FINTECH – AN EMERGING FINANCIAL ALTERNATIVE

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Abstract

The technological revolution resulted in the integration of advanced technology in the areas of manufacturing as well as services sectors. Fintech (Financial Technology) is an emerging financial alternative for the incumbent financial services across the world. It is nothing but integration of technology in the field of financial services. Fintech offers innovative and customised product, and services to the users with cost-effectiveness and transparency at a higher speed. Peer to peer lending, online payments, InsurTech, and data analytics are some of the core services in this area. The application of technologies like Artificial intelligence, Blockchain, Big data and Machine Learning make fintech products innovative and democratic. Apart from the conventional financial services they are quite efficient and customer friendly.

Keywords: fintech, blockchain, peer to peer lending, big data, financial services

Introduction

The world market gets into more personalised rather customised with the advancement of information technology and smartphone penetration backed with high-speed internet services. Different kinds of services reach customers based on their individual choices and requirements. There is a drastic change in the financial services sector with the rise of Fintech (Financial technology). Fintech is an umbrella term used to denote all the tech-based financial services supported by the internet. The rise of fintech brings prospective benefits to customers of all kinds by transforming the traditional financial services through the internet, smartphones, and cryptocurrencies, blockchain technology and artificial intelligence with reduced cost and more advanced financial products and services(Clements, 2019).Financial start-ups competing with the incumbent service providers by offering more customer centric-services combining speed and flexibility and gets upgraded into advanced services to meet the changing customer expectations which in turn will be disruptive for the traditional financial services(Nicoletti, 2017).The development of fintech services made an impact on traditional financial services and market(Arjunwadkar, 2018). The new entrants like fintech would transform the traditional financial markets and services with new roles, new services, and new products to meet the growing customer expectations(KPMG, 2018). The financial service industry is shifting from the application phase to the exploration phase by integrating technology which may increase the scope of fintech(Kou, 2019). The fintech adoption by the consumers shows an upward trend, from 16% in 2015 to 33% in 2017 and 64% in 2019(Ernst & Young, 2019).

Fintech Defined

Bali Fintech Agenda defines fintech as *"advances in technology that have the potential to transform the provision of financial services spurring the development of new business models, applications, processes, and products."*

"Fintech companies are businesses that leverage new technology to create new and better financial services for both consumers and businesses. It includes companies of all kinds that may operate in personal financial management, insurance, payment, asset

management, etc."(Lenny Sanicola 2017)

"A Fintech is an organization that uses novel financial technology to support or enable financial services". (Patrick Schueffel 2016)

"Financial technology" or "Fintech" refers to the use of technology to deliver financial solutions(Arner et al., 2015)

"*Organisations combining innovative business models and technology to enable, enhance and disrupt financial services*"(Ernst & Young, 2015)

A Historic Overview of Fintech

Fintech is an innovative concept which passed through many developmental phases in the past couple of centuries, the adoption of technology in the financial service industry initiated way back in the early nineteenth century. The introduction of telegraph in1838 and the laying of the transatlantic cable in 1866 paved a path for the development of technology-based financial services in the late 19th century(Arner et al., 2015). The revolutionary step in fintech movement was the introduction of Automated Teller Machine (ATM) by the Barclay's Bank in London in 1967.

The ATM innovation pioneered the technological application in the financial area and initiated the automation in financial institutions. The industry became the single largest purchaser of IT during the 1990s and more incumbent products have been a driving force in the IT industry(Arner et al., 2015). The financial service industry started shifting from the analogue to digital technology in the 1990s (Nicoletti, 2017)and the latest stage of fintech comprises financing models such as crowdfunding, AI in investment and covering the scope of all incumbent financial services and products(Arner et al., 2015).

The stages of fintech can be illustrated as (Nicoletti, 2017)

