

Fintech Industry of India: A New Vogue in The Market

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Abstract:- Fintech is a new trending word in today's global market. It is providing a new shape to the financial sector of the world. This new venture between finance and technology is running successfully in India with the help of new emerging startups. Today, India is giving a neck to neck competition to China in terms of adopting fintech apps. Financial institutions, government, regulatory bodies, ventures all have given their contribution to promote this new concept in India. According to KPMG report, India will be contributing 2.2% to the world digital payment markets by 2023. This was possible with an idea of joining technology i.e. by developing software's dealing with financial services and by using the concept of Cryptography. It has bought a new change in the market system. Earlier we used to visit banks, make excess use of cash for our daily transactions. But now we go cashless and yet able to make numerous transactions from one resource that is technology. And not only just to make payments, today we have our hands on many apps which gives us the access to buy shares and manage our investments just by using software. Many government projects and initiatives have boosted this venture in Indian market like Jan Dhan Yojana, Digital India program, RBI digital payments portal and many more. During this pandemic the usage of fintech apps have increased tremendously, people preferred to pay online for precautions and for safety reasons and even the local vendors were accepting the payments with an ease. Fintech apps are planning to mold the sharing economy and customer intelligence and it is also planning to deal with Artificial Intelligence, Block chain, robotics and many more.

Keywords: *Online payment, cryptography, government, digital, software's, technology, investment*

INTRODUCTION

The one on whom we have faith is "Technology". Science fiction writer Arthur C. Clarke once wrote that "any sufficiently advanced technology is indistinguishable from magic". And he is absolutely right. And there is hardly any field left where there is no involvement of technology. And this paper discusses about one type of technology that is related to FINANCE. We all very well know that we can transfer money to friends or family member's accounts and they can also receive that money instantaneously. Not just transferring money we can also manage our own savings account and can also handle investments through technology. And this became possible due to advancement of financial technology which is also termed as "FINTECH". Fintech companies around us have been providing financial services which are easily accessible by general public. Services and transactions like savings, investing and loan processing has become an easy task for less educated person also and what exactly you need is a smart device like phone, laptop, tab or PC and good internet services which are basic needs of any human. No doubt these fintech companies are giving tough competitions to banking system of the world and the fact is banks are also investing in fintech companies.

While reading few research papers about FinTech companies, few gaps were found and few topics were found on which further research can be conducted. But to conduct a research we only have secondary data available as it is still an evolving concept. But signs are already emerging that such financial technologies have the ability to significantly impact the use of cash and current banking and financial practices, and may empower individuals living at the bottom of the pyramid, the validity of research into the various areas of fintech and the financial sector is apparent.

No matter how technology is developing and with what pace, people will be always being concerned about security. No doubt a very less ratio of people do trust these fintech company's applications and the main reason is lack of trust and security issues. And company owners have also given priority to this matter due to which they have taken a step towards Encryption. The best way to keep it secure is with encryption. Companies are deploying encryption as a security best practice.

By Peter Loshin "Encryption is the method by which information is converted into secret code that hides the information's true meaning. The science of encrypting and decrypting information is called *cryptography*."

In computing, unencrypted data is also known as *plaintext*, and encrypted data is called *cipher text*. The formulas used to encode and decode messages are called *encryption algorithms*, or *ciphers*.

To be effective, a cipher includes a variable as part of the algorithm. The variable, which is called a *key*, is what makes a cipher's output unique. When an encrypted message is intercepted by an unauthorized entity, the intruder has to guess which cipher the sender used to encrypt the message, as well as what keys was used as variables. The time and difficulty of guessing this information is what makes encryption such a valuable security tool.

Encryption has been a longstanding way for sensitive information to be protected. Historically, it was used by militaries and governments. In modern times, encryption is used to protect data stored on computers and storage devices, as well as data in transit over networks.

HISTORICAL BACKGROUND OF CRYPTOGRAPHY

The concept of cryptography was introduced by Claude E. Shannon who is considered by many to be the father of mathematical cryptography. Shannon worked for several years at Bell Labs, and during his time there, he produced an article entitled "A mathematical theory of cryptography". The first recorded use of cryptography for correspondence was by The Spartans, who as early as 400 BC employed a cipher device called the Scytale for secret communication between military commanders.

