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The Impact of Financial Technology in Banking System

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Abstract

Fintech is also called the financial technology portals that define the financial services sectors that emerged in the 21st century. Initially implemented to improve the technological backgrounds of consumer and commercial financial institutions. Financial literacy and education has expanded to include technological innovations in the finance sector, including cryptographic currencies such as retail banking, investment and even bitcoin.

It has been used outside of financial technology to prevent the heavy processing of traditional banking and lending, and to reduce resistance to change. A system makes it easy for the consumer to receive and send money. It is surprisingly difficult to find any two sources that agree with what FinTech is. While Fintech's predecessor was defined as the inexplicable background processes of establishing server and software applications for traditional banking institutions, this definition changed with the growth of the industry. However, most definitions follow the basic idea of using technology to disrupt, change and improve the traditional financial services industry.

FinTech is a very young industry we understand today. Daniel McAuley, founder of the FinTech Initiative at the Wharton School and MBA student, describes FinTech as "an economic industry of companies using technology to make financial systems more efficient".

In this dissertation, we will investigate FinTech its innovation in financial services, role of innovation in FinTech sphere.

In chapter, two we will have a look the importance of Fintech in banking system, new payment technologies and developing new technologies and imposing them on banking system.

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Introduction

Chapter 1

1.1 Financial Services Industry, history of financial services

Financial technology, normally called "fintech", is currently an exceptionally utilized popular expression. New companies contending with customary financial services, offering client driven services equipped for joining rate and adaptability, are spreading all through the world. They are fundamentally changing the expecta-tions and the commitment of clients. Clients appreciate increasingly a computerized point of view, described by an almost entire instantaneousness and accessibility of the information, empowered by innovative gadgets, for example, smartphones and tablets, and by different patterns, for example, the Internet of Things (IoT). Conventional financial associations, for example, banks and affirmation com-panies, are changing, with the objective of narrowing the innovative hole amongst them and the new fintech new businesses. By and by, their ways toward change and development are brimming with obstacles. Old schedules never updated and unbending business models are one of their essential issues to handle. Fintech organizations are associated with a procedure of "disintermediation through development": Big Data, blockchain, robocounselors, Internet of Everything (loE), logically with a by a wide margin more viable abuse of computerized channels and mobile gadgets, are levers that are enabling them to reshape the financial services industry. These arrangements give the blemish ket inventive including esteem arrangements, supported by forward-looking procedures and bleeding edge business models. This book has a twofold point: on one hand, it intends to give the master plan of the fintech activities, not just by giving bits of knowledge on their evo-lution, their status, the principle conveyed developments, yet additionally by introducing business instances of effective organizations. Then again, it points additionally to furnish associations with controlling standards, lumped together and unified in a business demonstrate displayed and connected all through

every one of the sections. The model has its most extensive application in Chap. 8, which investigates an Italian business-to-business (B2B) fintech organization. Fintech companies, primarily new businesses, are restating the financial services business, offering consumer-centric services capable of joining speed and elasticity, backed by forward-looking tactics, and cutting-edge business models. This chapter aims to provide the big picture of this fragmented uni-verse. It starts with the history of fintech initiatives, dealing with the different waves that have characterized their paths. The rise of fintech ini-tiatives depends on many factors. They indude supplyside factors, with the onset of the digital transformation, and demand-side factors, with the emergence of new life models. The 2008 catastrophe also played an significant role by prompting tighter regulation of traditional players and a growing sense of mistrust among consumers toward conventional financial institutions. "FinTech" or "Financial technology" refers to the usage of technology to deliver financial remedy. The term's origin can be followed to the middle of 1990s and alluded to the "Financial Services Technology Consortium", This is the assignment for facilitating financial procedures. Notwithstanding, it is just since 2014 that the division has pulled in the engaged consideration of controllers, industry members and purchasers alike. The term now alludes to a huge and quickly developing industry And this data was between US\$12 billion and US\$197 billion in venture starting at 2014, contingent upon whether one considers new companies (FinTech 3.0) or conventional budgetary organizations (FinTech 2.0). And it is open that this huge growth attracted scrutiny, FinTech plays in the operations of finance and its substucture. Today FinTech is frequently seen as a uniquely last marriage of financial services and data technology. However, the modern technology and interlinkage of finance has a long date. Actually, technological and financial improving have long been intertwined and mutually strengthen. The Global Financial Crisis of 2008 was a watershed and is a piece of the reason FinTech is currently developing into another paradigm. This new advancement postures challenges for regulators and market

members alike, especially in adjusting the potential advantages of development with the potential dangers. The test of this exercise in careful control is no place more intense than in the creating scene, especially Asia. This paper examinations the development of, and standpoint for, the FinTech segment and thinks about the administrative ramifications of its development. The FinTech condition is then investigated in the more extensive transformative setting. It is important to comprehend its present status and conceivable future development. The developmental examination is then used to build up a topology of the FinTech scene today, concentrating especially on the effect of the Global Financial Crisis of 2008. related post-emergency administrative developments.Considers the case of the creating scene, especially Africa and Asia Pacific, where FinTech improvements have turned into a focal element of financial market development. Sighlights the need for controllers to cooperate ace effectively with industry in order to perform and maintain their commands, specifically through the advancement of "regulatory technology" or "RegTech". The last segment looks to give a structure to see how an adjusting between financial technology and regulation can be accomplished.

Companies in the economic services industry are in the business of overseeing cash. Internationally, the economic services industry leads the world in terms of income and equity market capitalization. In spite of the way that substantial chain associations control this part, it additionally comprises of an extensive variety of littler enterprises. Business keeping money services are the base of the financial services gathering. The procedure of a business bank incorporate the protection of alert cash, issuance of debit and credit cards, and the getting money with borrow from anyone. An investment bank generally only works with deal makers and customers that have high profits, but does not the general public. These banks sign agreement, secure access to capital markets, propose wealth administration and duty advice, advise coorporations on mergers and acquisitions, and facilitate the purchasing and selling of stocks and bonds. Financial counselors and rebate brokerages additionally occupy this niche.

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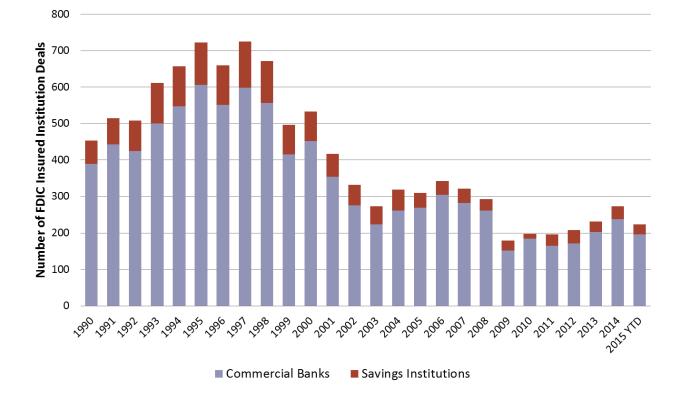
Hedge funds, common assets and investment partnerships invest cash in the financial markets and collect adminstration fees in the operation. These companies require authority services for exchanging and servicing their portfolios, and in addition legal, compliance and marketing advice. There are additionally software sellers that take into account the speculation support group by creating applications for management of portfolio, customer detailing and other back office administrations. Private value reserves, investment suppliers and heavenly attendant speculators supply venture subsidizing to organizations in return for possession stakes or advantage cooperation. Venture capital was especially imperative to tech firms in the 1990s. Much of what goes on behind the scenes really taking shape of enormous deals is attributed to this gathering.

Assurance is other essential subsector of the monetary services sector. In the US, an insurance agent varys from a broker. The former is a agent of the assurance ransporter, when the latter represents the insured and search insurance politics. This is likewise the realm of the underwriter, who assesses the danger of guaranteeing clients and furthermore advises investment bankers on advance hazard. At long last, reinsurers are in the business of selling assurance to the insurers themselves to help preser them from cataclysmic losses. The immense monetary services sector likewise includes bookkeepers and duty recording services, wire transfer services, credit card machine services and currency exchange. It additionally includes debt resolution services and worldwide payment providers.For instance Visa and Mastercard, as well as swap that facilitate stock, differentiation and commodity business.

The industry of banking remained balkanized, in that the vast majority of the states restricted the capacity of out-of-state banks to open up branches in their states, and all states hinder out-of-state bank holding organizations from acquiring their banks in 1970s. Subsequently, instead of the extensive, broadly coordinated banking system of today, there were a great many banks all through the United States of America, despite the fact that the majority of them were little, provincial workplaces. Start of 1970s, banking deregulation definitely changed the banking scene. Banks may begin to expand number of branches crosswise over state lines, and out-of-state bank holding organizations could buy banks anyplace. These progressions quickened on the 1980s, and were done amidst the 1990s with government enactment enabling banks to work across the nation. While some administrative requirements stay in that banks may not hold in excess of 10 persentage of stores broadly, the dealing with a record structure in the US has ended up being consistently open and incorporated (Strahan, 2006).

Notwithstanding changes in saving money deregulation, authoritative changes started to permit venture organizations to give shoppers essential running an account administrations.In this way, albeit most Americans led routine checking and funds business at local banks, resources of bank started to decrease as buyers exploited new other options to customary methods for keeping money, for example, CDs and money showcase resources, which yielded higher loan fee.As a consequence of these changes,the number of bank failures increases in the middle of.

