FinTech Past and Future: Ecosystem, Business Model, and its Proximate Challenges

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Abstract

FinTech "financial" and "technology" is redefining financial services in the 21st century. It is an advancing intersection of financial services with a technological solution to enhance automated financial services and processes. FinTech is a groundbreaking innovation that has the capability of restructuring the traditional market. It establishes a standard in which information technology drives financial industry innovation. These approaches are advancing expeditiously, embedded by enhancing the economy, policies, and IT sector. It offers facilities including e-trading, funding payment (electronic wallets), e-insurance, e-aggregators, and cryptocurrency via Bitcoin. The main intention of this research is to discover a historical perspective of FinTech to highlight the existing gaps in the literature, and also describe the significance of the Ecosystem toward fintech. The novelty of this area of study is to explore multiple dimensions of FinTech business models, which must be helpful for future business consultants and advisors. Similarly, after evaluating previous research to understand the ground realities and comprehend future directions, technical and management problems of FinTech companies along with future challenges.

Keywords: FinTech; ecosystem; business model; Fintech challenges.

JEL Classification: O31, O32, M13

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1. Introduction

FinTech is considered one of the most all-embracing inventions of the financial industry. FinTech is likely-looking to revamp the industry by enhancing the quality and cutting costs of financial services. In recent years, FinTech is considered the backbone of the financial industry that implements technologies to improve financial activities (Schueffel, 2016). Financial technology is the composition of technology and financial services to contribute and strengthen financial affairs in the contemporary world. Revolutionary and newly invented financial products are the desired outcomes of finTech. Hence, it is undoubtedly considered an emerging field that is influencing the conventional corporate structure and forcing them to transform themselves quickly as possible (Smith, 2015).

Similalry, Gimpel et al. (2018) stated that FinTech companies have a substantial influence on the financial industry. Innovative corporates are interested to develop capabilities to utilize and/or invest in FinTech to stay over-competitive, even recently internal projects of traditional financial institutions are transformed into technology-driven to boast Fintech innovation and obtain competitive advantages. Moreover, the authors of this study also highlighted that FinTech is now the backbone of the modern financial world. Furthermore, Smith (2015) also highlighted that innovation in the financial sector in the context of proving products and services is only possible due to Fintech.

Lee and Shin (2018) stated that two types of start-ups are relevant in the modern world, e-commerce and financial technology (FinTech). Gozman et al. (2018) emphasized that the established fintech market offered innovative, valuable solutions to the stakeholders of this sector. Likewise, the financial sector has achieved confidence to provide the best services to its customers. Moreover, Davis et al. (2017) emphasized that fintech is a reality now, therefore, contemporary financial institutions, for instance, banks are keen to build their fintech models to face upcoming challenges. There are two major gaps highlighted by (Gozman et al., 2018; Leong et al., 2017; Bahrami & Evans, 1995) first, there is a lack of research in the field of the emergence of Fintech specifically, in developing countries. Secondly, studies in the context of ecosystems and other related issues have not been appropriately addressed in underdeveloped countries.

Consequently, the main purpose of this study is to explore a historical perspective of FinTech to highlight the existing gaps in the literature, and also describe the significance of the Ecosystem toward fintech. The novelty of this study is to explore the dimensions of FinTech business models, which must be helpful for future business consultants and advisors. Similarly, technical and managerial challenges for both FinTech startups and traditional financial institutions were also described after reviewing the past research to understand the ground realities and comprehend the future directions.

Primarily, the structure of the study has based on six sections. One, the Background of the study is discussed. Second, the emergence of Fintech was described for the readers and future researchers to comprehend FinTech. Third, the fintech ecosystem was discussed, the purpose of highlighting the fintech ecosystem was essential to describe because chances of growth are much higher for several sectors, for instance; mobile banking, software, payments, platforms, data analytics algorithmic asset management systems, and peer-to-peer lending and trading, etc. Fourth, FinTech Business Model was discussed to provide a systematic purpose for using the Fintech in Business Model.

Moreover, this section has consisted of six dimensions that hopefully enlightened future researchers in the context of the business model. FinTech business models are; insurance services, crowdfunding, payment, lending, wealth management, and capital markets. Fifth, FinTech Investment challenges were also discussed to provide direction that how to deal with upcoming challenges for traditional industries along with new startups. Sixth, the study concluded for future scholars to motivate for further exploration of the same domain which would be the backbone of future industries.

2. Emergence of Fintech

Over the last few years, fintech has become an emerging subject in the corporate world. However, the notion of FinTech is inherited and not a mystic concept. In 1958, and possibly predated to July 1866, the earliest interaction by the use of the Trans-Atlantic transmission line become apparent. The transmission not only reduced communication time between Europe and North America by one-half but 10 days to 17 hours (when a message was delivered by ship), but it also aided the creation of the global telex and subsequent financial services, which is also known as FinTech 1.0 (Nicoletti et al., 2017).