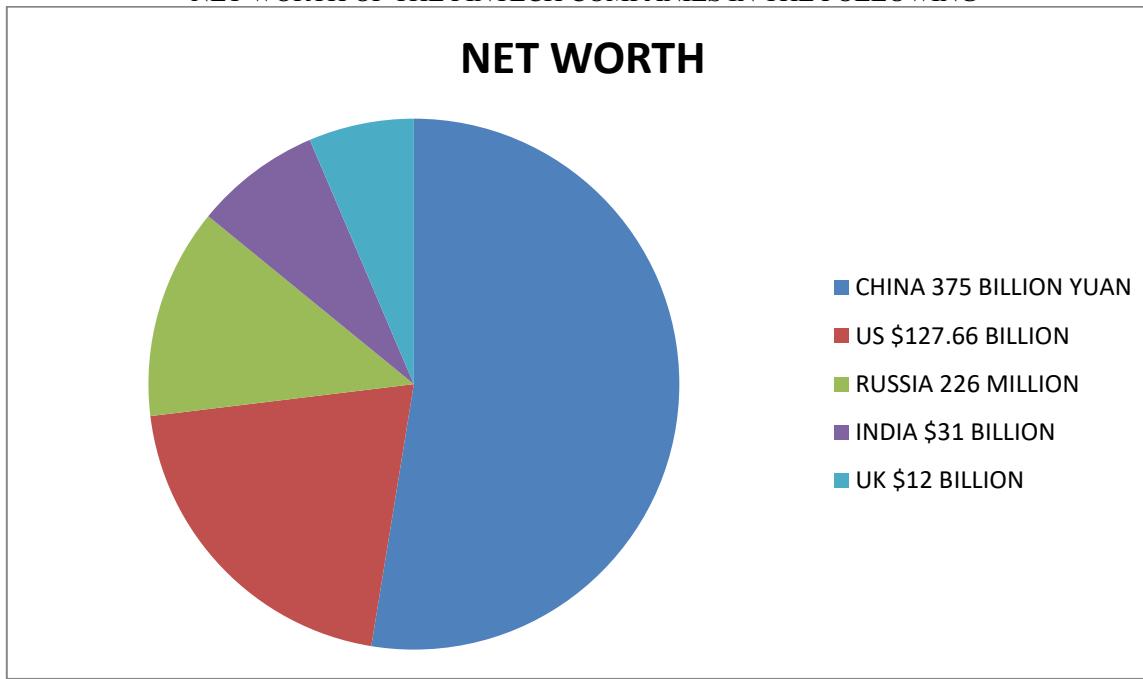
HISTORICAL BACKGROUND OF FINTECH COMPANIES

According to the research paper by Arneris, Barberis & Ross Fintech has grown from different era. In early days when technology was not in trend Telegraphs were used to transfer financial information for the development of infrastructure across the borders. Then Credit card became the first financial product in the industry which was first introduced in 1950's. And particularly in India, post-independence bought change in this trend like British Raj Banks became nationalised banks and that supported our economic growth too.

The 1980s and 1990s was the high point in history when online banking pushed the fintech industry to the limelight with electronic instalment framework, web-based business models, web-based shopping, portable banking, and digitization of banks. In India, ICICI Bank was the first to step into this internet banking space with limited banking services like access to account details and transfer within the bank. Other banks also started to follow the path and rapidly altered the way of banking. It is no wonder banks had faced challenges like technical mishaps, fraud, complex cross-border transactions, payment methods, etc. The release of Bitcoin v0.1 in 2009, Google Wallet in 2011, Apple pay in 2014 was the start that shaped the face of the fintech industry in India. Since India focused on customer-centric financial products and services, it has seen more rise in few years. The 2016 demonetization drive pulled in a lot of significance for the fintech. The Indian government's move towards Digital India and to turn India into a cashless economy with financial inclusion also hands out immense support to fintech companies. Ever since the traditional banks were struggling to roll out their banking services integrated with the SWIFT system, fintech start-ups started to share the industry space through collaboration. SWIFT system's initiative like SWIFT GPI provides end-to-end tracking with high security for the transactions. The Indian financial sector opened the door wide open for fintech to offer innovative and cost-efficient financial solutions.

The rapid adoption of fintech had many Indian firms establish like Paytm, Phonepe, MobiKwik, Freecharge in few years. This made sure smartphone adoption is here to stay and will become the primary method for people to handle their money wisely.

