developments in the area of finance. This paper highlights the intriguing issues of digital transformation alongside fintech revolution.

### **Scope of the Study**

The revolution in the digital sector starting from invention of personal computers to the development of dark web has paved a way to evolve new form of business. The present study is confined to the development in the area of Fintech in India which includes Digital payments, Neo banking, UPI money transfer, digital wallets, peer to peer transfers, blockchain, crowd funding and so on.

### **Objectives of the Study**

Following are the objectives of the research paper

1. To study the conceptual framework and evolution of Fintech in general.
2. To understand the contribution of Fintech to the revolution of digital transformation
3. To highlight the emergence of Fintech startups in India

### **Research Methodology**

The research paper extensively focused on the theoretical side of the digital revolution and the systematic contribution of the fintech to the same. As it is a descriptive study the research group has relied upon the secondary data to develop logical interpretations and conclusion. The data has been collected from various sources namely academic journals of national and international level, books, industry reports, government publications, articles from dailies and credible online sources.

**The Conceptual Framework and Evolution of Fintech:** Finance, in simple words “Management of Money” which includes numerous activities related to business such as lending, borrowing, investing, forecasting, budgeting and so on. It is a proven fact that without finance and its allied activities it is nearly impossible to run a business irrespective of its size. Many recent developments in the area of finance have helped businesses to smoothly conduct financial activities without any hiccups. One such prominent development is the inclusion of “Technology” in Finance. Technology can be defined as the body of knowledge used to extract data or material, process things and create new tool in a scientific manner using computer and internet to help human kind at large. Technology has paved a new way to conduct business activities. It has spread its essence in almost all the sectors namely defence, manufacturing, agriculture, sales & marketing, etc. Interestingly, the blend of technology with the finance has created a whole new sector called a ‘FINTECH’. In simplest terms Fintech refers to a software, mobile application and other technologies used to automate traditional form of finance to a modern form of finance for both businesses and consumers.

A retail store using computers for billing, banks and post offices using software to record, classify, analyse, summarise and interpret financial transactions, a consumer using quick

response code to pay the bills using UPI app, an investor using mobile application to trade in securities, a homemaker paying household bills like electricity, gas and water bill sitting at home, a cab driver getting his vehicle reinsured without visiting a agent, a needy person getting loan sanctioned from a lending institution via telephone are the fine examples to showcase the outcome of Fintech evolution, thus in layman’s language , Fintech is the usage of technology in the Finance industry and Fintech companies are those companies which are offering these services to the consumers.