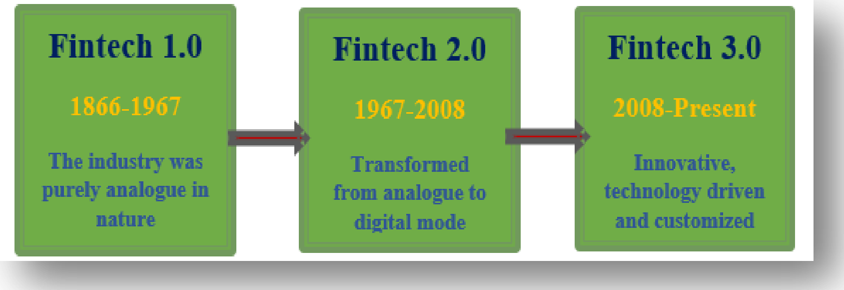

Fig.1.Various stages of fintech

Scope of Fintech

The development of Information Technology has brought a drastic change in the financial services industry over the past decade. The scope of fintech companies has been expanded considerably in the last ten years by interfering with the traditional financial services industry(Romanova & Kudinska, 2016). According to (Arner et al., 2015), there are five major categories for fintech services comprising finance and investment, operations and risk management, payments and infrastructure, data security and monetization, and customer interface. (K. Chen, 2018)classifies fintech services into three categories including payments, loans and credit, and investment. There are recent developments in fintech services such as Artificial Intelligent in investment, Robo- advisory services, big data analysis, insurtech, the introduction of virtual currencies such as bitcoin etc. Some of the major fintech services are discussed below:

1. Peer to Peer Lending

Peer to Peer Lending is an online platform to lend or borrow credit between private individuals limiting the role of financial institutions only as intermediaries(Thulani et al., 2009).P2P lending sites connect borrowers and lenders directly or through a third-party intermediary allowing lenders to set interest rates or to pre-set interest rates based on their past performance(Galloway, 2009). All these online platforms have different terms and conditions for processing the loan.

P2P lending has its advantages and features over conventional bank loans. To avail P2P lending services one should register on a P2P lending website as lender/investor or borrower. The lenders can directly invest in lending websites and access detailed information on online borrowers, which reduces randomised information. The lending website allows the lender to search for a loan request, compare the borrowers and reach a final decision(H. Wang et al., 2015). These online websites monitor the activities of both lender and borrower and the latter is rated online. Peerform (New York, US), Lending Club (US), Upstart (US), Prosper (US), Funding Circle (UK) are some of the leading P2P lending platforms across the globe. Lendenclub, Faircent, i2ifunding etc. are the major players of online lending platforms in India.

P2P lending reduces transaction costs as it ensures more transparent loan generation processes and offers a higher return to lenders, a cheaper rate of interest on loans to borrowers compared to traditional bank loans(Klafft, 2008). The users of P2P are more privileged in selecting lending manner and lending objects(H. Wang et al., 2015) at the same time loan management in P2P lending is poor as it does not trail the post loan information of the borrower(H. Wang et al., 2015). These are unsecured personal lending without any collateral securities so the risk of default in repayment is comparatively more(Pierrakis & Collins, 2013).

2. Fintech payments and money transfer

Fintech payment services bring together customers of different incumbent financial institutions on a common online platform and facilitate the payment and money transfer between these users through an integrated payment system, this online platform interlinks various banks and other financial institutions and allows the users of these institutions to utilise various payment services with a single payment method by making it more customised(Kang, 2018). These fintech services ensure more speedy, customised and safe payment method over the internet, which attract more customers from traditional payment channels. Fintech companies like Ant Financial (China), Stripe (US), Ripple (US) etc. are some of the succeeding giants in this field. Fintech payment services through smartphones and tablets are on a rise nowadays. Fintech payments services over mobile phones will have more competitive advantages over traditional payment firms, Apple Pay and Android Pay are some of the examples for fintech mobile payments in the world. Undoubtedly we can expect a drastic revolution in the banking sector in the forthcoming years as fintech payments and money transfer services will capture the payment services industry shortly.

3. Robo-advising in investment and portfolio management

- Traditionally we rely on manual advice for investment decisions and portfolio management. This advice may not be vital or accurate enough to cover the possible losses. The emergence of Robo-advising by employing advanced technologies helps the investor to select an optimum portfolio, based on his wealth and income. The Robo-advising provides automated advice to customers and portfolio managers applying technologies like Artificial Intelligence (AI), Big Data and Machine Learning(ML)(M. A. Chen et al., 2019). Robo- advising tool offers advice to individuals without the involvement of human advisors, it is an automated portfolio optimiser which benefits the investor to reduce his behavioural prejudices and to re-arrange the portfolio with minimal risk(D'Acunto et al., 2019). Robo-advising has the potential to benefit the customers with low cost, personalised services and option to shift from automated services at any time(Acunto & Rossi, 2020)