NET WORTH OF THE FINTECH COMPANIES IN THE FOLLOWING



CRYPTOGRAPHY IN FINTECH

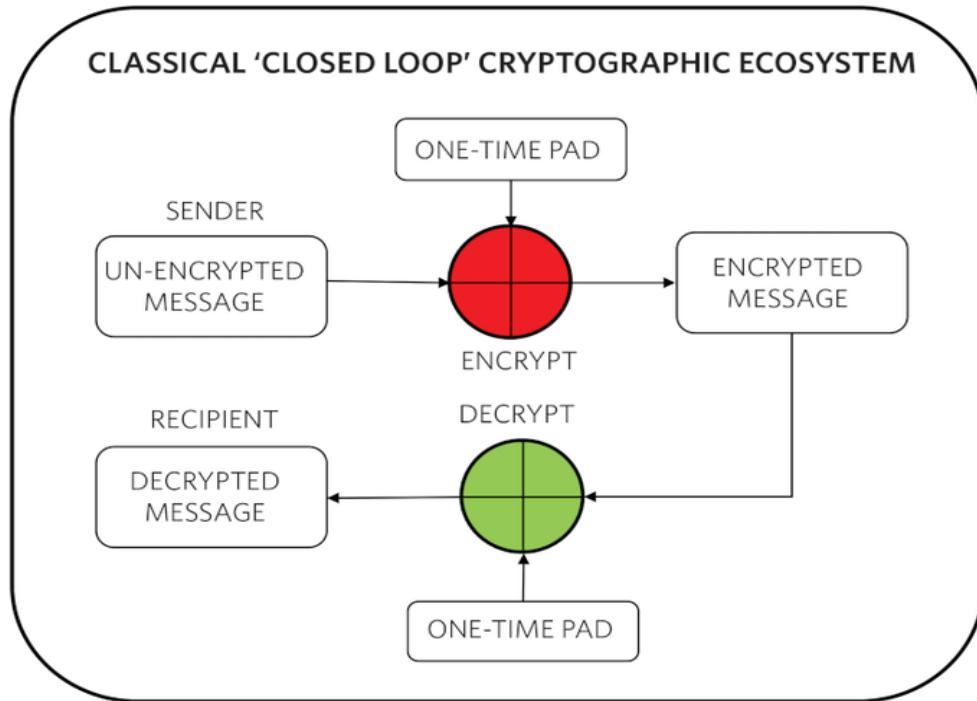
It is a technique of securing information and communications through use of codes so that only that person for whom the information is intended can understand it and process it. Thus it prevents unauthorized access to information. The prefix "crypt" means "hidden" and suffix graphy means "writing". Protecting the financial data with various cryptography algorithms is a popular and widespread method. In data encryption, the data is encoded with the help of complex mathematical algorithms. This encoded data can be accessed only with the correct decryption key. Therefore, even if your data is hacked, the hackers won't be able to access the data. Secures information and communications using a set of rules that allows only those intended—and no one else—to receive the information to access and process it. Cryptography ensures the integrity of data using hashing

algorithms and message digests. By providing codes and digital keys to ensure that what is received is genuine and from the intended sender, the receiver is assured that the data received has not been tampered with during transmission.

Cryptography is used for:-

- Confidentiality: cryptography ensures that no personal information of any customer is shared with someone else who is not authorised to see that information. It encrypts the message so that it cannot be known to any third party except sender and the receiver.
- Identification and Authentication: It also ensures that before any information is exchanged it is authorized that who is the sender and who is the receiver.
- Integrity: Our confidential data is kept fully safe without any modification done.
- Authorised and acknowledged: Like in pen and paper system if we agree upon any contract we put our signature on the place mentioned, same here the sender and the receiver can put digital signature to acknowledge the transaction between them.

Classical cryptographic system



CRYPTOCURRENCY

It is a medium of exchange of payments for goods and services. Blockchain is a technology used for cryptocurrency. Their original intent was to serve as a vehicle for transferring value without the use of a bank or other trusted third-party entity. Perhaps in response to the 2008 global financial industry crash, a person, or an entity, named Satoshi Nakamoto developed a protocol for a peer-to-peer electronic cash system. That protocol became the foundation for distributed ledgers called blockchains.