According to Arner et al. (2015), there are significant eras have been established, in which the application of financial tools has some sort of interconnection with technology. These eras informed us that both fields of study grew simultaneously. Primarily, the initial phase of development was analog context to the formation of digitalization. Predominately, fintech has been developed from 2008 onward in developing and particularly in the developed world. In the last decade, fintech development was not associated with the product and services. However, it was identified with the supplier side who is applying Fintech. for instance, wholesalers and retailers of the product and services. Moreover, recently, the era of fintech was identified by start-ups.

The origins of technological innovation in the financial sector can be seen or discovered from the invention of payment through checks in 1945. Following that in 1958 Bank of America issued the first credit card. In 1967 ATMs were introduced to aid in the processing of financial transactions followed by the issuing of a debit card as a transaction instrument.

Internet banking was introduced in the 1990s aided by the advent of the Internet. Fintech innovations such as mobile payments and crowdsourcing were introduced in the 2000s. This demonstrates that fintech is a rapidly evolving business, necessitating a reassessment of earlier research to capture the progress of financial services (Ashta & Biot-Paquerot, 2018).

In short, the advancement of FinTech is associated with the expansion of enabling technologies. In the course of FinTech 1.0, the key is empowering technologies containing Transatlantic transmission cable and mainframe computers, etc. In the course of FinTech 2.0, the concerned technologies consist of Internet things, however, for the duration of FinTech 3.0, gradually data technologies will be established. Presently, we are in the evolution moment between FinTech 2.0 to FinTech 3.0.

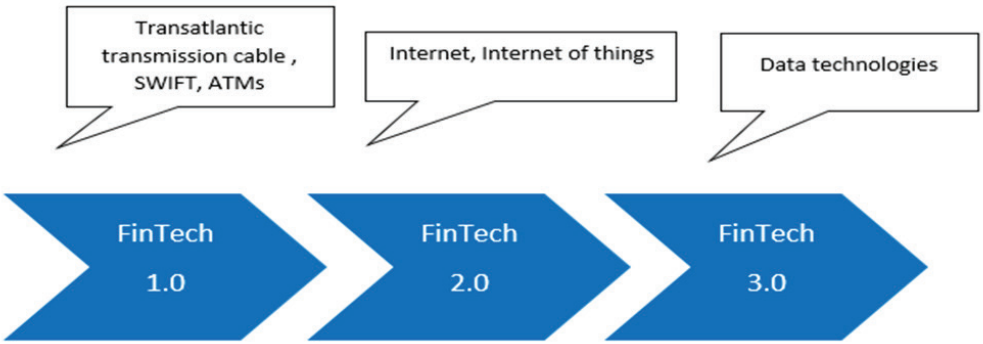

Figure 1: The evolution period between FinTech 1.0 to FinTech 3.0.

Financial Technology (FinTech) is a broad-based subject that incorporates Finance, Information Technology Management, and Innovation Management. Hence, Figure 2 depicts the finTech scope that which is a multidisciplinary area of learning.

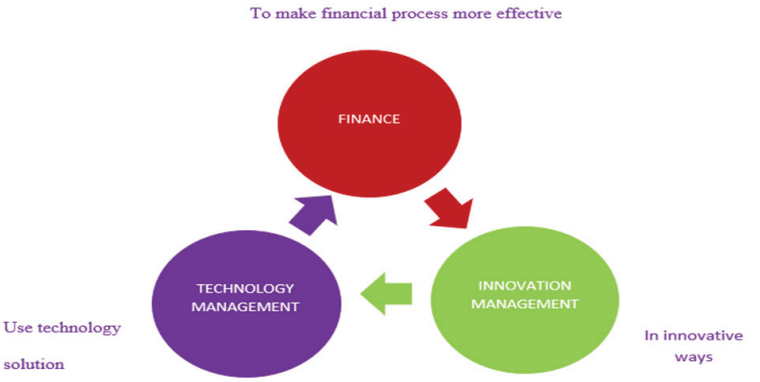

Figure 2: FinTech is a multidisciplinary area of the learning.

The fundamental intention of applying the technology is to provide innovative products and services in the existing financial system. FinTech is an emerging sector that is impacting conventional business models and financial structures by amalgamating modern technology and finance (Smith, 2015). The emergence of FinTech is basically supporting the way traditional firms are operated as it is the most critical invention (Gozman et al., 2018). In the past, financial industry innovation has primarily concentrated on technology difficulties, leaving an unresolved research topic about a deeper understanding of new technologies impact on services, Value formation, business concepts, and strategies for customers (Lee & Shin, 2018).