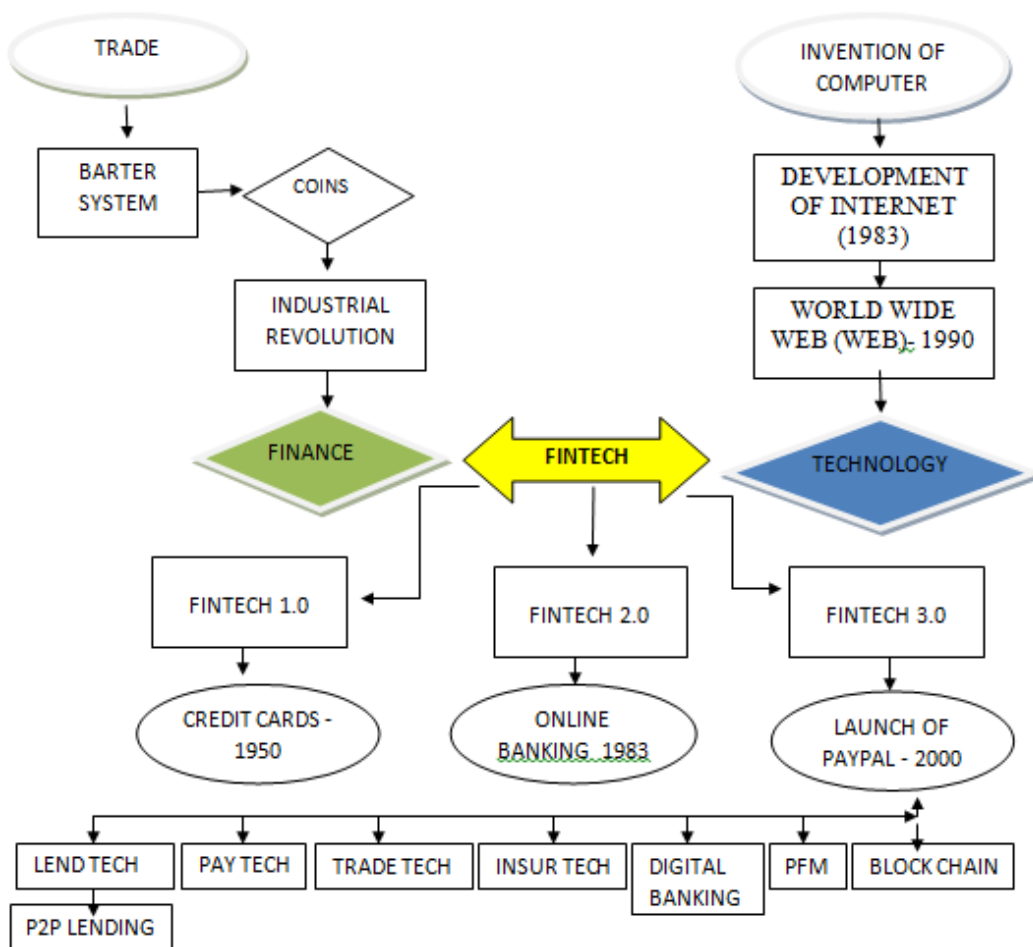
Fintech is basically a tailor-made solution for the day to day problems arising out of different scenarios. It has helped the consumers and business houses to keep in track of all the financial activities using technology. Technology has been acting as a suspension to the bumpy ride of finance ensuring fastness, reliability and transparency among the users of fintech services.

The evolution of Fintech goes back to early 1950’s with the introduction of credit cards. This era can be marked as Fintech 1.0, the experimentation of online banking from 1980 to 2000 can be called as Fintech 2.0 and the current period starting from the year 2000, an era of digital currency and technological advancement of block chain is considered as Fintech 3.0. Few theories endorse that 2008 crisis is on the important contributors to catch the pace of Fintech development around the globe. India, in

particular, demonetisation a strategic move from the government has led the Fintech revolution to next level. There was no choice left with the users without using paytech platform to do day to day transactions. The same momentum continued due to attack of Covid 19. The

users deliberately used payments apps to avoid contact from physical notes, ensuring safety at the highest level. The below flow chart will explain the road map of fintech from its origin to current period.

### Evolution of Fintech



The evolution of Fintech has been a long journey. The saga of finance has completed the full circle. It was started without physical currency (barter) and

now reached the same stage where physical currency is not required (Fintech) to trade and transact. The stepping stone was plastic money which partially

eliminated the usage of hard cash and now Fintech has overtaken comfortably.

**The Contribution of Fintech to The Revolution of Digital Transformation**

The multifold development in the digital industry has significantly changed the dynamics of Fintech sector. It has revolutionized the Fintech industry by making financial services more affordable, accessible and customer centric. Elements like Enhanced accessibility, convenience, innovative financial products, improved customer experience has challenged the traditional financial system. Growing financial education and outburst of technological advancement has left no choice for the Gen Z population. A survey conducted by Ernst and Young conveniently revealed that Gen Z or commonly referred as ‘digital natives’ is three times more likely to use alternate payment modes which include Buy now Pay late (BNPL) and in game currencies. Another study from UK revealed that users are early adopters of crypto currencies and reportedly 34% of the online banking users prefer investment in crypto currency rather than investing in pension schemes.

With the rapidly growing demographics, it is estimated that the spending capacity by the young generation would be staggering \$140 billion. This humongous purchasing capacity has made the Fintech service providers to enhance their capacity to provide uninterrupted services using

technology. Traditional banking institutions also have now realized the opportunity to grow and continue to give competition to the new age service providers by providing tailor made products to the bargaining market. All these development in the Fintech arena wouldn’t be possible without the transformation in the digital revolution that has taken place around the globe.

The following are the byproducts of digital revolution in the Fintech sector.