BLOCKCHAIN

Blockchain is a bit like a global spreadsheet or ledger. It does not have a central database; instead, it runs on computers provided by volunteers around the world. A blockchain is public: anyone can view it at any time because it resides on the network, not within a single institution. A blockchain is encrypted and it uses public and private keys to maintain a sort of virtual security. A blockchain allows a person to safely send money to another person without going through a bank or financial services provider.

Many in the financial services industry refer to blockchain technology as distributed ledger technology. And some see blockchain as a more reliable database than their existing databases. As digital money becomes increasingly widespread, and coupled with an estimate that more than 50% of the world's population owns a smartphone, some believe that blockchain technology will supplant the banking industry's old technology. This new financial technology partnership could be the pathway to widely available digital financial products.

Governments are starting to pay attention to cryptocurrencies. In 2015, the U.S. Commodity Futures Trading Commission decided that Bitcoin, and other virtual currencies, should be properly defined as commodities.

Some Fintech regulations in India

1. **Payment and Settlement Systems Act (2007)**: This law is the principal legislation, governing the payments regulation in India. This act prohibits the initiation and operation of any 'payment system' in India; without prior authorization of RBI. Payment structures include credit and debit card operations, smart card operations, money transfers, and PPIs.

2. **Guidelines regulating P2P Lending Platforms:** Peer-to-Peer Lending Platform Directions of 2017 prescribe the lender exposure norms and borrowing limits concerning the operations of P2P lending platforms in India.
3. **NCPI Regulations regarding UPI payments:** The UPI Procedural Guidelines, issued by the NCPI, regulate the UPI payments in India. According to this framework, money transfer services through UPI platforms have to be generated by the banks. Banks can engage technology providers to carry out the operation of mobile applications for UPI payments but under the eligibility criteria and prudential norms as prescribed by the NCPI.
4. **NBFC Regulations:** The Reserve Bank of India Act of 1934 governs all NBFCs. According to its regulations, any organization providing fintech services in India will have to be registered by the RBI. According to section 45-IA of the RBI Act, no NBFC can initiate or carry on the business of a non-banking financial institution without obtaining the certificate of registration from RBI.
5. **Regulations governing Payment Banks:** The payment banks do operate as a bank but function on a smaller scale. It cannot provide loans or issue credit cards. These banks are registered as private limited companies and licensed under section 22 of the Banking Regulations Act of 1949. Specific licensing conditions restrict the banks' activities, especially for the acceptance of demand deposits and on payment and settlements.

Some important facts by INVEST INDIA (National Investment Promotion & Facilitation Agency)

The Indian Fintech industry ecosystem sees a wide range of subsegments, including Payments, Lending, Wealth Technology (WealthTech), Personal Finance Management, Insurance Technology (InsurTech), Regulation Technology (RegTech), etc. As of October 2021, India's Unified Payments Interface (UPI) has seen participation of 261 banks and has recorded 4.21 Bn monthly transactions worth over \$100 Bn in October'21.

Challenges for FinTech industry in India

Despite of perks and advantages of financial technology advancements still it is undergoing with some challenges which is a matter of concern for our Fintech Companies. With no doubt Fintech has helped improve the products and services offered by traditional financial services. But a central issue of the industry is the hidden risk of breach of cybersecurity. This mainly includes:

- Data breeches
- Malware risk
- Third party security risk
- Cloud based security threats
- Digital identity risk

Some general challenges faced by Fintech industries are:-

- Government regulations
- Lack of trust
- Low transparency
- Due to certain customer bad experience
- Due to customer's habits
- Increased risk of job cuts
- Large cost
- Dependency on technology

CONCLUSION

Through this paper we found the history and current scenario of Fintech development in India and globally too. And we can clearly see what all benefits and advantages we customers can avail through the development of technology and depending on technology is a no more a barrier. We have shortage to time as we have burden of our work load and if we can save our time by just sitting at one place and by just using some applications through smart devices, it is like a gift from god. Having right information and knowledge about these applications can make our country fully digitally and advanced too. India has become the highest country in the world who is giving great contribution with context to Fintech. And this had become possible by keeping customer's security concern in mind by keeping our data secured through other technology i.e. cryptography, cryptocurrency and blockchain. These words might be fancy but their use is great. People need to build their knowledge about this concept so that they can keep their faith and can handle their financial matters safe, secured and easily accessible.

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