To remain competitive, banks discovered escape clauses in the Glass-Steagall Banking Act of 1933. The ruling authoritative administration that administered the keeping money industry and limited the administrations that banks could give, and started to offer administrations outside of accustomed management account exercises by making home loan and financing backups and creating accommodations, for example, platinum cards and ATMs(Automatic Teller Machines). By the mid-1990s, the keeping money and financial services ventures were never again obviously characterized.At last, a rush of late mergers and acquisitions among money related establishments has made powerhouse monetary administrations partnerships that offer shoppers a much more noteworthy scope of administrations over a scope of businesses, including banking, insurance and investment governance. In spite of the fact that development and benefit proceeded in the 1980's, the financial services industry likewise experienced critical losses.New York Stock Exchange shut with the biggest single-day drop in its history, losing 508.32 focuses, or right around one-fourth of its cost On October 19, 1987. Other critical occasion in the financial services industry was the mishap of several reserve funds and advance (S&L) organizations in the mid-1980s. One reason for the S&L failures stalked from the debt burden carried due to low-interest rate mortgages suggested in the 1970s when inflation and interest rate was high. A legislature bailout costing billions of dollars was executed to pay the protected contributors of fizzled institutions.



Finally, the financial services industry experienced noteworthy misfortunes in the wake of the assaults on New York City on September 11, 2001. The World Trade Center, which was annihilated in the assaults, had held numerous banks, insurance agencies, financiers and securities associations. A significant number of these organizations missed work force ,fundamental archives and records. The months

following these occasions saw a further constriction in an as of now sluggishh American economy. The events of 9/11 incited the budgetary administration industry to afresh reexamine its administration offerings, and a large number of these establishments introduced more thorough electronic and virtual money correlated directions. This tendency will probably continue into the future.

1.2 Technological evolutions, information and growth

As noted toward the starting, finance and technology have for quite some time been amalgamated and commonly fortifying from their most punctual phases of improvement. Finance has its causes in managerial systems for state organization important in the progress from seeker assemble gatherings to settled agrarian states, for example concerning Mesopotamia. A portion of the most punctual cases of composed records confirms financial transactions. Thus, there has been an unmistakable linkage amongst finance and technology. In this occasion from the commonly fortifying procedure of the advancement of finance and composed records, one of the soonest types of information technology. Similarly, the improvement of cash itself and finance are obviously interlaced, with fiat money being one of the defining attributes of a cutting edge economy and in addition one of the center zones of FinTech today. One sees a comparative procedure in the rise of early innovations for estimation, for example, the math device and obviously numbers and science themselves. This evolutionary advancement can likewise be seen in the context of trade, with back developing from a beginning period both to help exchange, for instance financing and insuring ships and framework, for example, extensions, railways and trenches and additionally in supporting the creation of products for that trade. Absolutely, double entry accounting – another technology key to a cutting edge economy – rose up out of the interweaved advancement of finance and exchange the late Middle Ages and the Renaissance. Today numerous students of history share the view that the financial upheaval in Europe in the late 1600s including joint stock corporations, banking and protection, assumed a fundamental part in the Industrial

Revolution.In this specific situation, finance upheld the advancement of current innovations that supported mechanical improvement.

The first age of financial globalization

Technology and finance combined to generate the main time of budgetary globalization that kept going until the beginning of the First World War in the late 19 th century.During this period, innovation, for example, the broadcast, railways, waterways and steamships supported money related interlinkages crosswise over fringes, permitting quick transmission of financial information, exchanges and payments around the world.The financial setor at the same time had provided the important assets to improve the transmits, rail lines, channels, steamships and different technologies.J.M. Keynes, writing in 1920, gave an unmistakable photo of the interlinkage amongst finance and technology in this first time of financial globalization:

The occupant of London could mastermind by telephone, tasting his morning tea in bed, the distinctive aftereffects of the whole earth, in such sum as he may see fit, and sensibly expect their underlying movement upon his door step; he could at a comparative moment and by comparable means encounter his wealth in the consistent resources and new pursuits of any quarter of the world, and offer, without exertion or even inconvenience. The early post-war term

The early post-war period During the post-war period, while money related globalization was obliged for a very long while, mechanical improvements, especially those emerging from wartime, continued quickly, information innovation and particularly in interchanges. In the background of information know-how, code-breaking devices were created monetarily into early PCs by firms, for example, IBM (International Business Machines), and the handheld financial adding machine was first delivered by Texas Instruments in 1967. The 1950s likewise denoted the period where Americans were acquainted with Mastercards .This customer unrest was additionally upheld by the underlying foundation of the Interbank Card Association

(now MasterCard) in the US in 1966.By 1966, a worldwide wire arrange was set up, giving the essential interchanges vital on which to fabricate the following phase of FinTech improvement. The main business rendition of the successor of the message, the fax machine, was presented by the Xerox Corporation in 1964 under the name of LDX(Long Distance Xerography).As noted beforehand, 1967 denoted the arrangement of the primary ATM by Barclays in the UK.

The advanced establishments: 1967-1987

The begin of the calculator and the ATM in 1967 started the advanced time of FinTech 1.0. 1967-1987 was a period when financial administrations moved from an analogue to an advanced industry(analogue to digital). Key improvements set the establishments for the second time of financial globalization, which were plainly signposted by the worldwide response to the 1987 stock exchange crash in the US.In the zone of payments, the Inter-Computer Bureau was set up in the UK in 1968, shaping the premise of the present BACS (Bankers' Automated Clearing Services), while the US CHIPS (Clearing House Interbank Payments System) was set up in 1970. In the mid 1970s Fedwire, at first settled in 1918, transformed into an electronic set up of transmitted. Reflecting the need to connected household payments systems transversely finished outskirts, Society of Worldwide Interbank Financial Telecommunications(SWIFT) was set up in 1973, followed not long after by the fall of Herstatt Bank in 1974, which unmistakably featured the threats of expanding global monetarial interlinkages, particularly through the new payments system advancement technology. This crisis set off the primary major managerial focus on FinTech issues as a movement of all inclusive fragile law concurrences on making solid portions structures and related control. The blend of finance, technology and fitting administrative consideration is the premise of the present US\$ 5.4 trillion daily worldwide outside trade market, the biggest, most worldwide and most digitized segment of the worldwide economy. In the territory of securities, the foundation of NASDAQ 30 in the US in 1971, and the finish of settled securities commissions and

the inevitable advancement of the National Market System denoted the change from physical trading of securities dating to the late 1600s to today?s totally electronic securities trading. In the customer territory, web based banking was first presented in the US in 1980 (yet surrendered in 1983) and in the UK in 1983 by the NBS (Nottingham Building Society).

During this period, financial foundations expanded their utilization of IT in their internal activities, gradually supplanting most types of paper-based contraption by the 1980s, as computerization continued and risk controlling technology developed to control interior and core risks. One example of a type of Financial Technology advancement is familiar today to financial experts. Michael Bloomberg began Innovation Market Solutions (IMS) in 1981 in the wake of leaving Solomon Brothers, where he had composed in-house PC systems.By 1984, Bloomberg terminals were in regularly expanding use among financial foundations. Standard financial companies firms are hence way clearly a central piece of FinTech. As Yang Kaisheng CEO at Industrial and Commercial Bank of China, the greatest bank on the planet by bit of the general business and asset appraise, has starting late observed: There is an insight that when banks make web development, it isn't seen as FinTech.. A few people say this is another thought, another belief system that will dispose of operators and middle people and that banks can't adapt. As one case, roughly 33% of Goldman Sachs' 33,000 staff are engineers – more than LinkedIn, Twitter or Facebook. Paul Walker, Goldman Sachs' worldwide technology co-head that they "were going after gifts with new businesses and tech organizations"

FinTech 2.0 (1987-2008): Development of Traditional Digital Financial Services 1987 denoted another time of administrative thoughtfulness regarding the dangers of cross-fringe financial interconnections and their convergence with technology.One of the notable pictures from this period is that of the speculation financier using an early cell phone (first presented in the US in 1983) consummately delineated in Oliver Stone?s film Wall Street in 1987. That same year additionally denotes the ?Black

Monday? securities exchange crash whose impact on business sectors around the globe unmistakably demonstrated they were interlinked through innovation in a way not seen since the 1929 crash. While very nearly 30 years after the fact there is still no reasonable agreement on the reasons for the crash, much concentration at the time was set on the utilization by money related organizations of modernized exchanging frameworks which purchased and sold consequently in view of pre-set value levels ("program trading"). The response prompted the presentation of an assortment of systems, especially in electronic marketplaces, to regulate the speed of value changes (circuit breakers). It likewise drove securities controllers around the globe to start chipping away at components to help participation, in the way that the 1974 Herstatt emergency and the 1982 creating nation obligation emergency activated more noteworthy collaboration between bank controllers in regard to cross-fringe issues. Moreover, the Single European Act of 1986 became effective, setting up the system for the foundation of a solitary money related market in the European Union (from 1992), and the Big Bang budgetary progression process in the UK in 1986, joined with the 1992 Maastricht Treaty and a regularly expanding number of monetary administrations Directives and Regulations from the late 1980s, set the pattern for the inevitable full interconnection of EU money related markets by the mid 21st century. Unquestionably, by the late 1980s, budgetary administrations had moved toward becoming to a great extent an advanced industry, in view of electronic exchanges between money related establishments, financial market members and clients around the globe, with the fax to a great extent having supplemented the wire. By 1998, money related administrations had progressed toward becoming for every single down to earth reason the principal advanced industry. This time likewise demonstrated as far as possible and dangers in complex mechanized risk administration frameworks, with the crumple of Long-term Capital Management (LTCM) in the wake of the Asian and Russian money related emergencies of 1997-1998. However, it was the rise of the Internet that set the phase for the following level

of improvement, starting in 1995 with Wells Fargo utilizing the WWW (World Wide Web) to give online record checking. By 2001, eight banks in the US had no less than one million clients on the web, with other real wards the world over quickly creating comparative frameworks and related administrative systems to address risk. By 2005, the principal coordinate banks without physical branches developed (e.g. ING Direct, HSBC Direct) in the UK. By the start of the 21st century, the two banks' inner procedures, cooperations with untouchables and a regularly expanding number of their communications with retail clients had turned out to be completely digitized, realities featured by the noteworthiness of IT spending by the money related administrations industry. Likewise, controllers were perpetually utilizing innovation, particularly with regards to securities trades, which by 1987 had turned into the most widely recognized wellspring of data in regards to showcase control, in view of their mechanized exchanging records and systems.