Furthermore, traditional business models, including proprietary distribution channels have been modified to current services by existing and established actors; thus far, product-based offerings have maintained their place in competition against new competitors. The development in the market of FinTech is providing an innovative solution to the clients by improving experiences and efficient financial services (Gozman et al., 2018). The restructuring of financial information flows has made internet banking more accessible. while other financial technologies, such as networks, standards, and messaging protocols, have generated new avenues for financial information flows. Application programming interfaces (APIs), for example, offer the ability to provide customized customer-centric experiences and make things easier (Gomber et al., 2017).

Innovations in "banking as a platform" with their mobile-centric solutions, challenger banks have become a global Fintech phenomenon, attracting millions of consumers. For example, Brazil's NuBank is the world's largest challenger bank, with 15 million customer accounts (Zachariadis & Ozcan, 2016). As the fintech sector develops, banking and financial regulatory regimes are continuously changing. To better meet the benefits and challenges provided by growing technology, financial authorities are currently evaluating existing rules and considering new legislation.

Financial regulators in the US, Europe, and the UK, in particular, have recently implemented or are enacting a number of regulations and recommendations directed specifically at fintech innovation (Fintechnews Singapore, 2020). Fintech innovation has enhanced banking and financial services, emphasizing the necessity for these new norms and rules to be rigorous. Institutionalized models are being undermined by the Fintech revolution, resulting in the restructuring of financial information flows. This is accomplished by new financial technical advancements that allow for reintermediation, or the launch of innovative financial institutions (Nielsen, 2002; Sathye, 1999).

Intermediaries are these Fintech companies that process payments using cryptocurrency rather than traditional compensation arrangements, and banking networks. Digi.me is another example of a platform that encourages clients and executive banks to collaborate

(Sen & King, 2003). To make efficient use of personal information regulatory monitoring and regulation are thus key aspects of the fintech ecosystem's evolution, and they may have a considerable impact on the scope and speed of future advances.

3. Fintech Ecosystem

The word ecosystem is broadly familiar to explain the reliances as well as prospects for ingenious value conception. In other words, the business ecosystem is the same way as "companies co-evolve capabilities around an innovation: they work cooperatively and competitively to support new products, satisfy customer needs, and eventually incorporate the next round of innovations"

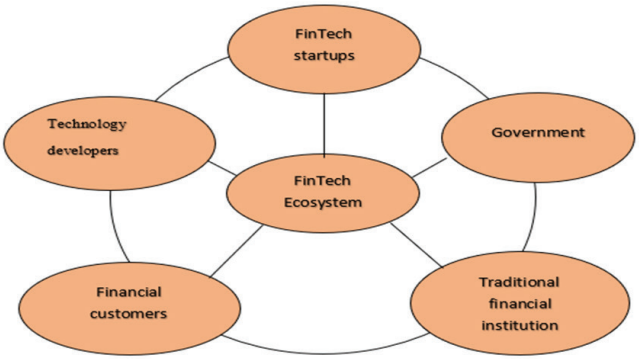

Figure 3: Five elements of FinTech
Source: (Lee & Shin, 2018)

(Moore, 1998). Modern production and economic governance systems are becoming fragmented, diffused, and spread along with network nodes, owing to global forces of non-linear innovation (Russell & Smorodinskaya, 2018). A wide variety of ecosystems have been recognized and explored based on innovation links, such as Business ecosystems, software ecosystems, and other types of ecosystems (Moore, 1998). Suominen et al. (2018) mentioned that the Innovation Ecosystems do not occur naturally; instead, they are created. Likewise, Oh et al. (2016), Järvi and Kortelainen (2017) emphasized that even though modernization ecosystems are frequently described as distinct bodies, researchers are focused on their structures.

Technical modularity has a lot of significance as it replenishes the 'theory of ecosystem' since it permits multiple producers to construct interdependent components of a system with no coordination required. As a result, modularity (but not essentially open receptiveness) is important to set the stage for the birth of a new ecosystem. In order to comprehend the reasonable and interactive dynamics of Fintech innovation, the FinTech Ecosystem needs to be studied. FinTech Ecosystem is described through a diverse, non-linear dynamics, and

complex network of representatives that cooperate to provide a broad range of financial services and products for end-users (Jacobides et al., 2018). The FinTech Ecosystem consists of five elements that act all together to encourage the economy to augment customers' understanding and support social attachment 1) Fintech startups 2) Government 3) Technology developers 4) Financial customers 5) Traditional financial institutions (Lee & Shin, 2018).