4. Blockchain

Blockchain can be considered as a public ledger in which all the transactions are stored in a chain and this chain develops further when new blocks are added to it(Zheng et al., 2017). It is to be noted that the financial industry is the primary users of this technology(Nofer et al., 2017). The blockchain works on a decentralised environment by incorporating the technologies like cryptographic hash, digital signature and distributed consensus mechanism which ultimately makes it more efficient and economical (Zheng et al., 2017). The introduction of blockchain facilitated the development of cryptocurrencies such as Bitcoin, and the popularity of these virtual currencies is increasing all over the world(Peters & Panayi, 2015). Bitcoin is the primary and most popular application of blockchain, even though the scope of blockchain extends to diverse applications such as domain registration, crowdfunding, prediction of market gambling, e-contract,e-assets etc.(Peters & Panayi, 2015);(Zheng et al., 2017). The capabilities of blockchain extend beyond the application of bitcoin ; it is expected to make far-reaching changes in industry and commerce, supporting healthcare programmes, improves supply chains and even assisting the developing countries in financial inclusion(Underwood, 2016).

5. Consumer Data Analytics

The consumer is the king of modern marketing. Marketing firms and financial institutions are competing in the global market to provide better-customised products and services, for that they need to know about the consumption pattern, taste and preferences, financial stability etc. of an individual customer from reliable sources. The fintech start-ups can fill this gap by employing technologies like big data and Artificial Intelligence (AI). According to(Santos et al., 2018)" Big data is a database which stores all the data accessed through videos, online transactions, search queries, health records, social networking, mobile phones and from other reliable sources". Volume, velocity and variety are the three main components of big data which make it different from other incumbent data analysis(Santos et al., 2018). Big data can be used for exploring consumer behaviour for formulating better marketing strategies(Erevelles et al., 2016). Consumers leave very significant data on the digital platform while they access the internet or using smartphones, these vast databases constitute the development of big data, which will be essential input for financial and marketing firms(Anderson & Hardin, 2014). Fintech start-ups use these databases for consumer analysis. Consumer big data will be helpful for banks and insurance firms for better credit management and policy calculations. The big data allows InsurTech companies to lead the market with unique selling practices and better consumer services(Lynn et al., 2019).

6. Insur Tech

Big data and AI are being used widely over the financial sector for accessing consumer data and investment management. The application of these technologies in the insurance sector is called 'InsurTech'. This is one of the core fintech innovations which reformed the insurance sector. The InsurTech uses big data and AI for bringing out better-customised insurance products and manage the risk very precisely and effectively(Thakor, 2020). The insurance sector is still in the clutches of various regulatory measures which affect the growth and customer satisfaction, but the fintech insurance companies transform the sector with applied technologies(Pranay, Gupta . Mandy, 2018). BIMA (Sweden), Quantemplate (US), Slice (US) etc., are some of the top-rated InsurTech firms in the world.

The Fintech adoption

The rate of fintech adoption has increased considerably over the last five years. The scope and acceptance of fintech services have grown faster as people all over the world become more tech-friendly. Personalised services and products, easy transaction processes and cost-effectiveness make a wider customer base for the fintech firms.

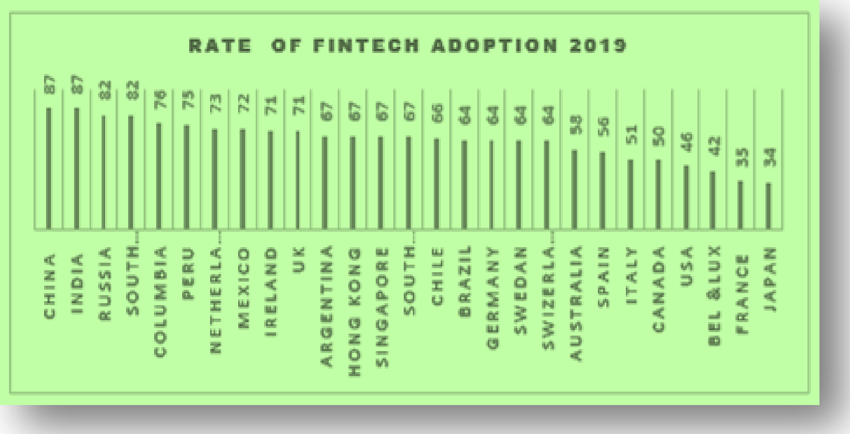

Fig.2.Fintech adoption rates 2019

Source: EY fintech Adoption Index 2019(Ernst & Young, 2019)

The EY Fintech adoption survey conducted among 27000 active digital customers from 27 markets across the world shows a clear picture of the rapid growth of fintech adoption rates, it shows that the global economy is rapidly growing along with fintech innovation. The rate of adoption in India and China tops the chart, which shows the digital wave across South Asian countries, at the same time it is a matter of research that the adoption rate of the developed countries like the US and Canada is comparatively less. An average of 64% of consumers over the world use fintech services.