Administrative ways to deal with customary DFS in FinTech 2.0 For instance of administrative enthusiasm for related improvements, David Carse, at that point Deputy Chief Executive of the Hong Kong Monetary Authority (HKMA), gave a keynote address in 1999 where he considered the new regulatory system required for e-keeping cash. It is basic to observe that this talk was given in 1999, while e-keeping cash had been around since 1980. This time slack features the slack in administrative response to imaginative changes. This slack is not out of the ordinary, and regularly invited as it is predictable with effective market regulation. There is constrained advantage in managing every single new development relevant to the financial sector. Pre-emptive control would not just build the workload of administrative offices and tend to smother advancement extremely, yet would likewise have restricted advantages. In this way, authoritative re action isn't strange and can evidently be significant in allowing the ascent of another channel or industry. The administrative view in the midst of FinTech 2.0 was that while e-banking was basically a modernized form of the standard physical banking model, it made new risks. By giving direct and in every way that really matters unlimited access to their records, advancement emptied the requirement for supporters of be physically present at a branch to pull back resources. In a roundabout way, this could encourage electronic bank continues running as the nonattendance of physical cooperation expels the contact from a withdrawal. Consequently this can build the weight on a financial association that has liquidity issues in the midst of a banking emergency: A web based bank is looked with an indistinguishable kinds of banking peril from its standard counterparties. In some ways, the web may elevate these perils. For instance, the ability to exchange sponsors between various bank records may expand store unconventionality and could, in extraordinary conditions, prompt "virtual bank runs". Banks should join this likelihood with their liquidity administration policies.Regulators furthermore recognized that internet banking makes new credit perils. Through the evacuation of the physical association between the buyer and the bank, it was foreseen that opposition would increment (e.g. borrowers would approach a more prominent pool of banks as they were never again restricted to a particular land region). While at first sight positive for buyers, this focused weight may in like manner be dangerous from a financial security point of view. The US furnished a telling case of this with not to regulate of its banking market in the midst of the 1980s. Second, the necessities rising up out of being known by and by an acknowledge officer are lost as the propel begin choice may be supplanted by a mechanized system. On the useful side, it was fittingly noticed that better sorted out information could prompt an enhanced comprehension of the borrowers' actual credit shot and allow the offering of things better adjusted to the risk profile of the customer. This knowledge pre-empted the rise of enormous information examination that gives more granular bits of knowledge into shoppers' profiles. However, the correlation stops here, in light of the fact that Carse's discourse was based on the commence that these mechanical advancements would be utilized by authorized financial instincts as

it were. This qualification is vital to understanding the defining moment between FinTech 2.0 and FinTech 3.0.

Amid this FinTech 2.0 period, the desire was that the suppliers of e-banking arrangements would be administered financial establishments. Indeed, the utilization of the term "bank" in many wards is confined to organizations appropriately approved or controlled as budgetary establishments. Be that as it may, the Fintech 3.0 period has demonstrated that budgetary administrations arrangement may never again exclusively rest with managed financial organizations. The arrangement of money related administrations by nonbanks may likewise mean there are no compelling home controllers to follow up on the worries of host controllers, and in this manner whether the supplier is directed or not may have little effect. This implies the last shield may originate from buyer training and doubt of putting stores with a non-bank, seaward organization. Nevertheless, even this last imperative has been damaged since 2007, when the trademark picture of banks and their apparent dependability was shaken profoundly. A 2015 study revealed that American trust levels in innovation firms dealing with their accounts isn't just on the ascent, however really surpasses the certainty put in banks.For occasion, the smooth of confidence Americans have in CitiBank is 37%, while confide in Amazon and Google separately achieves 71% and 64%. Certainly, Amazon and Google are gigantic, entrenched organizations. In any case, there is an expanding number of non-recorded organizations and new companies that take care of clients' cash and budgetary information. China gives an unmistakable outline of this phenomenon, with more than 2,000 P2P loaning stages working outside of a reasonable administrative framework. This does not hinder a great many moneylenders and borrowers alike, who will put or acquire billions on these stages because of the less expensive cost, better return and expanded comfort. In like manner, the "reputational" factors that mean no one but banks can offer running description administrations are not applicable for a substantial extent of individuals in the creating scene. For more than 1.2 billion people, this factor is powerless, as to

them managing an account may well be a ware that can be provided by any corporation, whether controlled or not. At the end of the day, in creating markets there may well be an absence of "behavioral legacies" whereby people in general expects that no one but banks can give financial services. For populaces, "banking is basics, banks are not," as it was legitimately caught by Bill Gates in 1994. FinTech 3.0 (2009 – show): Democratizing Digital Financial Services? An attitude move has occured from a retail client viewpoint with respect to who has the assets and authenticity to give money correlated organizations. While it is hard to recognize how and where that trend began, it is conceivable to state that the 2008 Global Financial Crisis speaks to a defining moment and has catalyzed the development the FinTech 3.0 time. As the rest of this area will appear, post-2008 an arrangement of economic situations upheld the rise of inventive market performers in the financial facilities industry. Among these elements are: open discernment, administrative examination, political request and financial conditions. Every one of these points is currently investigated inside a story that represents how 2008 went about as defining moment and made another gathering of performing artists applying innovation to money related administrations.

1.3 The role of Innovation in Fintech sphere

FinTech and the Global Financial Crisis: Evolution or revolution?

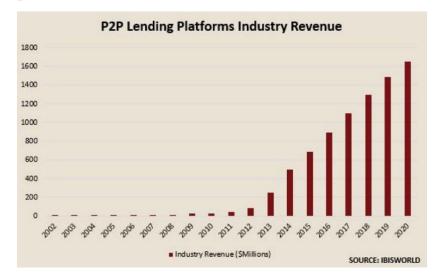
The financial emergency has had two impacts as far as open observation and human capital. To start with, as the birthplace of the financial emergency turned out to be all the more broadly comprehended, the general population view of banks weakened. For instance, savage loaning techniques focusing on disappointed groups not just ruptured the shopper insurance commitments of banks, yet additionally extremely harmed their standing.Second, as the financial emergency transformed into a monetary emergency, an expected 8.7 million American laborers lost their jobs.Two sets of people were affected by the financial emergency. From one perspective, the general open built up an uncertainty of the regular banking system.On the other hand, various financial

experts either lost their occupations or were directly less well compensated. This under-used instructed workforce found another industry, FinTech 3.0, in which to apply their aptitudes. Last however not minimum, there is also the more up to date age of extremely instructed, crisp graduates defying a troublesome movement market. Their instructive establishment has regularly outfitted them with the gadgets to comprehend financial markets, and their aptitudes can be connected to FinTech 3.0. Post-financial emergency control has expanded the consistence responsibilities of banks and adjusted their business motivators and business structures. In particular, the widespread banking model has been specifically tested with ring-fencing duties and expanded administrative capital changing the impetus or breaking point of banks to start low-esteem credits. Besides, the (mis)use of definite financial progressions, for instance, collateralized obligation responsibilities (CDOs), has been viewed as a supporter of the emergency by disconnecting the credit risk of the basic progress from the progress originator. Finally, the need to guarantee methodical disappointment of banks has driven the execution of financial establishment determination administrations across finished regions, which expected banks to get ready Recovery and Resolution Plans (RRPs) and direct pressure tests to assess their viability.As an outcome, since 2007, the business models and structures of banks have been remolded.

From present emergency control on FinTech 3.0

These new administrative duties (e.g. Dodd Frank Act, Basel 3) are welcome in light of the social and monetary impact of the financial emergency. It is at present impossible that the following financial emergency will be provoked by similar causes and impact individuals when all is said in done is tantamount ways. However, these post-emergency changes had the unintended outcome of goading the ascent of new mechanical players and confining the point of confinement of banks to contend. For instance, Basel 3 converted into expanded capital prerequisites. While this upgraded advertise constancy and risk immersing limit, it moreover redirected capital from SMEs or private individuals. The last may then need to swing to P2P loaning stages or different headways to fulfill their requirement for credit. From a political point of view, expanded joblessness and decreased openness of credit can specifically challenge the authenticity of chose agents. This is the political motivation driving the Jump Start Our Business Act in the United States in 2012. The JOBs Act handles these issues of joblessness and credit supply in two ways. On employment, the JOBs Act means to promote the creation of new companies by giving alternative approaches to finance their businesses. The preamble of the demonstration, states: An Act: To upsurge American employment creation and economic development by enhancing access to the general population capital markets for emerging development companies. From an approach perspective, there is little drawback in advancing entrepreneurship as it directly affects work creation On financing, the JOBs Act assisted new businesses to by-pass the credit withdrawal caused by banks' increased expenses and limited ability to initiate credits.

The JOBs Act made it possible for new companies to raise directly the finance to help their business by bringing capital up in lieu of equity on P2P stages.Figure 1 underneath demonstrates the sharp increment in financing accessibility on online platforms:



The JOBs Act did not have the particular motivation behind supporting FinTech 3.0, in light of the fact that it connected to new businesses when all is said in done. In sum, the monetary amenities industry since 2008 has been exaggerated by an "perfect storm", monetary, governmental and open in its source, taking into consideration another age of market members to build up another worldview referred to today as "FinTech".

As indicated by Accenture's provide details regarding "The Future of FinTech and Banking," worldwide interests in FinTech wanders tripled to \$12.21 million of every 2014, which implies FinTech picked up an awesome energy and turned into a problem area drawing in a great deal of consideration. We have been mindfully following FinTech here at LTP and built up an ability and profound information about the space and players. There are certain urgent things about FinTech each potential entrant and current player needs to keep as a main priority and give careful consideration to. As we tapped into the historical backdrop of viewing FinTech and present trends in the space, we have granulated 7 most vital things to think about FinTech industry.