- FinTech startups deal with payments platforms, wealth management, crowdfunding, lending, capital market, and also insurance companies.
- The Government sector deals with the legislature and financial regulators.
- The Technological developers are deals with cloud computing, cryptocurrency, big data analytics, etc
- Individuals and organizations are Finacial customers
- The traditional financial institutes deal with insurance companies, venture capitalists, and venture capitalists.

These above-mentioned elements combine to encourage development, boost the economy, encourage financial sector collaboration, and competitiveness, and ultimately benefit financial industry consumers. FinTech startups are all featured in the one core. For instance, Payment, wealth management, lending, crowdfunding, capital markets, and Fininsure. Moreover, Fintech services are innovating financial services at a regular pace, which has become extremely disruptive to banks (Walchek, 2015).

Technology developers provide an environment that encourages FinTech entrepreneurs to establish innovative ventures. Likewise, provide platforms for social media, artificial intelligence, big data analytics, smartphones, cloud computing, and mobile services are developed by technology developers. Hence, big data analytics provides unique services to customers. FinTech uses big data to establish a digital trial of a customer's financial behavior, spot possible problems, and give consistent assistance. It also uses forecasts and data to propose the correct services/products depending on their client-specific spending habits. For FinTech Industry mobile network operators are providing less costly infrastructure such as mobile banking. Since the 2008 financial crisis, the Government has been providing a favorable regulatory environment for FinTech (FinTech, 2015). As a result, the future demographics of FinTech enterprises are quietly positive, as it represents the majority of the population and generates a tsunami of FinTech service growth.

Traditional financial institutions are primarily influenced by the FinTech ecosystem. It has a competitive advantage on an economical scale over the FinTech startups. Furthermore, scholars have criticized the value of the innovation of the ecosystem or the value of the ecosystem concept. For instance, Oh et al. (2016) comprehensively covered a recent bibliographic analysis that focuses on the blurred boundaries and overlaps to address this conceptual ambiguity between knowledge ecosystems and innovation ecosystems platforms,

business ecosystems, and ecosystems. Suominen et al. (2018), discussed the relations in the middle of micro and macro behaviors, along with the reasonable and collaborative behaviors of people, which are shown as fundamental defenses for the ecosystem paradigm. Ritala and Almpanopoulou (2017) also mentioned that the connections between them are emphasized.

In business ecosystems, modernization serves as an incorporating structure concerning the discovery of new knowledge (the knowledge ecosystem) and the development and capture of value. The view of the economy as a compound interplanetary made up of systems, as well as the view of innovation ecosystems as a sophisticated environment, resources, and connections produced through combined activities among systems and consequentially, functionally devoted organizational varieties of such networks, supports (Russell & Smorodinskaya, 2018).

4. Fintech Buisness Model

A business model illustrates the incorporation of the firm and explains how to deliver, and capture value from social, economic, and cultural perspectives. The procedure of constructing a business model or converting traditional business into digitalized form is also called business model innovation. The word "business model" is usually used in literature to define metaphors for essential features of an association or corporation. For instance, determination, business procedure, and development, board perspectives of customers, contributions, approaches, substructure, administrative structures, locating, trading activities, operative progressions, and guidelines, moreover, cultural perspectives.

FinTech indicates to firms that incorporate financial services along with pioneering expertise in the context of technology to promote financial services. Innovative competitors to the industry normally deliver highly innovated and advanced solutions through applications. Respective clients are fascinated by FinTech for the reason that their services are intelligible and along with unique products, efficient, transparent, as well as automated. Traditional banks haven't even scratched the surface of potential advances in this area (Dorfleitner, 2017; Mackenzie, 2015).

FinTech is widely considered to be amongst the most significant breakthroughs in the financial services and industry, as it happens fast-growing being a result of contributions to the modern financial system, favorable regulation, and the technology sector. FinTech has got the capability to disrupt and alter the financial system by reducing costs and increasing efficiency, improving the quality of financial products and their respective services, and expanding and steadying the economic system. FinTech promotes scientific invention in services related to financial perspectives that would be the reason for unique applications, corporate models, procedures, or else products with a significant influence on various financial markets, and the establishment of modern financial services (Financial Stability Board, 2019).

FinTech has a more scalable business model than traditional banks, as they combine e-finance, AI (artificial intelligence), IT (internet technology), SN (social networking), big data analytics, and blockchains. These characteristics have an impact on the growth potential and current trends with the United Nations' Sustainable Development Goals. Likewise, Moro et al. (2020), fintech is considered a valuable solution to obtain sustainability in the context of finance along with various dimensions of business in the contemporary world. The authors of this study also highlighted multiple dimensions of finTech, that would be worthwhile for future researchers to explore developing new FinTech infrastructure and providing solutions for the industry.

