

Innovations in Financial Services: Initiatives and Growth of Fintech

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Abstract: Fintech is emerging concept that provides alternative solution for banking and financial services. The main aim of this paper is to provide overview of growth and development in fintech industry. This paper not only identifies new innovation and applications of fintech industry but also highlights collaboration between government initiatives and financial technologies to accelerate financial inclusion. Financial technologies have not only digitalized the financial transactions and services however made them more secure, pocket as well as user friendly. Fintech industry is fastest growing industry globally. India is riding high as it is growing on fastest rate. Indian fintech software and services market is expected to expand into an \$8 billion market by 2020.

Keywords: Financial technologies, Banking, Digitalization, Fintech, Financial Inclusion

I. INTRODUCTION

Fintech is fastest growing area which has made a revolutionary change in experience of banking. It has made banking and finance experience more spontaneous, empowering and customized. It is a broad term for all technologies and software development associated financial services and products. The escalation of interest and investments in Fintech companies has been phenomenal. Accenture reported that the global investment in Fintech companies was around \$930 million in year 2008 which has crossed over \$12 billion in the beginning of 2015. In 2018 global investment in fintech companies has gone up to \$111.8 billion (as per KPMG, The pulse of fintech 2018). Adoption of FinTech services has shown steadily upward

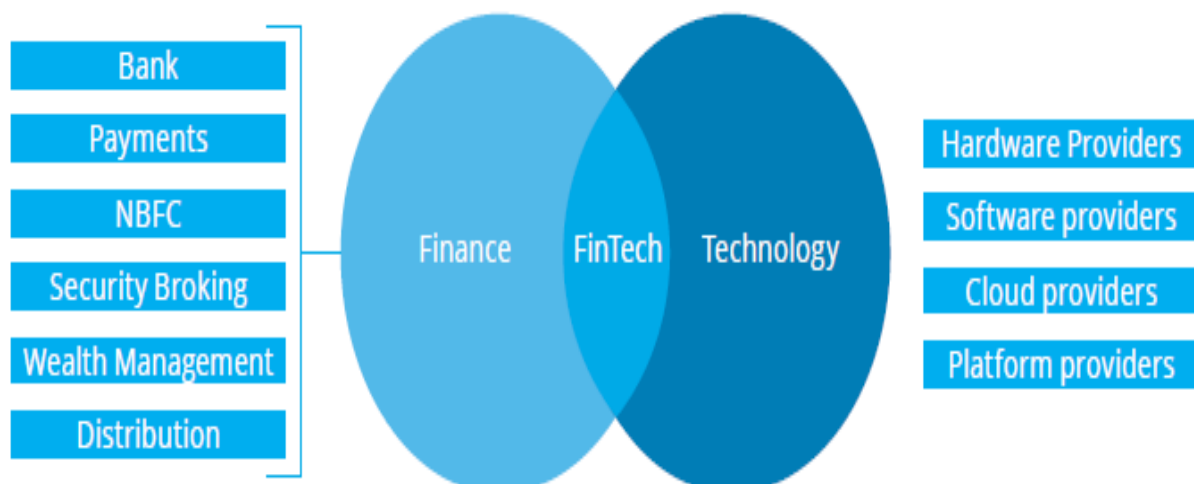
move, from 16% in 2015, to 33% in 2017, and 64% in 2019 (as per EY Fintech adoption Index 2017).

Fintech

Fintech refers to Financial Technology. It is collaboration of finance with technology for better products and efficient processes. Fintech, is not about who is biggest, but who is fastest and most responsive in addressing the ever-changing demands of consumers efficiently.

According to Financial Stability Board (FSB), of the BIS, "FinTech is technologically enabled financial innovation that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and the provision of financial services".

Exhibit 2 FinTech - Convergence of Financial services and Technology



SOURCE:Deloitte Internal Analysis

II. REVIEW OF LITERATURE

Report of steering committee of economics affair department of Government of India (2019) analyses the technologies that support fintech and also potential of fintech in different area of economy. It highlighted the importance of fintech in different schemes adopted for financial inclusion.

MEDICI's India Fintech Report (2019) studied thoroughly various fintech segments likes payment, lending, wealth tech, Insurance Tech, corporate Banking, blockchain cyber security. Current trends and innovations taking place in above areas and their effects on financial services.