**Insure Tech:** Insurance technology is the usage of technology in the insurance business. The technology has digitized the insurance sector for the better hood. Efficiency and customization are the two important output of insure tech. using Artificial intelligence insure tech is redefining the way insurance products are marketed. Data analytics, telematics and Iot’s are used to offer great products to the customers by gaining confidence. Remote claim settlement, usage of chat bots for

communication and drone usage for assessing damage are the greatest innovation in the insure tech.

**Reg Tech:** It is a regulation technology used by the financial institutions to check the regulatory compliance by the industry players. With the help of cutting edge technology regulatory institutions use regtech to identify persons in digital transactions & identity verification. The essence of regtech is also extended to the Anti-money laundering (AML) systems with the help of Machine learning (ML) and data analytics, saving thousands of crores by eliminating manual monitoring.

**Lend Tech:** Lending technology is a technology driven business committed to offer loans in a modernized manner. These companies use technology to identify the credit worthiness of the borrowers using data analytics and big data and decide the credit rating which further used as a parameter for loan disbursement. Peer to Peer (P2P) lending is one of the latest developments in the lendtech industry. Technology is used to create a common platform directly to both lenders and borrowers to transfer and acquire funds.

**Pay Tech:** The technology used in payment is called as Payment Technology. It ranges from simple bill payment to auto debit options. This ecosystem includes Digital payment system (DPS), contactless payments, Mobile wallets etc. This technology eliminates the tiresome traditional banking problems. Paytech

offers easy, quick and safe transactional facility to the users. Aadhaar Enabled Payment System (AePS), Unified Payments Interface (UPI) and Bharat Bill Payment System (BBPS) are the front runners in India.

**Bank Tech:** Digital banking is the other terminology used for Banktech. It offer banking services through digital platforms. Online customer care, virtual account management, contactless payment, mobile banking are some of the inventions in the digital banking arena.

**PFM:** Personal financial management refers to the management of personal wealth using digital aids. Savings, budgeting and expenses, credit score monitoring, bill administration, investment management, debt management are some of the key inclusions in the PFM. With the help of technology users gets timely notifications, reminders, alerts and suggestions to achieve better personal financial wellbeing.

**Trade Tech:** Trade via Technology, trade here refers to buying and selling of digital assets like Share, Bonds, Debentures. ETF's, Crypto currencies etc. on digitally created exchanges. Technology has helped the trading world by creating digital platforms for buyers and sellers for different class of assets. Tradetech has eliminated the rush created during physical trading. It offers faster settlement, decentralization, security,

transparency, faster payment and cheaper fees.

**The Emergence of Fintech Startup’s in India**

Fintech is a never ending story in India, the industry is estimated to be valued around \$110 bn in 2024 and it is projected that it will reach about \$420 bn by the end of 2029. India Fintech companies are the second most funded startup in India in the year 2022. It is highly evident that India is a laxury platform for the Fintech growth. It has alone produced 17 unicorns in the Fintech industry, contributing over \$1 billion. These unicorn companies have collectively raised the capital valued at

\$34 billion from 2014-2022. As per the central bank of India ( RBI ) report, it is noted that, it has set the payment vision 2025. As per the targets, digital payment will be grown by CAGR 50% through mobile based transaction, 150% growth target is set for Prepaid payment instruments and the card acceptance infrastructure to be increased to 25 million by 2025. Even though the number looks big, considering the pace at which Fintech is growing, the target looks achievable.

Following are the industry leading Fintech startup companies established and operating at different areas.

**Table 1: Fintech Startup Companies Established and Operating at Different Areas**

Fintech service	Name of the company	Year of establishment	Founder	Value of the firm
Insure tech	Policy Bazaar	2008	Yashish Dahiya, Alok Bansa,	\$6 billion
	Acko	2016	Avaneesh	\$1.1 billion
	Go Digit	2016	Varun Dua and Ruchi Deepak	\$3.79 billion
	One assist	2011	Kamesh Goyal Gagan Maini and Subrat Pani	\$193 million
Trade tech	Zerodha	2010	Nithin and Nikhil Kamath	\$3.6 billion
	Groww	2016	Lalit Keshre, Harsh Jain, Neeraj Singh	\$3 billion
	Upstox	2009	Ravi Kumar, Raghu Kumar, Shrini Viswanath	\$3.5 billion
RegTech	Signzy	2015	Ankit Ratan, Ankur Pandey, and Arpit Ratan	\$8.04 million
	Tookitaki	2015	Abhishek Chatterjee, Jeeta Bandopadhyay	\$20 million
	IDfy	2011	Ashok Hariharan and Vineet Jawa	\$54.9million