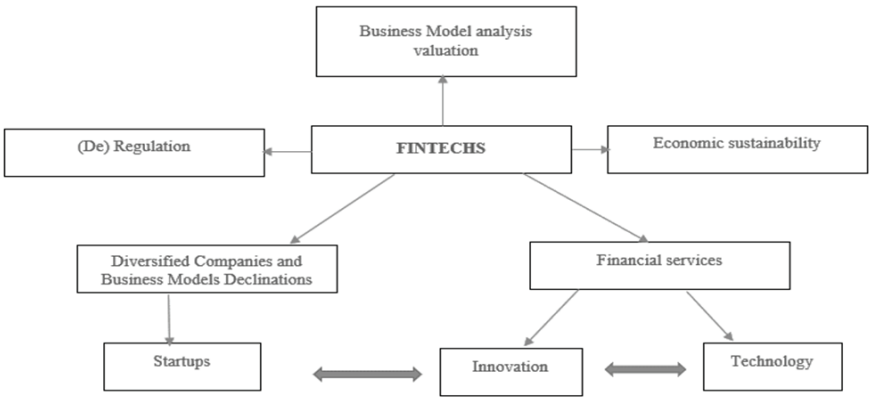

Figure 4: Main dimensions of the FinTech
Source: (Moro-Visconti et al., 2020)

FinTech has formally begun to close the financial presence disparity by means of delivering services. The triple-bottom-line study contemplates financial, community, and ecological factors, and environmental sustainability is a relatively recent field of study (Varga, 2018). Fintech businesses propose personal and enterprise bank accounts based on a comprehensive digital infrastructure. Even though this suggested model is approximately similar to a traditional banking system, fintech companies facilitate strategic management to avoid huge expenditure on maintaining physical divisions. The study's playing field is FinTech corporate models and their various levels of survivability, which provide corresponding interests to banks in order to remove traditional financial sector restrictions and promote financial inclusion. This line of inquiry has only recently become well-developed (Gai et al., 2018).

According to Lee and Shin (2018), FinTech is fast gaining traction in the financial and banking industries, where they are establishing itself as a revolutionary, disruptive modernization equipped to upend conventional financial markets. However, Fintech isn't a brand-new concept or technology; it's been there interminably. Moreover, it has merely progressed at an accelerating rate. Technology has one of the significant aspects of the financial sector,

whether it was the introduction of credit cards or ATMs, electronic trading floors, or high-frequency trading.

Likewise, some corporations are even cautious to accept and make use of FinTech since it is creative but inherently unpredictable, limiting its growth. Because FinTech is more innovative than traditional e-banking, uncertainty is more important. Transactions are becoming increasingly complex and unpredictable (Ryu & Ko, 2020).

4.1 P2P Lending

P2P lending (peer-to-peer lending) is a method or practice of lending money to individuals or businesses (Fang et al., 2014). At present days P2P lending programs (for instance, funding groups) take this to a new level by attracting debtors to prospective creditors to safeguard contracts. Peer-to-peer lending Prosper and Lending Club have become fast-growing American investment marketplaces, with year-over-year growth exceeding 100% (Tech Crunch, 2019). P2P lending is a Fintech sector that is quickly increasing in several Asian nations, including Korea, China, and Indonesia (Lee, 2017; Stern et al., 2017).

Financial technology has expanded its reach and is now considered one of the most prolific developers in the field of finance (Lee & Shin, 2018). However, it has, on the other hand, contributed to a trust deficit amongst financial services providers, which nevertheless, has kept the market appetite unsatiated, thriving them to look out for alternative financing solutions (Leong et al., 2017). Meanwhile, the available and affordable infrastructure i.e. Internet, Cellular Services and Sensors, etc., enhanced sophistication in tech apps such as Big Data analysis and platforms, etc., and business operations like sharing economy, etc, are the impetus behind the robust growth of Fintech (Leong et al., 2017; Puschmann, 2017).

4.2 Payment Business Model

Modern research has explained that conventional industries have been influenced by the fintech model. Mainly, in the payment model. Currently, businesses are relying on "Electronic wallets, electronic money, and payment gateways" which are just a few of the innovations that have evolved (Dahlberg et al., 2015; Niu et al., 2020). This is due to the significant degree of variability across payment schemes in terms of payment processing and transaction settlement techniques, as well as e-commerce developers who use a variety of payment methods (Bello & Perez, 2019; Moon & Kim, 2016).