Dr C Vijai (2019) studied Fintech in India- opportunities and challenges. This article aims at providing details about emergence of fintech globally and in India, adoption of financial technologies.

Sweety Gupta, Aanchal Aggarwal studied Financial Innovations and Technologies: Indian Economy 2020: It highlighted recent innovations and its impact on structure and behaviour of financial markets and Indian economy. It throw light on drivers that makes these innovations successful in long run.

Ahmed T.Al Ajlouni ,Monir Al-hakim Financial Technology in Banking Industry: Challenges and Opportunities (2018) This paper through light on fintech contribution on development in financial industry. It highlighted the various fintech market segments and the influence of fintech on banking industry.

Priyanka sharma (2018) studied Impact of Digitalization on transaction banking in Financial Industry: An evolving landscape. This research explores transaction banking integration ,technological innovation and those factors which initiates design, developments and implementation of fintech capabilities. It also identifies the fintech adoption and its impact on revenue generation.

Report of working Group on Fintech and Digital Banking, RBI (2017) The report categorised fintech innovations according to the areas of financial market activities. Further, it throws light on growth and implication of each innovation. It emphasised on regulatory initiatives taken by various regulatory bodies globally for the expansion of fintech.

III. OBJECTIVE OF THE STUDY

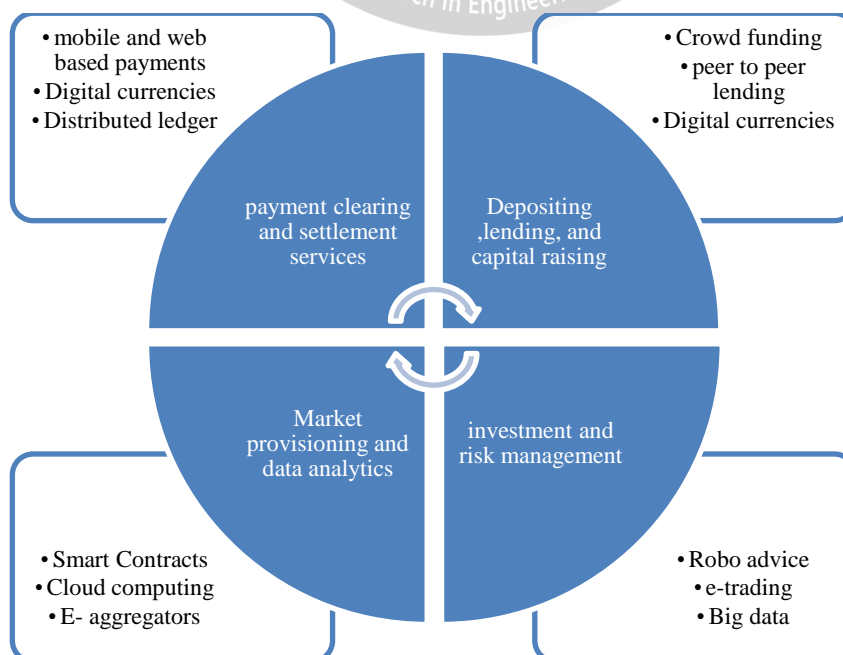
- 1.To study the growth of fintech industry
- 2.To study the new developments in fintech industry.
- 3.To study impact of growth of fintech on Indian economy.

IV. RESEARCH METHODOLOGY

The sources referred for the secondary research process spanned from company & industry reports, press releases, government & other official sources, national & international databases.

V. INITIATIVES AND GROWTH OF FINTECH

New innovations and products of fintech



Global fintech scenario

Investments in FinTech's is setting new records. Massive amount of \$61 billion was pumped into innovative companies that pursue technological innovation in the financial sector and reached to new record of \$112 billion last year according to the KPMG Pulse of Fintech report. There is noticeable change in investment pattern of large companies. These companies have increased their amount of investment fintech companies. Due to growing need of Financial services.