FinTech startups are hot and conventional

It's nothing unexpected that endeavors in FinTech tripled a year ago. Jumping into the investigation of FinTech, we have secured 22 most sweltering FinTech new companies from the Silicon Valley and India's 14 most sizzling FinTech new businesses to show an extraordinary assortment of arrangements and problematic players in universal markets. In Q1 2015, the payments area pulled in more than \$1.16 billion in speculations; 12 organizations raised more than \$5.6 million in seed financing rounds of which "Bringhub" raised the most astounding aggregate with \$2 million in seed sponsoring. What's more, in the short traverse navigate of July-September 2015, FinTech saw \$750 million of endeavors.

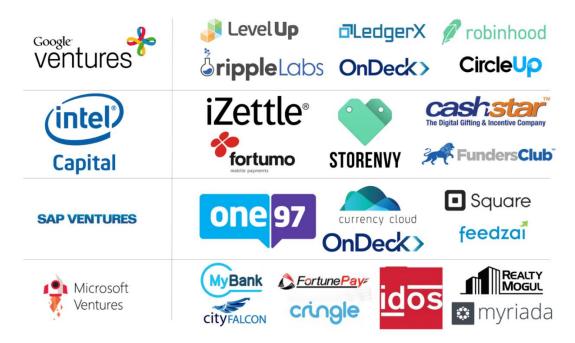
As the LTP group is spread the world over to take after the FinTech and be over the news about the space, we have seen a fascinating pattern of a developing number of FinTech center points similarly dynamic and hot.

There is a thought that Silicon Valley is the place where the most innovative arrangements are being fabricated and tested first. This is in part obvious, in spite of the fact that there are positively centers far and wide where "unicorns" are brought up to achieve worldwide markets. FinTech Week London 2015 demonstrated the emerging center points with huge investments in FinTech around the globe made in most recent five years. The biggest ventures were made in the US, totaling more than \$31 billion.The UK FinTech saw add up to speculations of more than \$5 billion, and whatever is left of the Europe: \$4.4 billion. The Chinese FinTech industry is staying aware of FinTech with \$3.5 billion speculations made in the space over the most recent five years. Worldwide interests in FinTech came to nearly \$50 billion of every five years.

The as of late continued Money20/20 gave us awesome bits of knowledge into the eventual fate of FinTech and patterns to remember. The gathering demonstrated the borderless idea of FinTech to be valid. Creative and innovative mechanical arrangements from FinTech have a stunning preferred standpoint of effectively expandable abroad. Development can't remain inside the fringes of one nation any longer with the developing assorted variety of gifts sourced in FinTech new companies and with cutting edge cloud-based technology taking arrangements over the globe.

The result for the neighborhood organizations is expanded rivalry from remote organizations that don't need to influence noteworthy interests in a physical nearness to begin to entering the market. A similar point is leeway for remote organizations. New kinds of partners are entering the space

FinTech new businesses were believed to be disruptMicrosoft is associated with FinTech with an extraordinary assortment of activities. Google, ive and competitive and hence, more quirky to customary financial establishments like banks. In any case, this isn't the circumstance any longer. Tech organizations commanding different spaces began entering the opposition for development in finances It is shocking how actively tech monster Microsoft is related in FinTech with a great variety of initiatives. Google, Intel and others have likewise shown an enthusiasm for FinTech with their dynamic speculations. Here are a portion of the cases of organizations in the arrangement of non-financial organizations:



New, invested individuals are currently molding units inside their organizations to work particularly with FinTech new businesses to support splendid personalities and imaginative business people and, potentially, put resources into the most encouraging ones.

New types of partnerships

We demonstrated a rising interest from tech mammoths in FinTech new companies alongside banks. That premium prompted new surges of ventures and in particular, brooding. Be that as it may, there is another arrangement of players shaking hands with the budgetary business contrastingly or notwithstanding contending with FinTech while being in a totally random field at first sight.Online networking and correspondence monsters like Facebook or WeChat understood the energy of applying financial exchange highlights into their broad informal organizations. Facebook, planned to be an online networking stage to associate millions, saw an incredible open door in including a significant component of cash exchange while WeChat, China's greatest informing application with in excess of 600 million dynamic clients, reported an understanding which empowers WeChat clients in the US to send cash to 200 nations and domains by means of Western Union's Connect stage.

The socialization of cash exchanges is dynamic from the two players – media goliaths and FinTechs. Venmo leveraged the strength of social connections and the value of online interactions by opening the chance to share personal exchanges and react on them inside personal networks. Obviously, Venmo is a standout amongst the most well known distributed payment applications which has handled more than \$900 million exchanges amid Q4 2014.

FinTech 2.0 is coming and FinTechs and banks are teaming up

On the off chance that new businesses were flourishing to drive banks out of the productive markets with the ascent of FinTech, we now observe an intriguing change both in state of mind and procedures from the two sides. Banks are not any more occupied with savage rivalry. As effective customary players showed a risk, they made sense of individual approaches to adapt to it and team up with a specific end goal to enhance and give a superior incentive to clients.

The two banks and FinTechs have their qualities and shortcomings, and both are in an ideal situation by collaborating and consolidating as well as can be expected offer to cover each other's shortcomings. Banks can guarantee quick scaling with huge subsidizing. An intriguing term called FinTech 2.0 is utilized as a part of the paper as of late distributed by Santander in a joint effort with InnoVentures, Oliver Wyman and Anthemis Group called "FinTech 2.0 Paper: Rebooting Financial Services."

As expressed in the paper, while some FinTechs today are centered around the race to produce independent "unicorns," FinTech 2.0 speaks to a far more extensive opportunity to re-design the framework and procedures of the overall financial services industry in which the principle 300 banks charge an income pool worth \$3.8 trillion.To understand the shot of FinTech 2.0, banks and FinTechs need to work together, each giving the other what it needs – be that information, brand, allocation or specialized and administrative mastery.

We have been covering the ways FinTechs and banks are holding hands with the most preferred approaches to collaborate being startup projects to incubate FinTech new businesses (43%), venture assets to finance FinTech new businesses (20%) and partnerships with FinTech companies (20%).

Europe has a developing method for cooperation between the banking business and FinTech new businesses – mentorship programs.There are a number of banks like Bank of America, Merrill Lynch, Citi, Barclays, HSBC, JPMorgan, Credit Suisse, Goldman Sachs and another banks got involved in the FinTech Innovation Lab. The main aim here is relationships between new companies and banks through 12-week mentorships.

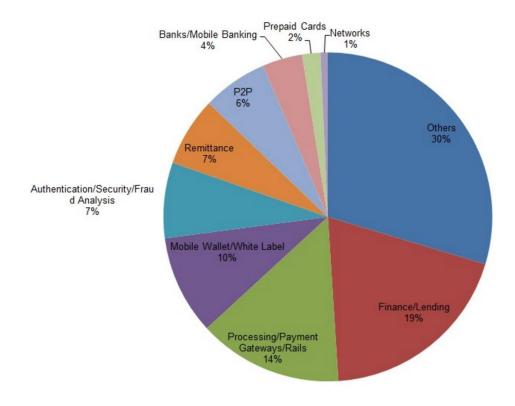
An essential conclusion is that banking and FinTechs are more in community oriented connections than in competition. Banks and FinTechs are working in the financial services industry which manages the sorts of connections between new participants and set up effective players. It is somewhat related to the way that FinTechs can't be a complete alternative to the customary bank – FinTech new businesses still rely on bank accounts at the backend with the lion's share of FinTech new businesses offering a fragment of the set of services regular bank offers From a bank's viewpoint, FinTechs speak to a union of the most imaginative thoughts and arrangements that can change the market quickly because of the size, gifts, nonattendance of heritage frameworks, center and different components. An entirely managed condition is

another factor driving new businesses to look for help from banks that have assets and steadiness to consent to authorizing.

The model of connections amongst new businesses and industry goliaths isn't the same in different enterprises. A portion of the illustrations are Tesla in car and Uber in transportation. In these, cases disruptors are not compelled to look for joint effort or any help from conventional players since they have their own innovations and quality to enter the market. Disruptors can autonomously consent to controls simply like huge players.

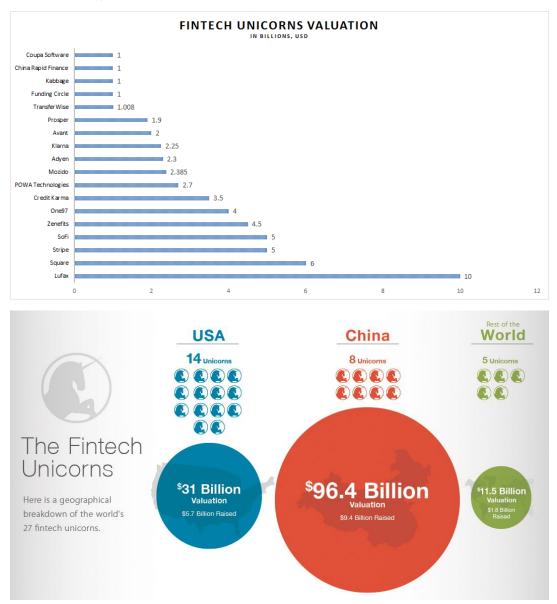
Players inside the FinTech business.

There is an excessive miscellany among the types of companies inside the FinTech business. In this way, we can't appropriate financial and creative appeal of the general business on all players similarly. Certain spaces inside the FinTech draw in a bigger number of ventures and consideration than others. The LTP group outlined the classifications by the extent of the speculations:



In 2013 and 2014, finance/loaning organizations pulled in a sum of \$567 million in stores, the biggest contrasted with different classifications. Payment rails organizations raised \$416 million while versatile wallet organizations raised \$286 million. The LTP group played out a profound examination of ventures made into payments innovation organizations, which can be found here.