Advanced payment methods are relatively comfortable in comparison to other financial products and services, Smaller loan amounts are rarely offered by banks and big lenders to their borrowers. The fundamental issue is low profitability, which is exacerbated by expensive processing and recovery expenses. Several fintech organizations, on the other hand, are

lowering the barriers to entry for small borrowers, hastening the fintech industry's evolution. The present system of mobile payment competes in or dirt to develop and distribute the values to clients through the multidimensional network with the same shared infrastructure (Iman, 2018).

According to Todorof (2019), financial regulators of the world specifically in developing countries are not aligned with the fintech development. Moreover, they are still in surprise to observe the uses of currency exchange through the internet. Therefore, regulators are concluding that modern fintech would destabilize the existing financial system. The payment process is made extremely simple with this fintech payment strategy. Because the loans are granted at a cheap interest rate, anything may be purchased with one click and paid for anything. Most crucially, the company that facilitates these transactions gains access to sensitive user information (of course as and when permitted).

FinTech has the following two payment markets that are (1) Wholesale and corporate payment and (2) Consumer and retail payment. The use of payments in retail financial services on a day-to-day basis, as well as one of the least regulated financial services, is increasing. According to BNY Mellon (2015), consumer and retail payment of fintech include the following: mobile wallets, (P2P) mobile payments, foreign exchange, real-time payments, and digital currency solutions. All these services improve the customer experience in terms of speed and multi-channel accessibility.

4.3 Insurance Service Business Model

Financial technologies or FinTech revolutions are reforming the requirement of financial products and services. Particularly, in the case of insurance, the fintech business model works by applying sophisticated technologies. For instance, blockchain, smart contracts, artificial intelligence, and autonomous operating technologies. Likewise, innovative cyber security procedures safeguard customer identity and reporting of different risks. It is constantly attached and always inaccessible with providing a customized analysis engagement through IoT, data analysis, and mobile revolution. Through data analytics, it calculates and matches risks, and customers are offered to fulfill all their required needs (e.g car, house, etc) Blockchain technology provides a new approach to developing secure distributed networks. Originally, created as a system service for identifying double-spending in bitcoin systems, blockchain is now widely used in a variety of business applications that require distributed parties to trust one another.

A blockchain, at its most basic level, is a distributed ledger service that is implemented by numerous participants, each of whom keeps a local copy of the ledger. Certain consensus processes involving all participants ensure the ledger's consistency. Depending on the trust model, blockchain systems can choose from a variety of consensus protocols.

The ledger's immutability is achieved by a combination of cryptographic primitives and open distribution (Vukolic´ & Marko, 2017). Existing insurance systems have automated processes to a certain extent. However, performance constraints persist due to the lack of a single trusted source of state information for many transactions. The generic insurance systems necessitate manual interactions across many transaction processes, resulting in delayed processing and a long payment settlement period (Nath, 2016).

4.4 Wealth Management Business Model

Wealth management is investing counseling assistance that merges further business services to focus on the requirements of potential investors. Get through the process of a consultation, the financial experts gather relevant facts and data regarding the investors' wishes and particulars in the context of a situation, then customize a strategy for them and decide the variety of available financial products and services. In the contemporary world, the use of Robo-advisors (RAs) has endangered the traditional fund managers and the wealth management industry. RAs' assets under management (AUM) have grown through affordability due to their cost, better-expected returns and transparency in the services linked to the application of quantitative finance and technology with less subjective human involvement (Phoon & Koh, 2017). Likewise, a survey conducted in April 2016 by CFA Institute found that the majority of people were most concerned about the potential for fintech businesses to disrupt the wealth management industry (Sanicola, 2016).

4.5 Crowdfunding Business Model

Crowdfunding is primarily a way of raising money to finance projects and businesses. It is the procedure to arrange finance for the project through several individuals via the internet. Brian Camelio, a musician, founded the first crowdfunding platform in 2003 to support music endeavors while offering prizes in return. Thousands of similar websites have sprung up as a result of its success. Crowdfunding, on the other hand, is not without risk of abuse: According to the reports of the FBI, more than 2,400 malicious web platforms thieved multimillion dollars from sponsors who invested in the aftermath of Hurricane Katrina in 2005 (Stern, 2013). In 2015, over US$34 billion was raised worldwide through crowdfunding. Crowdfunding entrusts networks of the people to control the creation of new products, media, ideas & fundraising for charity or venture capital (Administration, 2016).

On the plus side, the New York-based Kickstarter platform has taken crowdfunding to a new peak: Since 2009, it has elevated over $2.2 billion in pledges from 10 million donors to fund 100,000 creative projects and start-ups in industries as diverse as technology, sports, filmmaking, music, and the arts. Lending-based models are still the most active participants in the crowdfunding industry, with $64 billion raised in 2015 (Wills & Jablonska, 2015).