Total investment activity (VC, PE and M&A) in fintech 2013–2018



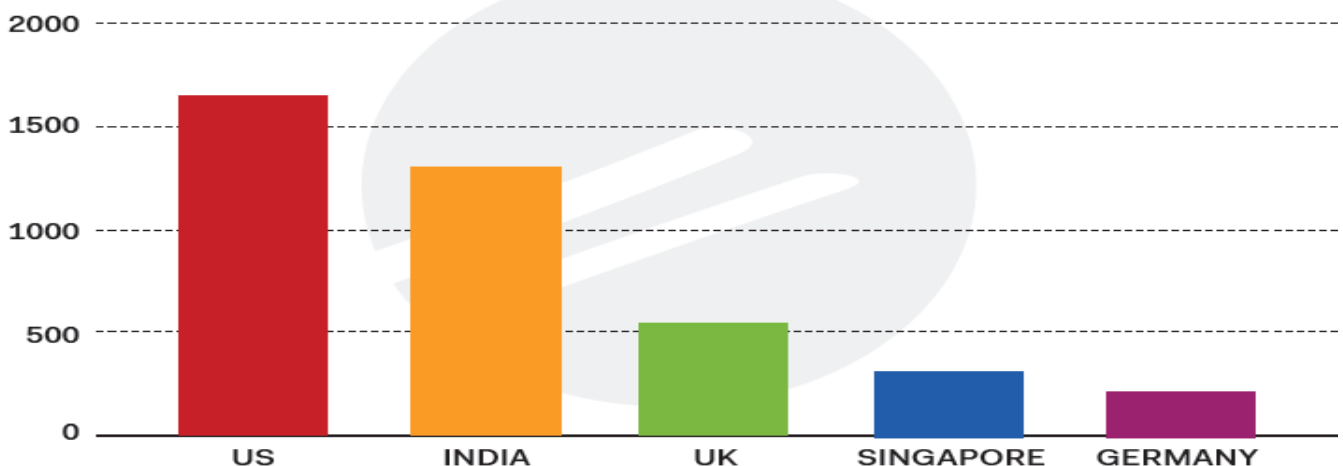
Source: Pulse of Fintech 2018, Global Analysis of Investment in Fintech, KPMG International (data provided by PitchBook) January 4, 2019.

Fintech in India

Fintech in India has grown revolutionary. India's evolution as progressive fintech nation is induced by demonetization, digital wallets and UPI. Indian customers are using mobile wallets to make payments for day to day transactions. Consumers are using e-aggregator sites like policy bazar, bank bazar, cover fox, boon insurance policy planner etc. for making comparisons of various policies and schemes. Various apps are available for banks and post office schemes which help customers to know about schemes initial investment and future earnings from such investments, calculating interest and provides complete information. Peer to peer lending is also getting popularity due to lower overhead and cheaper operation than traditional financial institutional lending. Peer to peer lending offers higher returns for money lenders and lower interest for borrowers. This has led India to a FinTech revolution.

Indian Fintech Startups increased significantly in last 3-4 years. This has been an existing phase as India was on 2nd number in 2014 after USA with 1788 startups and India with 73 followed by UK with 432 startups in 2014. India outdistance United states and outshined as fastest growing fintech ecosystem. (Medici, 2019)

Number of New FinTech Startups Founded (2015-2018)



SOURCE: MEDICI INDIA FINTECH REPORT 2019

Fintech Enablers and their application.

The rapid growth of fintech has made drastic change in the way financial products and services are being created, managed and delivered. Few technological developments enabled the creation of entirely new product. Some key developments are as following:

i) Cryptography and encryption: Innovation of cryptography and encryption has made the data more secure and confidential. Cryptography involves coding the information and encryption is a process through which by using algorithm tools information is kept secret. Now a day's encryption is being deployed as an industry standard and included in practices. For example, protection of cardholder payment data is done by "the payment card industry security Standard."

ii) Cryptography backs the virtual currencies. Blockchain uses cryptography to secure information of transactions and protection of identities is also facilitated through this technology.

iii) Blockchain and distributed ledger: Blockchain is a kind of distributed ledger technology which enables users to record transactions in decentralized and distributed form. The records are visible to all the partakers of blockchain network without being changed.

iv) Digital Currencies: Interest in cryptocurrency has surged globally in 2017. As prices of bitcoin has shoot up to the new heights. Cryptocurrencies has decentralized peer to peer payment system. Cryptography is a base upon which cryptocurrencies rely to record and facilities transaction on a set of electronic ledgers. In 2014 there were 500 crypto currencies in existence and till September 25, 2018 this number roared to 1993 cryptocurrencies as identified by coinmarketcap.com.