Growing the "unicorns" club Innovative courses of action in FinTech enlightening main problems of a noteworthy client pool lead organizations to the "unicorns" club, which has been extending at a brisk pace. A portion of the cases from around the globe we can bring here are:



Chapter 2

2.1 Globalisation of financial markets

Indeed, even the most superficial audit of significant universal financial patterns in the course of recent decades appears there have been progressive changes in world money related markets. Amid the 1960s, financial organizations and their administrative structures in major modern nations advanced in relative detachment from outside improvements. Amid those years, most nations, including the United States, forced limitations on global capital developments. Real universal institutional assentions after World War II, for example, the Bretton Woods understanding and the General Agreement on Tariffs and Trade, changed world exchange yet did little to free the development of global capital. After the cash related unsettling influences of the 1930s, various had tended to whether free capital streams and changed capital markets were notwithstanding charming. In the International Financial Fund, the fundamental commitment of part countries-their code of good conduct-was confined solely as far as staying away from limitations on current record installments: that is, installments for stock exchange, global administrations, venture livelihoods and installments, settlements, and authority government exchanges. In the interim, the standards and the reasoning concerning capital exchanges were far various: numerous nations confined outward capital exchanges either on the grounds that they favored their funding to be contributed inside their residential economies or in light of the fact that they wished to anticipate descending weight on their trade rates. That circumstance and those perspectives changed significantly in the 1970s, and the pace of progress quickened in the 1980s.1 The communication of a few capable powers has created monstrous capital streams crosswise over national limits. In the meantime, the structure and activity of world money related markets have been changed. Today, world budgetary markets are profoundly coordinated, and exchanges have turned out to be progressively perplexing. These wonders are reflected in cross-posting of

securities in a few nations, crosscountry supporting and portfolio enhancement, and 24-hour exchanging financial instruments at trades the world over.

Many of the channels utilized for financial exchanges have additionally changed. There has been a noteworthy move, moderately, from banks to nonbank financial mediators, for example, financier households, sanctuaries firms, assurance agencies, and benefits stores. There has likewise been a move from credits to securities and an ascent in the utilization of remote financial focuses. Likewise, there has been a surge in the utilization of new financial instruments and, specifically, of derivative items, (for example, financial choices, fates, and swaps on loan costs, remote financial standards, stocks, securities, and wares). These instruments have been created to address the issues and inclinations of various clients, including their want to support risks in a domain of fluctuating interest rates, financing costs, stock costs, and product costs. The phenomenal changes in world budgetary markets have had huge ramifications for open strategy and information gathering. As a result of worldwide capital developments, arrangements and improvements in different nations progressively impact local financial execution. As an outcome, there is a requirement for data about the new and rising worldwide money related condition. However changes that have occurred in world money related markets themselves aggravate the trouble of gaining the data. Given the troubles included and the budgetary limitations looked by factual organizations in people in general area, a few inquiries emerge: What is the present requirement for information on universal capital exchanges? In what ways are present U.S. gathering frameworks satisfactory or deficient? Are there theoretical defects or information lacks that ought to be revised? Are there elective approaches to accumulate the information that would be more precise, more valuable, all the more opportune, all the more mechanically progressed, or less burdensome and expensive?

The study and the report

With the help of the Bureau of Economic Analysis (BEA) of the U.S. Branch of Commerce, the Panel on International Capital Transactions was assembled to analyze the adjustments in the global money related condition, survey open and private requirements for information on global capital exchanges, audit the ampleness of existing information, and consider alternative accumulation techniques. Consequent research awards from the Federal Reserve Board and the U.S. Bureau of State additionally upheld the investigation. The board's objective has been to create proposals for the accumulation of information on U.S. global capital exchanges to help guarantee that the information are exact, convenient, important, financially savvy, and valuable for basic leadership in the years to come. This examination is a take after on to the one finished by a past board of the Committee on National Statistics. That report, Behind the Numbers: U.S. Exchange the World Economy (Kester, 1992), inspected the sufficiency of information on U.S. stock exchange and worldwide administrations exchanges. It prescribed strides to redress the issues of underreporting of U.S. stock fares and lacking scope of U.S. global administrations exchanges. It additionally proposed measures to enhance checking of offers and buys by U.S. companies abroad and at home, and also those by remote firms in the United States. It called attention to that, of all U.S. worldwide exchanges (in products, administrations, and capital streams), exchanges speaking to capital streams are the slightest satisfactorily recorded. That report inferred that enhancing the information on U.S. worldwide capital exchanges would yield high settlements, and this report tends to that issue. Despite the fact that the changing worldwide exchange and budgetary condition has driven a few global associations to attempt activities to enhance the ideas and strategies for incorporating universal financial measurements, none of the subsequent investigations centers particularly around information on U.S. worldwide capital exchanges. By and by, enhancing the nature of U.S. information would have significant ramifications for worldwide financial measurements. Better U.S. information would extraordinarily upgrade the value of data on worldwide

capital streams in light of the fact that the United States represents an extensive some portion of every single worldwide exchange. Different nations would likewise profit if enhanced U.S. insights were accessible, since U.S. exchanges include numerous other created and creating nations, and the factual issues of the U.S. information are not interesting. Refining U.S. information ideas, definitions, and techniques and fitting them with global ones would advance worldwide information similarity. This change in likeness, obviously, would apply to the information of different nations also. Information similarity is vital for global financial arrangement coordination, as well as for information trades between the United States and different nations. The board trusts this report will add to a superior comprehension of the worldwide money related streams that have come to portray the quickly advancing worldwide economy. In directing this examination, the board widely checked on existing writing, including late investigations by the International Financial Fund, the Federal Reserve Board, and the Bank for International Settlements . It analyzed the ideas, techniques, and strategies that U.S. government organizations use to gather information on global capital exchanges, and additionally those utilized by other modern nations. It drew on the bits of knowledge and skill of numerous people in elected offices, worldwide associations, outside government offices, organizations, exchange affiliations, and research associations, including those from the U.S. Branch of Commerce, the U.S. Branch of the Treasury, and the U.S. Central bank framework, and the International Financial Fund, the Bank for International Settlements, the Bank of England, the Bank of Japan, and the Deutsche Bundesbank. It con-suited specialists in the bookkeeping calling and other master bunches as of now looking at the progressions in worldwide financial markets and the management of complex money related exchanges. The board heard master declaration and assessed composed remarks from various government, scholarly, and industry clients on the ampleness of the current information. The board additionally campaigned information filers from business and

speculation banks, securities firms, financier houses, and multinational companies to take in their perspectives on information detailing prerequisites.

In building up its suggestions, the board considered the current budgetary limitations that face measurable offices, and the quickly advancing world financial condition and the approach of creative data and broadcast communications advancements.

Suggestions in this report are positioned as far as their relative significance; the most essential are recorded first in each segment.

2.2 The banking system and the new payment technologies

Wave of innovation in managing an account: The mechanical improvement in saving money can be followed as takes after: 1960 - Mechanized saving money presented. 1970 - Introduction of computer based banking industry. 1980 - Introduction of PC connected correspondence based managing an account. Coming of PC innovation has made a noteworthy effect on working of banks. The computerization and resulting advancement in history of Indian banks can be followed back to 1966 when Indian Bankers Association (IBA) alongside trade banks affiliation marked first wage settlement with the association, which represented the utilization of IBM or ICT bookkeeping machines for between branch compromise and so on. As per the reports of RBI the primary wave in banking technology began with the usage of Advanced Ledger Posting Machines (ALPM) in the 1980s. The RBI prompted every one of the banks to go in for immense computerization at the sector. Innovative improvements in Banking: Over 10 years Indian banking system saw transformation. The fundamental driver of change has been the quick appropriation of Information, Communication and Technology (ICT) based system in the banks. The huge red ledgers, column of racks of ledger holders, money scrolls, registers, clearing check scrolls, totaling machines, long moves of paper strips often looking the floor formed piece of hardware in the branches. It was additionally normal to see staff taking cover behind the tall branch counters, column of mark cupboards remaining between the counters and supervisory staff, clients looking at hysterically on development of records and

checks until the point when their exchanges were finished. Be that as it may, in the post bank change time, all the more especially after the ICT enablement there is semantic changes and development in the nature of client services. Additionally, the direct route of clients remaining in line in bank offices gazing tensely at the staff, their excitement to get up to speed bank timings to sign in exchanges, hunting down known workers to store/get payments late at the counters. In addition, accepting wads of money notes in marketing payments at the pledges, sitting tight to update pass books, getting drafts, protesting over the awful hand composing of a portion of the representatives were likewise the regular highlights of 104 manual banking. They are currently not any more pertinent. The banking workplace has changed for good. Bank offices are currently brandishing a smart look with restored inside, emanating corporate shading, sharp looking bank logos, wide glass entryways, and rich insides and all around created client lounges and so on. The very much painted signage, clear direction in the branch, client information, show of item information, enquiry stand, grinning relationship collaborators in a few banks adds to the advanced branch set up. The low stature counters took care of via prepared workers wearing welcoming look, clients having balanced interface with divisions, banking corridors humming with snaps of mouse, PCs, PCs, cash notes hurdling through the checking machines frame some portion of modernized clothing of bank offices at any rate in metro urban communities. The spooky hush of clients and staff, a guaranteed fast adjusting system, gives an environment to keeping up centered nature of administration in the branches. The on location ATMs, teller counters, swipe machines/booths have accelerate standard exchanges of consistently need of customers. With the beginning of elective conveyance channels, even the branch timings are not extremely critical. Telephone and mobile banking, Master, Visa(debit cards, smart cards), rechargeable electronic tote are additionally a portion of the cutting edge banking offices that permit round the clock get to. With the profile and bent of bank shoppers quick changing toward the utilization of ICT offices, the ubiquity of e-channels of banking

are set to accept more centrality. Banks are quick adapting to acquaint add-on services with draw in youthful age of clients. It can additionally be watch that with the greater part of the banks relocating to Core Banking Solutions (CBS), the exchange stage has turned out to be regular encouraging utilization of ATMs of any bank at the ATMs of some other bank/establishment so extended as they are associated with a typical payment system like VISA/MasterCard.

When regards to payments, security and fraud conservation is one of the greatest worries among the specialist co-ops.