Crowdfunding entails three parties: the entrepreneur in need of funds, the contributor who is interested in the idea, and a moderating organization that enables the interaction between the contributor and the initiator. If interest is to be paid on the amount of reward-based crowdfunding, the borrower chooses an interest rate that is comfortable for them and pays it back within the desired time frame (Mollick, 2014).

4.6 Capital Market Business Model

The foremost intention of the capital market is to facilitate investors to use services, technology, and other methods for mobilizing and channeling cash into capital assets (Akingbohungbe,1996). Indeed, a country's pace of economic growth is intrinsically related to the sophistication of its financial system, particularly the efficiency of its capital market. Financial markets that are growing enable countries around the world to acquire the financial resources and abilities they need to thrive and grow. Until the mid-1980s, equity markets in developing nations were afflicted by the fundamental problems of bank-dominated emerging markets: a lack of equity capital, a lack of liquidity, a lack of international investors, and a lack of investor confidence in the stock market (Adebiyi, 2005).

The capital market is an integral component of financial markets that bring buyers and sellers together to trade stocks, bonds, currencies, and other financial assets. The capital market facilitates in buying and selling of stock and bonds. Fintech business concepts are growing all over the capital market, therefore, the horizon and spectrum of capital markets are transforming quickly in the domain of fintech. For instance, foreign exchange, trading and investing, risk management of securities and portfolio management, and financial research. The fintech model of capital market support communication of stakeholders in the capital market, the purpose of communication is to update themselves on the recent events. Therefore, investor capability of investment approach and level of confidence has been improved due to technological advancement. Moreover, in the developed and developing economies exchange of foreign currency is another significant aspect of the capital market which is quite possible and strengthened due to fintech (Baig et al., 2021).

Wang and Huang (2017) emphasized that China has become the top country in the world to transform its traditional business into a fintech Business. Likewise, the capital market of China is also successfully growing through FinTech. Artificial intelligence, blockchain, cloud technology and even robotic process have been implemented effectively in China's stock market. Therefore, the researchers of this study concluded that China is currently leading in the world due to a lot of achievements in the field of FinTech and transformation in China's Capital Market.

The capital market's relevance stems from its ability to provide bank lending between the deficit and surplus sectors of the economy. The lack of such capacity prevents the

economy from investing and producing goods and services that are necessary for societal growth. As a result, funds could sit inert on one end while being sought on the other in the desire for socioeconomic development and advancement (Akingbohungbe, 1996). Primarily, the capital market is the backbone of any economy. Therefore, it is always required to fulfill the requirements of well-defined legislation and all compulsory requirements that are rigorously regulated and adhered to by various institutions or investment firms (Adebiyi, 2005).

5. Challenges for Fintech Sector

FinTech is currently undergoing an extraordinary transformation. Innovative fintech solutions are posing a threat to a wide variety of traditional banking products from payments to financial advice. Many traditional banking services are being revolutionized by blockchain technology, which provides improved transaction security and faster money transfers at cheaper prices both nationally and abroad. Fintech has the potential to transform the financial landscape completely in the upcoming years. Any of the disruptive innovations of FinTech will definite themselves as the market evolves. In this current study, after a comprehensive review of past literature, three significant challenges were mentioned for the policymakers, business consultants, decision-makers, future researchers and others, to make an appropriate decision after knowing the relevant challenges or explore new dimensions of research in the context of finTech. Interestingly, past literature highlighted that FinTech startups and traditional financial institutions are facing disruptive innovation issues which are as follows: FinTech investment and customer management challenges, security and privacy challenges, risk management challenges.

5.1 Fintech Investment and Customer Management Challenge

FinTech investment is to assess the value of the projects in an increasingly competitive business environment. It is extremely challenging to select FinTech projects. Still, it is early to predict the best FinTech portfolio for the project that will give profitable and competitive outcomes. The financial institutions choose to invest in the internal FinTech rather than the FinTech startups. Financial institutions use collaboration investment with FinTech startups. FinTech startups get benefits from the financial institutions' expertise in modeling and analysis.

There are several FinTech investment challenges highlighted by past researchers. For instance, A higher level of participation of individual investors in the funding of new ventures may create trouble due to ignorance (Barbi & Mattioli, 2019). Likewise, Basole and Patel (2018) explained market consolidation trends and challenges through acquisitions and mergers between investors, start-ups, and financial shareholders. Buchak et al. (2018) emphasized to rise of shadow banks due to FinTech, which would be a greater challenge for regulatory authorities. Faloon and Scherer (2017) also highlighted that Robo-advisors provide risky portfolios to individual investors based on an investment algorithm.