v) Smartphones: Smartphones are one of the big catalysts for the growth of fintech industry. The combination of smartphones and availability of internet facility at affordable rates has given consumers a superior end to end experience, as a result more people using apps like Paytm, mobiwik, G pay in their daily routine. Various apps are relying more on advanced technologies like biometric enabled multifactor, barcode scanner and many more friendly technologies helped to expand business through expansion of mobile payment industry.

vi) Artificial intelligence: Artificial intelligence is a machines intelligence to process information and outcomes are similar to human thought process. Machines are involved in learning, decision-making and come with solution for specific challenges. AI has a major impact on various area ranging from health services to business analytics and financial services.

Application:

i) Chat box: Now a day's chat box or transactional bots are being increasingly used to offer financial advices.

Customers engagement have been improved through use of such technology. Chat boxes provide 24*7 services to their client with no additional cost and provide instant solution to customers queries. This has curbed the cost of hiring the personnel's as well as time which used to be wasted in waiting and visiting personally.

ii) Credit rating Services: Sound credit scoring is prerequisite for any individual to access the credit facility. AI also serve those individuals who do not have access to credit due to lack of credible credit history. Financial institutions and companies are nowadays relying upon alternative source of information to build a credit score of an individual who do not have any credit history. Information is collected from alternative sources like social media usage, web browser history and psychometric test among others are used to build customers profile. Now in India also there are many fintech companies who are looking to serve a vast majority of Indians who do not have prior credit score.

iii) Efficiency in business processes and wealth management: Business processes are done more efficiently by use of AI. Insurance companies and claimants both are being benefited by use of AI to automate their claim processes. There is also significant reduction of errors through reliance on technology. AI also helped in identifying and understanding customers' needs and risk-taking ability which resulted in delivering customized products.

iv) Advancement in cybersecurity: with continuous increase in cyber frauds and attacks various tools, systems and algorithms are being designed to create protection and detection against frauds and potentially fraudulent activities. Generative Adversarial Networks (GAN) are being used to curb frauds and detect cases of suspicious transactions.

v) Big data and Predictive analytics: It involve processing and analysis of large and complex data. This technology deals with analyzing and discovering hidden patterns, correlation between data and other details.

Data analytics is of great importance for fintech companies as they operate through internet large volume of financial information and user data is generated. And consumer behavior is also analyzed from above information.

Impact on Financial inclusion

The Government of India and the Reserve Bank are actively promoting financial inclusion with schemes like Jan Dhan Yojana, Aadhaar enrolment and licensing of Payment Banks /Small Finance Banks, to name just a few. The FinTech companies across the nation are taking the advantage of these initiatives for expanding financial inclusion in the following areas by leveraging technology.

| S.No | Area of Financial Inclusion | Use of Fintech |
|------|--|---|
| 1. | Augment the social cash transfer in order to increase the personal disposable income of the poor. It would put the economy on a medium-term sustainable inclusion path. | Easy cash transfer App |
| 2. | Banks should make special efforts to step up account opening for females belonging to lower income group under this scheme for social cash transfer as a welfare measure (Sukanya Shiksha Scheme). | Modification to existing Bank Fintech App |
| 3. | Aadhaar should be linked to each to each individual credit account as a unique biometric identifier which can be shared with Credit information bureau to enhance the stability of credit system and improve access. | Integration of Aadhaar Infrastructure |
| 4. | Banks traditional business model should be changed with greater reliance on mobile technology to improve 'last mile' service delivery. | Enhanced mobile banking |
| 5. | Increase the formal credit supply to all agrarian segments through Aadhaar-linked mechanism for Credit Eligibility Certificate (CEC). | Digitalization of land records. |
| 6. | Corporates should be encouraged to nurture Self Help Groups (SHGs) as part of Corporate Social Responsibility initiative. | Loan Payment App. |
| 7. | Replacement of Government's current agriculture input subsidies on fertilizers, irrigation and power by a direct income transfer scheme as a part of second-generation reforms. | Direct Account Transfer App with the help of Aadhaar Infrastructure |
| 8. | Introducing universal crop insurance scheme by Government covering all crops starting with small and marginal farmers with monetary ceiling of Rs 2 lakhs. | Crop insurance App |
| 9. | To provide credit guarantees in niche areas for micro and small enterprises (MSEs). It would also explore possibilities for counter guarantee and re-insurance. | Multiple guarantee app for agencies. |
| 10. | Introduction of UID for all MSME borrowers and information from its should be shared with credit bureaus. | UID for MSME App. |