JPMorgan discharged the aftereffects of "Payments Fraud and Control Survey" this year with irritating outcomes on fraud rates. According to the report, a portion of the key discoveries incorporate the accompanying statistics:

• 92% of finance experts EuroPay, MasterCard and Visa(EMV)cards will be successful in lessening purpose of-offer (POS) fraud

• 61% trust that chip-and-PIN will be the best validation strategy in relieving credit/debit card payments fraud

• Paper checks keep on leading as the payment compose most helpless to fraudulent assaults even as their general utilize keeps on declining

• Debit and Credit cards encountered a decrease in fraudulent action, down from 43% out of 2013 to 34% out of 2014

The high level of tricky activity in the financial sector permissions FinTech with a issue to address. The most significant statistic for FinTech as focused on remote exchanges is the way that 62% of organizations were focuses of payments fraud in 2014, among which 27% are wire exchange related.

This availability has take away even the restrictions in the utilization of debit/Mastercards.

The ICT driven offer has changed the entire scope of banking services to clients. It has turned out to be an awesome client driven empowering influence for banks to

initiate advancement. It has made the life of bank representatives much better. The ranges of abilities of representatives can likewise be expanded and harmonized with recent needs. The rigidities of compromise, coordinating of passages, the time spent prior on housekeeping are currently better utilized for business improvement. Despite the fact that technology brought help to the two banks and shoppers, its entrance into banking coordination was at first drowsy. The protection from change is dependably a test. In any case, the establishment for extensive scale acceptance of IT in the banking part was given on the suggestions of the boards of trustees headed by Dr. C. Rangarajan, in 1984 and 1989. Along these lines, in 1994, the Reserve Bank constituted a board of trustees on 'Technology Up-degree in the Banking Sector'. This board of trustees excessively made various suggestions covering compensation systems including setting up of a self-governing community for advancement and research in banking innovation. The Institute for Development and Research in Banking Technology (IDRBT), Hyderabad, was made as a continuation. It has set up Indian Financial Network (INFINET), to direct research in technology of banking and give consultancy services to banks separated from giving instructive and preparing offices to the banking division. It assumes the part of a hatchery for getting advancement banking technology. It has extended its degree to cover extreme research in technology to realize better standard 106 of technology and chips away at advancing reasonable security systems to ensure the mass of bank information. It sets a system for supported scaling up of ICT abilities of the banking business to move towards worldwide canonical.Based on this transformative examination, it is conceivable to build up an exhaustive typology for the FinTech business.

FinTech today includes five noteworthy zones:

- finance and investment;
- Processes and risk management;
- payments and infrastructure;
- data security and monetization;

• customer interface;

Finance and investment: Much of general society, speculators and administrative consideration today centers around elective financing instruments, especially crowdfunding and P2P loaning. Be that as it may, FinTech plainly reaches out past this restricted extension to incorporate financing of innovation itself ,for example by means of crowdfunding, funding, private value, private positions, open contributions, postings and so on. From a developmental point of view, the 1990s tech bubble is a reasonable case of the crossing point of back and innovation, as is NASDAQ, the dematerialization of the securities business which has taken after finished the succeeding decades and the approach of program exchanging, high recurrence exchanging and dim pools. Looking forward, notwithstanding proceeding with advancement of elective financing components, FinTech is progressively engaged with regions, for example, robo-warning services.

Money operations and risk management: These have been a center driver of IT spending by money related establishments, particularly since 2008 as financial organizations have tried to manufacture better consistence frameworks to manage the gigantic volume of post-emergency administrative changes. From a transformative point of view, the advancement of back hypothesis and quantitative methods of finance and their interpretation into financial organization operations and risk management was a center element especially of the 2000s, as the money related industry fabricated frameworks in light of VaR and different frameworks to oversee chance and expand benefits. Going ahead, this is unmistakably a zone which is probably going to keep on growing driven by expenses and fines.

payments and infrastructure: Internet and versatile correspondences payments are a focal FinTech center and have been a main impetus especially in creating nations. Payments have been a region of extraordinary administrative consideration since the 1970s, bringing about the advancement of both local and cross-outskirt electronic payments and infrastructure, that today bolster the US\$ 5.4 trillion every day

worldwide outside trade markets. Moreover, foundation for securities exchanging and settlement and for OTC subsidiaries exchanging keeps on being a noteworthy part of the FinTech scene, and are territories where IT and media communications organizations are looking for chances to disintermediate conventional money related establishments.

Data security and monetization: These are enter topics in FinTech today particularly as both FinTech 2.0 and FinTech 3.0 begin to abuse the financial estimation of data. Following the GFC, it has turned out to be evident that the solidness of the money related framework is a national safety subject. The digitized idea of the money related industry implies it is especially defenseless against cybercrime and surveillance, with the last progressively imperative in geopolitics. This digitization and subsequent weakness is the consequence of many years of advancement, featured in past segments, and, going ahead, will remain a noteworthy worry for governments, policymakers, controllers and industry members, and in addition customers. In the meantime, FinTech development is obviously present in the utilizations to which "big data" can be connected to improve the productivity and accessibility of money related administrations.

Consumer interface: especially on the web and versatile money related administrations. This will keep on being a noteworthy focal point of conventional money related administrations and non-customary FinTech improvements. This is another territory in which set up and new IT and broadcast communications firms are looking to challenge straightforwardly with customary money related administrations firms; and, curiously, it might well be in creating nations where factors progressively consolidate to help the following period of FinTech advancement. This vertical holds the most astounding capability of rivalry with the customary money related segment, as this tech organizations can use of their prior substantial client bases to take off new financial items and services.

2.3 Classification of the effects of technology on banking system

We have recognized three fundamental patterns in the banking business. These were disintermediation, securitisation and commoditisation. Following ECB (1999), and including the patterns above, we characterize the different impacts of innovation on saving money into: a) the impacts of innovation on the administration of data. These include: gathering, stockpiling, preparing and transmission of information. Of the patterns over, this classification is identified with commoditisation, securitisation, and disintermediation (barring disintermediation of dispersion exercises). b) the impacts of technology in transit in which clients get to items and services. These include: accumulation, stockpiling, handling and transmission of information.Of the patterns over, this classification is identified with commoditisation, securitisation, and disintermediation (barring disintermediation of dispersion activities). This alludes to the presence of dissemination channels other than physical branches, or remote managing an account. These appropriation stations are: robotized teller machines (ATMs), phone keeping money and PC managing an account (exclusive programming and Internet. It incorporates both dissemination channels oversaw by the possess bank, and circulation channels disintermediated. When all is said in done, remote banking is relied upon to keep on developing in the following years and to wind up progressively essential to little and medium-measure businesses. Be that as it may, up to today, its degree is limited. Then again, changes in the administration of data have been occurring since a couple of years and their impacts on the managing an account 2 Bank of Spain, yearly report 1999. Hence, we concentrate this investigation on the principal sort of technology consequences for banking. To evaluate the impacts of innovation on data administration we will recognize their effect on discount and retail saving money, which compare to keeping money exercises portrayed by unmistakable sorts of data asymmetries and exchange costs. We abridge the principle contrasts beneath:

Retail banking: For little and medium-sized undertakings (at any rate in European markets) and for family units, the primary wellspring of financing comprises of bank

advances in light of a long haul relationship. Since for little and medium firms and family units there is rare freely accessible information, long haul connections productively allow to moderate the impacts of information asymmetries, that show up as unfavorable determination (absence of information about the loan specialists' attributes), or as good hazard (motivations by the banks to carry on sharply). Since information asymmetries stay vital in this fragment, it isn't probably going to be contestable. Some experimental examinations on European banks discover confirm toward this path (Lloyd-Williams and Molyneux, 1994, Degryse and Van Cayselee, 2000). However, technology do has realized changes, that are now obvious as expanded rivalry in retail banking, for example, through bringing hindrances down to section in the supply side of services. Due to information being particular to a client and not freely known, there have customarily been critical sunk expenses to information gathering. Technology has pushed downwards costs in the gathering of information and hence brought down the costs that new contestants must face. So also, technology has decreased the unfriendly choice issue of drawing in the advance candidates that have been rejected by their typical bank provider, due to hazard contemplations. In addition, additionally a diminishing of the hold-up issue could come about as an occasion of lower costs in information administration. On the supply side of retail banking, coordinate contact with clients is regularly imperative in the circulation of the customary (credits and stores) services. Accordingly, the topographical degree of the retail banking fragment is neighborhood instead of national (Neuberger, 1998). In the following years, improvements in the electronic conveyance of retail financial services may lessen the significance of physical vicinity. This would happen because of a more extensive scope of services being made accessible through remote banking. At present, remote banking is utilized basically to circulate just non complex items and services which are less intricate on account of ATMs than in phone banking. This thusly would bring about a more aggressive market, through lessening boundaries to passage. Generally, sunk expenses of branch circulation have been particularly high in mainland Europe banking frameworks. On the request side of bank liabilities (like current records and time stores), we find that clients have low market control when contrasted with the instance of discount banking. In this market portion, gathering information on banks' items is expensive for clients, the correlation of offers among banks is mind boggling and the normal return is low as the items have a little weight in the buyer's financial plan. Thus, exchanging costs are critical and exact examinations demonstrate that clients respond gradually to loan cost differentials (Sharpe, 1997). This "bank dependability" may debilitate sooner rather than later with the development of direct banks, that would bring down exchanging costs (Neuberger, 1997). By and large, because of enhancements in information administration, we ought to expect that intermediation edges be decreased in retail banking, in spite of the fact that not achieving aggressive levels. Banks keep on having a characteristic favorable position in the financing of families and little and medium-sized endeavors (SMEs) as elective wellsprings of subsidizing are not accessible in this portion. Thus, disintermediation will be constrained to the liabilities side of the accounting report, where we would expect the level of stores in the financing of banks to have lessened. As respects little here and now credits, banks have been utilizing progressively institutionalized credit scoring strategies that computerize the choice procedure on some sort of advances. Some portion of the procedure depends using a loan history information which is broadly accessible, and it is productively prepared by PCs. The commoditisation of some sort of credits should bring about expanded non-intrigue wage. The institutionalization has helped the procedure of securitization of these advances (primarily charge cards advances and home loans) by which the financing and part of the danger of the activity are spread through financial markets. However, securitisation has jumped out at a lesser degree than in discount banking. Discount banking: the clients in this market portion are corporate firms. Since information on these clients is regularly openly accessible or realistic effortlessly (for