PayTech	Paytm Phonepay Cred RazorPay	2010 2015 2018 2014	Vijay Shekhar Sharma Ameer Nigam, Rahul Chari, Burzin Kunal Shah Harshil M, and Shashank K.	\$15.6 billion \$12 billion \$6.4 billion \$7.5 billion
LendTech	LendingKart Blacksoil MoneyTap	2014 2016 2017	Harshvardhan Lunia ,Mukul Sachan Mohinder Pal Bansal, Ankur Bansal Anand Gupta and Kunal Varma	\$688 million \$122 million \$129 million
PFM	ET Money Money view	2015 2014	Mukesh Kalra Puneet Agarwal and Sanjay Aggarwal	\$3 billion \$1.2 billion
Digital Banking	Slice Jupiter Onecard	2015 2019 2019	Rajan Bajaj, Deepak Malhotra Jitendra Gupta, Vishnu Jerome Anurag Sinha, Devang Shah	\$1.8 billion \$645 million \$1.37 billion
Crowdfun ding	Ketto Millap	2012 2020	Varun Sheth, Zaheer Adenwala Rohit Taneja, Ankit Agarwal	\$49.1 million \$7 million
BNPL	Zest Money Simpl	2015 2019	Lizzie Chapman, Priya Sharma Vinay Bagri, Rohit Taneja	\$450 million \$240 million
Block Chain	Wazir X Coinswitch coinDCX	2018 2017 2018	Nischal Shetty, Siddharth Menon Ashish Singhal, Sumit Gupta Sumit Gupta, Neeraj Khandelwal	\$200 million \$1.9 billion \$2.5 billion

**Source:** Researchers Compilation

### Findings:

The research paper has thrown light on several intriguing issues and challenges faced by the industry. It is found that the biggest hurdle for the developing countries and third world nations is the data safety. When the globe is racing towards considering data as new oil, these countries are still lag in finding solutions to secure users data from the clutches of

hackers and malwares. It is also identified that there has been an abnormal distribution in the usage of the Fintech services. There is a high concentration towards the usage of paytech services. Clear dominance is seen by the paytech domain when compared to other Fintech services like PFM, LendTech, TradeTech and InsurTech. Adding the the above, another key observation is, blockchain

tech has taken a hard hit due to ambiguity in the regulatory framework by the governing authorities. There is still no clarity from the regulatory end to accept or prohibit the trading of crypto currency in India.

### Suggestions

After a thorough study, the following suggestions have been made. The implementation of these suggestions could boost the usage of Fintech services and yield better results in terms of usage, revenue generation and regulation.

1. It is suggested that the government authorities must find a midway solution to break the barriers of specialized Fintech services like Blockchain and Trading of Crypto currencies.
2. It is advised to the regulatory agencies and institutions to frame a foolproof policies to tackle and monitor the issues related to data privacy, data theft & data security.
3. It is recommended to the providers of Fintech service to not to concentrate on few services like PayTech, instead they must extend their services to multiple Fintech services like TradeTech, LendTech, WealthTech etc.
4. It is suggested that the players in Fintech industry should provide pocket friendly services to the users of the Fintech products. Since most of the Fintech services uses brokerage model to run their business, it should work of economies of scale to offer cheaper services to the customers.
5. It is advised to the user of the Fintech services to educate and become financially literate primarily, to reap the full benefits of Fintech services and secondly, to escape from the vicious circle created by data thieves.

### Conclusion

The digital transformation in India has given a healthy environment to Fintech industry to grow at a multifold level. Several unicorns are setup due to consistent support from the policy makers and regulators. Cyber security risks, lack of digital literacy, consumer trust, scalability are some of the key challenges faced by the industry. Innovative and vibrant Fintech products can turn the challenges into opportunities and can reach new heights with the help of technology.

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