Source:RBI Report

Initiatives taken by government

- The government and regulators are the main catalyst for the growth of fintech in India. Government of India is coming up with the initiatives to create powerful fintech ecosystem. Government is taking steps towards making economy “paper, presence and cashless system”. More than 50 schemes launched by government for growth of fintech.

- As per KPMG NASSCOM report 2018 around 878 million bank accounts have been linked with Aadhaar till November 2018. There is also increase in transaction volume using Unified Payment Interface system from 0.1 million in Oct 2016 to 312 million in Aug 2018. In relation to transaction value it rose from INR 0.5 million to over 542 billion during same period.
- To promote digital India various schemes have been started on various platforms. Like E way billing, Government e- marketplace for bidding and resume auctions, Trade receivables electronic Discounting system (TReDs), GSTN (Goods and Service Tax Network and many more.
- Digital India Program has been allocated with INR 3073 crore for research, training, skill development in artificial Intelligence, big data, Robotics and also to increase awareness among people about financial services through fintech.
- In 2018 special fintech committee was established who is working on the way financial technologies can be leveraged to bring MSME under financial inclusion. It will also try to foster international cooperation opportunities with fintech industries across different countries like Singapore, China and U.K.
- Recently government announced to establish 100000 digital villages in next five years. This approach will lead to generation of alternative data that can be leveraged by digital lenders to unlock wealth and create loan portfolio.
- The foundation of GST regime has been an important step towards formalizing the unorganized sector of Indian economy which in resulted in generation of many fintech leveraging digital footprints GST Network has 1.23 Crore registered Taxpayer.
- Mumbai and Bangalore turned out to be India's fintech hub. These two cities are house of more than 42% of startups followed by Delhi, Gurugram, Hyderabad. Special steps have been taken by various states to promote fintech startups. In February 2018 maharashtra stood first to announce fintech policy. In a year government distributed Rs 9 crore funds as grants, prize and reimbursements to 250+ startups in states. Government launched accelerator program and 12 ventures were incubated.

Challenges and opportunities for fintech expansion

i)Lack of trust and awareness: In India more than 60% population lives in villages. Due to lack of infrastructure and awareness people are deprived from use of digital technology. Indian customers are considered to be conservative and also price sensitive especially with regard to making financial decision. It will take time and continuous efforts by fintech startups to reach out to people of India. No doubt through financial inclusion plans unbanked people are now have accounts in banks but still

these people are not aware of financial services. Fintech is comparatively new segment and is yet to gain trust. It is important to educate the target audience about advantage of availing financial services through fintech.

ii) Financial Infrastructure and Utilities: Major challenge in expansion of fintech is non-availability of digital infrastructure. Expansion of financial services through technology call for internet penetration and infrastructure which is not easily available in India.

iii) Cyber and Data security: All over the world banks are facing relentless cyber-attacks. India is ranked fourth in online security violation. RBI data shows that between 1 April 2014 to 30 June 2017 banks have lost Rs. 252 Crore to cybercrime i.e. Rs 88553 every hour. This is another big challenge for banks.

VI. ANALYSIS AND CONCLUSION

This paper has analysed that fintech has influenced financial services and financial inclusion statistics in India. Initiatives taken by financial industry has reduced operational cost and overheads which resulted new financial system which is more inclusive, cost-effective and better regulatory control. As per report of National Association of Software and Services Companies (NASSCOM), there are around 400 firms in India with a huge amount of foreign investments invested in fintech market. According to report, the fintech software and services market of India is expected to spread into an \$8 billion market by 2020. It is estimated to grow by 1.7 times. Globally total \$112 billion have been invested. Govt initiatives of financial inclusion has widened the scope of fintech in Indian economy. India is on 2nd position in fintech startups after US.

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