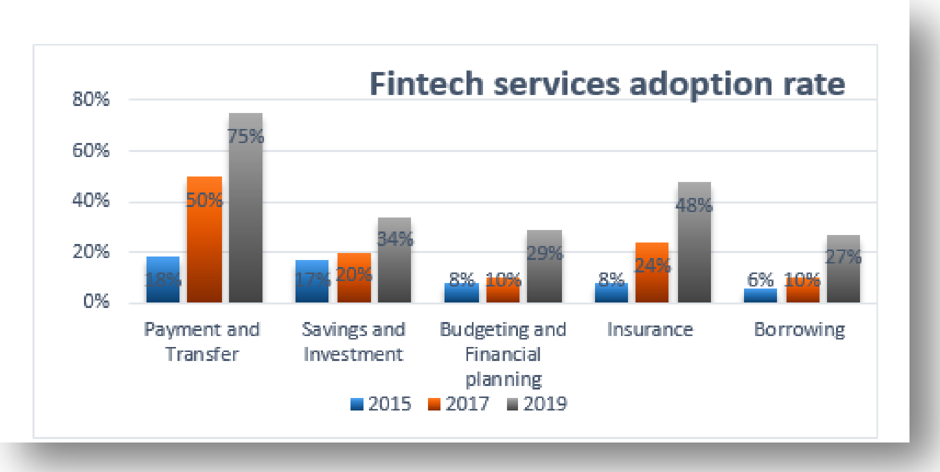

Fig.3.The adoption rate of various fintech services

Source: EY Fintech Adoption Index 2019(Ernst & Young, 2019)

The payment and transfer services rank the most, followed by insurance. All other services are seemingly showing gradual growth and recognition.

Growth of fintech

Fintech has been growing steadily over the last five years, the adoption rate shows an upward trend in these years. Fintech seems to be more welcoming and people getting adapted with these digital innovations. The average adoption rate marked in the year 2015 was 16% which reached 64% in 2019.

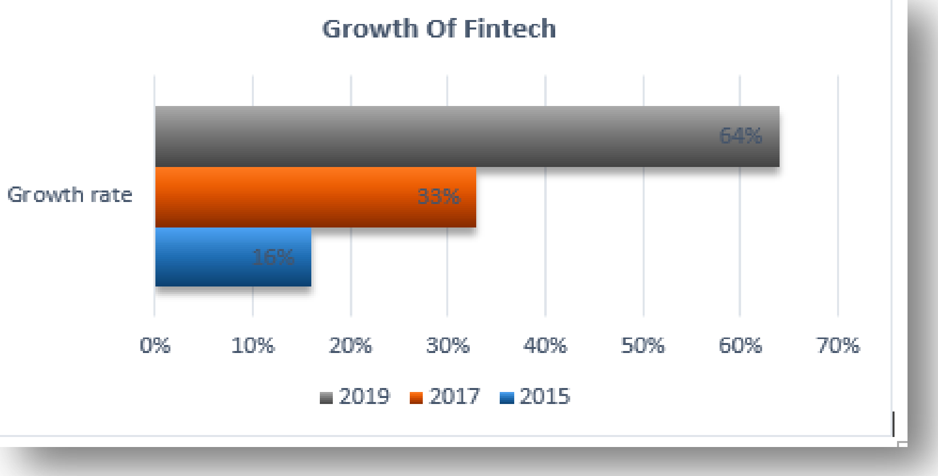

Fig.4.Growth of fintech from 2015 to 2019

(Source: EY Fintech survey (2015, 2017, and 2019)

Fintech in India

The Asian fintech market is crowned by two major economies of the world, India and China. Indian fintech investment has considerably increased due to the digital revolution in India, a reformative move by the Government of India(KPMG, 2018). The fintech start-ups in India will give a new face to the Indian financial industry at the global level. According to (Ernst & Young, 2019) the fintech adoption rate in the Indian market is 87% which is much higher than the global average of 64%. India has been at the forefront of the fintech revolution, the fintech start-ups made a healthy investment atmosphere and opened up many job opportunities in India(Das, 2019)