Moreover, there are similarities between investor motivation inequity and crowdfunding rewards (Ferreira & Pereira, 2018). However, it would be a challenge for authorities to focus on integrating services across various fintech categories (Basole & Patel, 2018). Primarily, the challenge is to focus on improving the consumer experience and fulfilling the expectations of the investment perspective (Basole & Patel, 2018).

Likewise, the customer management challenge is also a big challenge for FinTech, as many customers were used several FinTech services from multiple FinTech firms for their various needs e.g., Customers are using the Paypal platform for paying for their businesses online. However, a number of customers are using the stripe platform, etc. In such a way FinTech has to manage all the customer needs and manage them by providing the best possible services.

5.2 Security and Privacy Challenge

FinTech has come to be a well-known term that explains innovative knowledge in the context of technologies that are implemented by financial institutions. This word FinTech also incorporates various characteristics of privacy and certain securities issues, for instance; threats, malevolent behavior, etc. (Gai et al., 2018). For secure FinTech, some of the best practices have now become Table talks. Advanced encryption standards (AES), triple data encryption (3DES) are the most powerful encryption algorithms that every FinTech platform is worth.

A well-designed architecture is needed for reliability, scalability as well as security. APIs must also be secured using methodologies such as authentication, authorization, encryption and more to prevent attacks. Multi-factor authentication methods such as One-Time Password (OTP), transaction PINs, and IVR PINs rely on the knowledge, possession, or inherence of additional information to authenticate users, lowering the danger of passwords or PINs being stolen (Anugerah & Indriani, 2017). There are significant emerging practices that deal with security concerns artificial intelligence and machine learning are automating the process. Blockchain is another emerging technology and fastly becoming useful in FinTech. It is becoming famous for cryptocurrency and the execution of transactions. The application of artificial intelligence, machine learning, and Big Data in the field of fintech would not be separated from modern technology trends (Brownsword, 2019).

Moreover, security not only covers technology. However, it also deals with data related to Buyers/users being required to be protected by fintech. For instance, leakage of important data, personal data protection as well as data access limits. Consequently, strong laws for the security of personal data are required (Abubakar & Handayani, 2018). Likewise, the fintech startups would be able to get benefits from modern technology through quality software. FinTech's updated software definitely would be helpful to integrate and restrain fraud (Wang et al., 2018).

5.3 Risk Management Challenge

Financial modernization is a concept in which the stress on technical developments and their pace have increased dramatically. Fintech services that applied big data analytics, artificial intelligence, along with blockchain are being introduced at an extraordinary level. These latest technologies are renovating the financial structure, opening up a lot of new opportunities for individuals to gain the benefit of financial services. Solutions of FinTech notwithstanding their benefits, expose consumers to a variety of dangers that could be consumerism and profitability.

Any digital currency that is protected by cryptography is referred to be a cryptocurrency. For instance, "Bitcoin, Ethereum, Litecoin, Ripple, Dash, Peercoin, and Dogecoin" have been examples of popular cryptocurrencies (Todorof, 2019). "Secure by encryption" denotes the usage of encryption technology on the blockchain. Furthermore, because the blockchain is centralized among its users, it is not restricted by the government (Milian et al., 2019). However, blockchain includes flaws and openings that can be exploited, such as functioning outside of regulatory guidelines (Bello & Perez, 2019). Moreover, Blockchain possesses foursome benefits for instance, (1) Blockchain is spontaneously retrieved through operators who decide to seam the database; (2) Blockchain structure gives noticeable informs to each user (3) Blockchain must be restructured for each ledger on time through multipart procedures. Moreover, (4) it employs updated technology (Dimbean-Creta, 2017).

6. Conclusion

All over the world, it is necessary to enhance the effectiveness of the fintech sector, establishing a framework regarding risk management. Which would be helpful to supervise innovations in the context of FinTech. However, it must be important to know the economical potential and never curbed for any reason. However, a framework should assist fintech and supervisors at the same time. Furthermore, technologies, for instance, big data analytics, AI, and Blockchain ledger may focus on risk management and the concerned budgets more competently. In particular, these technologies can enhance fraud revelation capability in peer-to-peer lending, evaluate and examine risk in peer-to-peer lending, assess and monitor market risk and instability in financial markets, improve user/investor risk profile coordinated in Robo-advisory, detect prohibited activities in crypto markets, as well as money laundering, moreover, distinguish and highlight cyber risks and IT administrative risks.

Depending on the fintech expertise, the financial risk fluctuates. FinTech is a recent development, there are many challenges for FinTech and a lot of development is required in the social, technological, and managerial aspects of FinTech. This article is primarily written to explore the reality of FinTech and what is the current FinTech status along with its emergence. In this study, FinTech Ecosystem was also discussed along with six different business

models. Moreover, three modern challenges in this sector had been discussed to highlight the gaps for future researchers.

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