example, from rating offices), information asymmetries are less critical. Thusly, the section is more contestable and intermediation edges are smaller. On the request side, exchanging costs are lower than in retail banking and the banking business isn't described by "bank dedication". Or maybe, request is more value delicate. Rivalry isn't restricted to the banking part however comes likewise from financial markets. For extensive (as well as longer-term) credits, firms depend progressively on obligation markets, in which they can get less expensive financing than through bank advances. This disintermediation procedure has been made conceivable on the grounds that information about extensive businesses is all the more effortlessly got and transmitted and this has added to the development of obligation markets 10 (Mishkin and Strahan, 1999). Until the 1980s, most investigations showed that banking markets were neighborhood rather than provincial or national. This approach has lost importance as advances in media communications have expanded the geographic degree of the discount fragment. As of now, the applicable market measure in this banking movement is national or European level, instead of neighborhood. With respect to securitisation, enhancements in information administration have diminished information asymmetries in bank resources and, in doing as such, have decreased the free-rider problem11 which is especially imperative in capital markets (Mishkin and Strahan, 1999). Right now, it is less demanding for financial specialists to evaluate hazard and esteem bank resources, and hence boundaries to the securitization of bank resources are lower. Securitisarion of discount items (as business paper and mechanical advances) began prior and has jumped out at a bigger stretch out than securitisation of most retail items. Aside from securitisation, banks have additionally occupied with other reeling sheet tasks to balance the lower significance of credits in the financing of corporate businesses. These incorporate advance syndication and activities in subordinates markets. In the pay proclamation, this ccorresponds to a expanding stock of non-iterest income.

All the necessities of modern life brought light to the fact that information for the modern organization is a resource parallel in importance to land, labor and capital. It is very significant and a priceless resource. It is not any more news that we are presently in data age that is described by a regularly changing data innovation upheaval and a data superhighway on which each corporate element and calling must more, in the event that it is to make due in the 21st century. The sector that has been most radically affected by the information technology developments is the banking system. The data innovation (IT) has turned into a basic business asset since its nonappearance could bring about poor choices and at last business disappointment. Technological innovation has opened up new markets, new items, new administrations and effective conveyance channels for the managing an account industry. Online electronics banking, mobile banking and E-banking are only a few samples.IT has likewise banking industry the fortitude to manage the difficulties the new economy postures. Data innovation has been the foundation of late money related part changes went for expanding the speed and dependability of financial activities and of activities to reinforce the saving money division. The IT upheaval has set the phase for phenomenal increment in money related action over the globe. The advance of innovation and the improvement of overall systems have fundamentally diminished the cost of worldwide assets exchange. It is data innovation which empowers banks in meeting such elevated requirements of the clients who are all the more requesting and are likewise more techno-sharp contrasted with their partners of the yester years. They request moment, whenever and anyplace keeping money offices. Different inquires about demonstrate that data innovation has been giving answers for banks to deal with their bookkeeping and back office necessities. This has, be that as it may, now offered approach to extensive scale utilization in services went for the client of the banks. IT likewise encourages the presentation of new conveyance channels -as Automated Teller Machines, Net Banking, Mobile Banking and so forth. Furthermore, IT sending has expected such abnormal states that it is never again workable for banks to deal

with their IT usage on an independent premise with IT unrest, banks are progressively interconnecting their PC frameworks crosswise over branches in a city as well as to other geographic areas with rapid system foundation, and setting up loacal area and wide area networks and connecting them to the Internet. Subsequently, data tracts and networks are currently presented to a developing number. Technology influences the banking business, fundamentally in the accompanying three directions:

I Technology is influencing competition and the wave of contestability in banking. Because of the advancement of technology, bank's prevalence in information is weakened. Section prevention have been declining, new contender have risen. Some money related things and administrations have turned out to be more straightforward and wares, client demonstrate willing to unbundled the interest for monetary things and administrations, all these prompt a more focused condition of market.Due to brought down passage and exist and deconstruction, for some sub-monetarial markets, contestability in keeping money is also raised. In light of cut down entry and exist and deconstruction, for some sub-monetary markets, contestability in keeping money is moreover raised.

II Technology impact Economy of scale: Competitive weight constrain banks to bring down their cost. Bank tries to get economy of scale in bank parade as opposed to being a noteworthy bank. Bank looks to secure the ideal business structure, and secure the focused basic of economy of scale. There are different choices to get economy of scale, including joint wander and confederation of financial firms. Little firms likewise can get economy of scale by outsourcing, i.e. purchase in economy of scale. III Innovation influence the economics of delivery Technology majorly affects the way banking and financial services are delivered. An extensive variety of elective conveyance system winds up accessible, Internet, ATM... these Reduces the reliance on the branch arrange as a center conveyance instrument. With the advancement of technology, the financial frameworks are considerably finished provided with conveyance framework through a duplication of net work, bank needs to change their conveyance technique, support their branch arrange system, and augment the scope of conveyance alternative.Banking industry has been taking advantage of the following 22 Technology Products:

Net Banking : One View: ٠ • InstaAlerts; Mobile Banking; • Online Payment of Service Tax & Excise; E-Money Phone Banking: Bill Payment: • Bank@Home (i) Express Delivery; • Booking of Ticket; Railway Ticket Booking through SMS: • Prepaid Mobile Recharge: Smart Money Order: Card to Card Funds Transfer: • Funds Transfer (eCheques); Shopping; • Anywhere Banking: • Internet Banking: Mobile Banking; NetSafe; Credit Card Online: Cash on Tap: Normal Delivery.

2. Related Literature's review The quantity of concentrates on information technology in the writing is proliferating and is drastically on the ascent because of its essential centrality in all parts of our life. As Princhard and Cole (1997) government, IT is a term, which usually covers the harnessing of electronic innovation for the data information requirements of business at all waves. It is a computer based system and in addition telecommunication innovation for storage, dispensation and dissemination of data information. The title character of information innovation in the banking industry is emphasized too but not enough in Iran. Then anew, finalizeds that there is critical advantage from investment in Information Technology particulaarly in the Banking Industry, Lichtenberg (1995). M.Castelino proposeds that keeping money industry of Indian has given the main edge to what is occurring to the Indian economy(2006). Banks have accourted themselves with the latest of innovation technology--core Banking.BPR (Business Process Reengineering) has been presented to enhance efficiency and spleen of handing over.IT has significantly been used under two different paths in Banking. One is Communication and Connectivity and other is Business Process Reengineering. Data development empowers refined thing change,

better market foundation, execution of dependable strategies for managementof risks and encourages the monetarial middle people to accomplish topographically far away and different markets.Notwithstanding, focusing on the two dangers and chances of data innovation, Blili and Raymond (1993) presumed that the vital utilization of data innovation can both undermine and advantage pretty much nothing and medium-sized ventures (SMEs). In this paper, the tactical reputation of information technology is analyzed in light of the specificity of these associations. Organizing approaches are then illustrated, focusing on how SMEs can achieve a dominance of data innovation for upper hand. There are likewise statistical reports with respect to the banking business influenced by IT declared by associations all through the world. For example, you can discover those discharged by Computer Industry Report, March 27, 1992 as takes after: The banking division in the review construct saw spending plans drop 10% in light of normal in 1991, and expects just normal development in 1992. With normal site spending plans in abundance of \$4 million, the most elevated in the review gathering, the downturn for banking has influenced the whole IT advertise. Banking had the most noteworthy negative rating in its demeanor towards IS spending; half checked decisions showing stable going through with no significant development in any territory, or a withdrawal of spending. Controlling expenses is a basic for about 66% of the banking group, by a long shot the most elevated proportion for any of the parts overviewed. The substitutions will most likely be generally PCs, since banking had the least rate (18%) concurring that UNIX workstations are turning into a feasible interchange to ordinary individual PCs. A study low 29% of PCs in banking were associated with a host PC, contrasted with a normal of 66%. Overwhelmingly the significant movement of programming staff at banking locales is systems or system upkeep, which represented 60% of staff time contrasted with a normal of 33%. Only 16% of staff time went to growing new applications. 3. Method Both Exploratory Research and Descriptive Research were utilized as a part of achieving the goal of the inquiry. Sampling Design Random sampling is the sampling

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design of this study; it is the most appropriate design to use in this study since the researcher decided the sample size of the study i.e. 100 bank customers and a sample of 20 clerical and 20 managerial in the bank.

The cryptocurrency trend has been in full flow throughout 2017. Bitcoin is by all accounts setting record highs with each passing week. Beginning coin contributions (ICOs) are turning customary capital-raising on its head. What's more, maybe most fundamentally of all, blockchain technology is starting to have a transformational affect on the world. Apparently, it's the worldwide banking framework that could profit the most from the usage of this progressive dispersed record technology. Regardless of whether it's payments, settlements or consistence, blockchain's key properties of decentralization, unchanging nature, proficiency, cost-viability and security are prompting a developing tune of help for the technology's selection over the whole assortment of financial services; all things considered, the industry is currently anticipated that would experience significant interruption over the coming years.

As far as the effect of particular blockchain organizations, few have helped out the worldwide banking industry to date than Ripple. The San Francisco-based tech organization is at present giving overall monetary settlement courses of action energized by blockchain to enable banks to execute direct with each other and lower the total costs of settlement. Its advanced resource XRP has developed to wind up the fourth greatest cryptocurrency by advertise capitalisation (ethereum ,bitcoin money and after bitcoin), and banks are presently participating in large numbers to enhance their cross-outskirt payment abilities. Without a doubt, Ripple's CEO Brad Garlinghouse as of late recognized the quick development in selection of the organization's blockchain by banks: "Individuals know Ripple is the main blockchain answer for payments that is demonstrated in reality, and it's driving interest from financial foundations of numerous types and sizes since they need to remain on the ball."