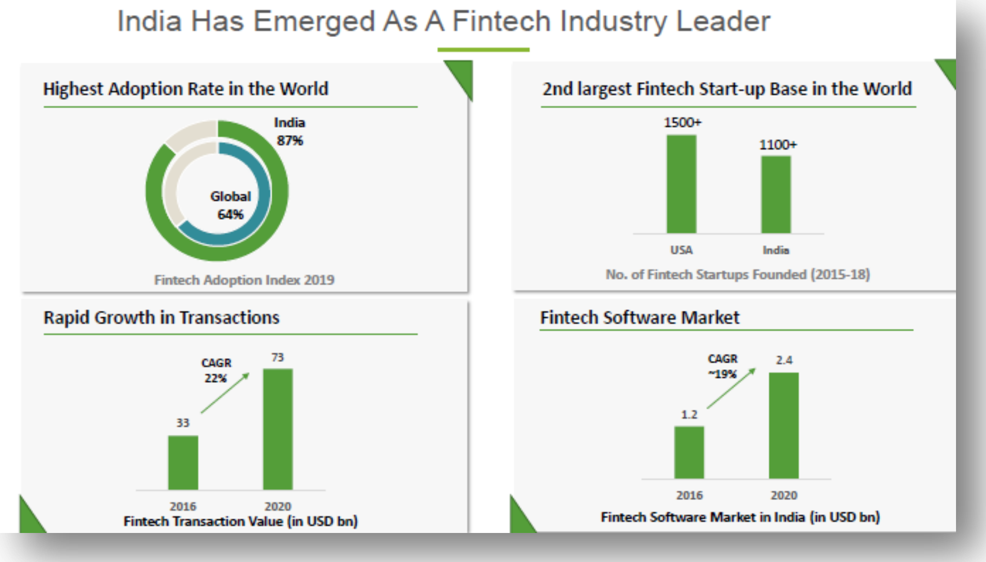

Fig.5.India in the fintech market

Source:(NASSCOM, 2019)

India is the second-largest country in the world after the US in terms of Fintech start-ups and the value of fintech transactions in India will go beyond 73bn USD by the end of 2020. There are diversified fintech innovations in India, especially in lending, payment and investment. Following are some of the fintech start-ups in India in different fintech landscapes.

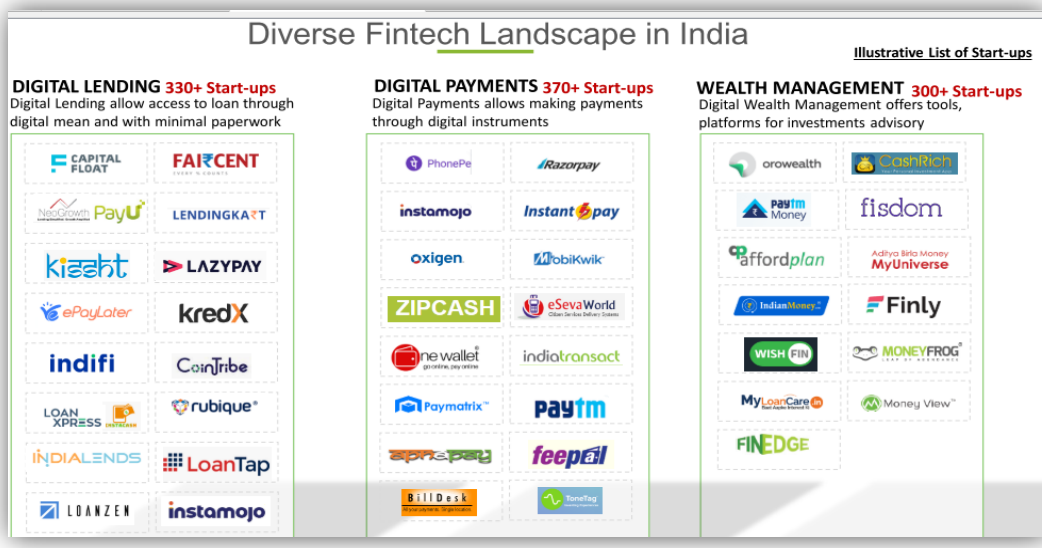

Fig.6.Major fintech players in India

Source: (NASSCOM, 2019)

Disruptive nature of Fintech innovations

Fintech disrupts traditional financial services with innovation and technology adaptation. These incumbent service providers find it difficult to retain the current market.

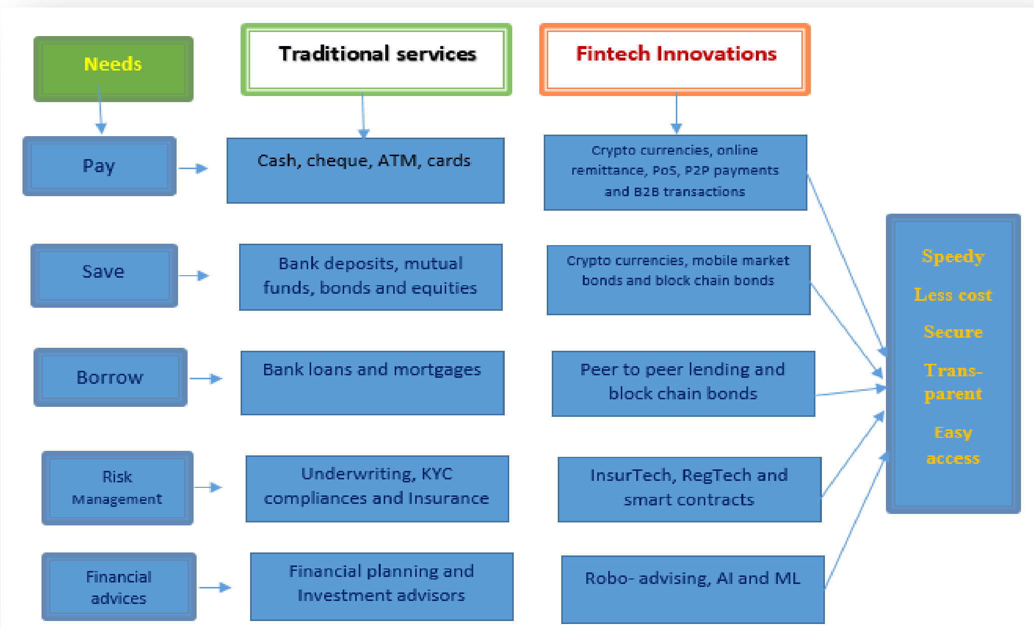

Fig.7.Disruptive nature of Fintech

Source: IMF staff (International Monetary Fund & World Bank, 2019)

Opportunities, challenges and risks of Fintech

Opportunities

Fintech has vast scope and opportunities in the global financial market. Fintech reduces cost, improves efficiency, ensures information accessibility and brings healthy competition in the financial sector, it also helps the low-income nations in financial inclusion of the underserved population(IMF and World Bank, 2018). Fintech companies are less geographically concentrated as they are functioning on the internet and capable of providing innovative products at a lower cost with minimum regulations(Romānova & Kudinska, 2016). Fintech provides opportunities to the underserved and underprivileged population of both developed and developing economies to access the financial services easily and to get into contact with the global community(Blakstad & Allen, 2018). Inefficiency and stringent regulatory clutches of traditional financial services make more opportunities for these financial alternatives(Arner et al., 2015). The millennials are familiar with the internet and other technologies, so they find fintech services more attractive and speedy for fulfilling their needs(Amalia, 2016). The fintech industry will be more dynamic and innovative not only by increasing the market share but also by providing completely new products(Ernst & Young, 2019). Fintech services will have higher potential growth in the future by eliminating the present drawbacks.

Challenges

Fintech is a tech-based innovation so the customers' inexperience with fintech and security concerns are some of the key challenges in this sector. Fintech provides diverse options to users, so they may switch to other fintech services instantly considering cost and efficiency which will be challenging for fintech companies to retain their existing customers(Z. Wang et al., 2019). Technological advancement for new product and services, developing innovative products and services within the limited infrastructure and to keep the balance between customer satisfaction and security issues are the far-reaching challenges of fintech start-ups.

Risks

Data security and consumer protection are the two major areas of risk in fintech, in addition to this the unsustainable credit growth, procyclicality, fintech activities beyond the regulations and cross border legal regulation issues etc. to be addressed strongly (Das, 2019). Trust in service is another key element of risk in fintech innovations(Z. Wang et al., 2019). Proper regulatory measures and legal frameworks are needed to control and monitor the fintech activities.

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