For example, the finish of June saw the rollout of the primary blockchain-fueled moment settlement benefit, which has been together embraced by Japan and Thailand as an approach to set up another payment rail between the two nations. The joint effort between Japan's SBI Remit and Thailand's Siam Commercial Bank , which utilizes Ripple's blockchain, will support the speed, effectiveness and cost of the nations' settlement passage, which sees around \$250 million exchanged each year, to a great extent because of the 40,000 Thai nationals living in Japan. As per Siam Commercial Bank, an exchange that outcomes in reserves being kept in the beneficiary's investment account in Thailand can be finished in two to five seconds, which definitely diminishes the present standard of "two business days" for payments between the countries.

Somewhere else, Ripple's blockchain is being used in a planned way by a portion of the biggest banks on the planet, which thusly is introducing another period of for all intents and purposes quick universal bank exchanges. Last September, the organization propelled the "Worldwide Payments Steering Group", which is the primary interbank blockchain bunch for worldwide payments, and which will empower part banks to encourage the creation and support of payment-exchange rules with formalized measures for cash exchanges over the Ripple blockchain. Its six establishing individuals incorporated a portion of the world's greatest financial organizations, for example, Bank of America Merrill Lynch, Royal Bank of Canada, Banco Santander, UniCredit, Standard Chartered and Westpac; from that point forward, numerous more banks have joined.

Banks are likewise signing up to plan a fresh out of the plastic new blockchain-based computerized money that they are expecting to dispatch in 2018. Six of the world's chief loan specialists—Barclays, Credit Suisse, Canadian Imperial Bank of Commerce, HSBC, MUFG (Mitsubishi UFJ Financial Group) and State Street—have as of late joined an undertaking drove by Swiss banking monster UBS—notwithstanding existing individuals Deutsche Bank, Banco Santander, Bank of New

York Mellon and NEX—with the objective of making the utility settlement coin, a computerized money that will essentially be utilized to rapidly clear and settle financial exchanges utilizing blockchain. The point of the task, along these lines, is to decrease the time, cost and capital required for the post-exchange clearing and settlement process, and also to enhance financial-advertise productivity. Accordingly, it gives yet another path to the back workplaces of banks to utilize blockchain to upgrade the speed and productivity of settlement frameworks, with the utility settlement coin enabling banks to exchange esteem and resources without waiting for drawn out stretches of time, as is as of now the case with conventional strategies. The coins can be changed over into fiat money at national banks and will be put away on the blockchain, which empowers them to be immediately swapped for securities that are being exchanged.

The payments division is getting an extra lift through the organization amongst Nasdaq and Citi that was reported in May. The coordinated effort will include the utilization of blockchain to record and transmit payment guidelines keeping in mind the end goal to encourage straight-through payment preparing, and give a mechanized compromise instrument. Various payment trades have been closed including Citi's mechanized preparing of cross-fringe installments by methods for an association between the CitiConnect[®] for Blockchain availability arrange. The Ling Platform supported by the Nasdaq Financial Framework. In that capacity, liquidity of private securities could apparently be enhanced by streamlining payment exchanges between numerous gatherings, while managerial capacities in capital markets are additionally liable to experience much modernisation. As per Nasdaq, key advantages of the wander incorporate a consistent, end-to-end value-based process for privately owned business securities; guide access to worldwide payments from Nasdaq's Ling stage utilizing CitiConnect[®] for Blockchain and Citi's cross-fringe, multicurrency payments benefit; and expanded operational proficiency and simplicity of compromise with ongoing perceivability of payment-exchange movement on the

blockchain record. Additionally, the blockchain will empower constant perceivability of payment-exchange movement.

Exchange finance is one noteworthy zone inside banking that could encounter significant change because of blockchain reception. The at present obsolete procedures that litter this territory of banking, combined with the segment's general size, implies that it is ready to be overhauled by dispersed record technology, as far as cost and effectiveness. In addition, it appears, in every way, to be among the best requirements for overall saving money blockchain consortium R3, one of the pioneers in blockchain headway for the saving money division in the midst of this starting period. The New York-based organization, which right now gloats in excess of 80 individuals included banks and financial associations, figured out how to raise a record \$107 billion of every a gathering pledges round in May, the greatest single speculation for any blockchain to date. Furthermore, now the group is near propelling its first pilot business item. Eleven of the banks:SEB and US Bank,Intesa Sanpaolo, BBVA (Banco Bilbao Vizcaya Argentaria), Bangkok Bank, BNP Paribas, HSBC, ING, Mizuho, RBS (Royal Bank of Scotland), Scotlabank, -are getting ready to utilize R3's blockchain programming Corda to test an application went for cutting expenses and expanding productivity in the handling of sight letters of approve, which, as it is proposed, will be payable endless supply of the letter and sustaining records by the significant financial establishment.

The item is accounted for to have a couple of key champion highlights. Initially, it will offer an institutionalized interface to its clients, for example, bearers and delivery organizations, for contributing transportation points of interest, even without Corda. This implies clients won't have to purchase another stage or prepare individuals to utilize it, and will have the capacity to gain clients all the more effectively. Furthermore, the application could bring about diminishing the expenses and manysided quality of existing procedures, which thus implies that SMEs (little and medium-sized endeavors) will eventually have the capacity to get to stores more

rapidly utilizing sight letters of credit than different strategies for exchange financing. It will likewise imply that exchange finance could be gotten to by a more extensive scope of potential clients. The banks have been taking a shot at the item for over a year, and are on timetable to dispatch in 2018.

R3 isn't the main element as of now looking to enhance exchange finance forms through blockchain. Seven of Europe's greatest banks—Deutsche Bank, HSBC, KBC, Natixis, Rabobank, Société Générale and UniCredit—have employed tech mammoth IBM to manufacture a blockchain stage to encourage cross-fringe exchange finance for independent companies. At introduce, organizations frequently need to sit tight a little while for cross-fringe arranges before they are paid. The blockchain stage, be that as it may, will likewise enable organizations to track requests and utilize keen contracts to naturally trigger payments on particular occasions, for example, a receipt notice or conveyance being recorded. It will likewise include more banks, shipping organizations and cargo forwarders, which will all be surveyed before being included. A significant part of the current payment approach will stay set up for the present. However in the expressions of Rabobank's administrator, Wiebe Draijer, "The entire foundation, the organization is done on the blockchain; and at last we will likewise transfer the compensation into that block chain arrangement, when the payment in blockchain is prepared to be strong for extensive scale applications". The technology arrangement will be based on Hyperledger Fabric, an open-source blockchain structure, and is relied upon to go live before the finish of the year. In this manner, there is much positive thinking encompassing blockchain's part in the change of exchange finance. "We are persuaded that blockchain will hugy affect banks later on and that exchange finance is one of the greatest territories of potential for the technology," as indicated by Rudi Peeters, boss information officer at KBC. The IBM blockchain itself is turned out to be progressively important for banks over a scope of utilization cases. The tech monster as of late joined Thai loan specialist Kasikorn Bank (KBank) to dispatch another venture Letter of Guarantee arrange in

light of its blockchain. As indicated by IBM, the task will rearrange and speed up strategies for KBank's Letter of Guarantee process, including fortifying security and diminishing expenses for both the client and the bank. Most outstanding is that the venture arrangement will be totally paperless, which will encourage a more helpful stream of information amongst banks and clients. Being on the blockchain, additionally, implies that straightforwardness is enhanced over occupant ensure forms, which thus limits the potential for imitation; while the whole time allotment taken to finish the procedure will now likewise be impressively lessened. KBank has the greatest piece of the overall industry in Thailand to the extent Letter of Guarantees issued by the nation's banking framework is concerned, and represents 25 percent of the roughly \$40 billion issued altogether for each year. The loan specialist plans to expand its offer to 35 percent before one year from now's over, with 5 percent of this sum being prepared utilizing blockchain.

There are numerous more utilizations of blockchain as of now being received by banks—Bank of America has recorded various licenses identifying with utilizing the technology for directing and settling exchanges; Deutsche Bank is trialing a corporate-security stage that utilizations brilliant contracts to issue and reclaim securities. Furthermore, it's not simply conventional loan specialists that are trying to use block chain; national banks far and wide are likewise embraced trials to perceive how the technology can improve their financial-strategy capacities, with the Bank of Papua New Guinea the most recent to report such research. All things considered, plainly blockchain is profoundly affecting existing banking procedures; and now that the early exploratory period of the technology is slowly finding some conclusion, one ought to expect its selection in genuine utilize cases to start to quicken.

Conclusion

The fact that financial technology initiatives are on the agenda today is the main reason for attracting attention. Users want to be able to access their accounts at any time, not to go to the miles for these accounts, even to go to the branch to pay the bill, to do the transactions they see as a thief, and to make financial decisions via the internet. Even so; personalized advice, personalized experience, or instant access to an authority, habits are the forefront. Financial ventures often succeed in attracting attention with a new perspective. Fintech initiatives will soon become as important as banking in our lives. Because of this, many global banks today are beginning to raise funds for financial technology initiatives. Nowadays, it is expected that the banks' acquisitions and acquisitions that we rarely encounter will increase in the coming years. But fintech initiatives need growth to be successful in this area. This is exactly what angel investment entrepreneurs are looking for. Here is what happens: In fact, senior executives are involved as angel investors in these initiatives and can join the company. Although the technological dimension is solved by entrepreneurs, it is necessary to experience in finance part of the business.

With the development of technology, the expectation of the customer will increase absolutely. Fintech, which is seen as a necessity of our life that has become mobile with developing technology in every case, will see together what kind of investments and developments are expected in the coming days.

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