

The Impact of FinTech in Risk Management on Banks

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Abstract. Many financial institutions are involved in the FinTech as the improvement of FinTech. FinTech has a big influence in every area of economics, economy, or the bank. The FinTech has many advantages for financial institutions. FinTech provides high productivity for financial institutions and helps them avoid and solve many problems that they will face. The goal of this paper is to find out the relationship and influence between the FinTech and a special financial institution—a bank. This paper analyzes the different influences on the different parts of the bank business, especially the impact on the risk management in the bank. The creation and development have a huge influence on the present financial and economy. Especially compared to traditional financial, FinTech helps financial institutions to reach a level that traditional financial never achieve. But FinTech has both benefits and risks. The security of FinTech is a major concern for financial institutions around the world.

Keywords: FinTech; Risk management; Banks; Impact.

1. Introduction

FinTech is the way that develop or create financial products to increase the productivity of banks. It provides plenty of benefits for both consumers and banks. The uses of FinTech cover a lot of areas, like loans, payments, insurance, investments, and wealth management. The function of FinTech includes big data, artificial intelligence, online calculations, and internet website interaction. This not only improves the bank's change to electronic banking but also stimulates banks to develop some new business, like electronic banking. The FinTech is growing fast and quickly expanding. The development of FinTech is an important revolution for the financial field. A lot of traditional parts of banks are replaced by the new FinTech. This FinTech not only leads banks to develop their productivity but also helps banks to avoid some problems that banks may make, such as correcting the data and calculating the risk percentage of investments. The origins of FinTech can be dated from the creation of ATM which happened in the second half of the twentieth century. This is a symbolization of the birth of FinTech. The born of FinTech means the assert of people are becoming safer and more convenient and this dramatically promotes the electronic financial business. And as the development of FinTech, it is an essential part of the financial area nowadays. During the day when the dramatically improved FinTech, many people are interested in FinTech, and they wonder whether the bank will be affected by using FinTech in the banking system. As a result, the problems that happen in the banking system are caused by the wrong process of using FinTech or the technology process mistake. Financial risk management which is a process of evaluating the risk of buying some financial products or investments in a company, by using the FinTech can help banks to reduce the damage of risk exposure. The using of artificial intelligence in FinTech can help banks and consumers easily to distinguish whether they are cheated and lead them to avoid the cheating. FinTech is the way that develop or create financial products to increase the productivity of banks. It provides plenty of benefits for both consumers and banks. The uses of FinTech cover a lot of areas, like loans, payments, insurance, investments, and wealth management. The function of FinTech includes big data, artificial intelligence, online calculations, and internet websites interaction. This not only improves the bank's change to electronic banking but also stimulates banks to develop some new business, like electronic banking. The FinTech is growing fast and quickly expanding. The development of FinTech is an important revolution for the financial field. A lot of traditional parts of banks are replaced by the new FinTech. This FinTech not only leads banks to develop their productivity but also helps banks to

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The development of FinTech can help banks reduce the cost of searching information and improve the quality, quantity, and speed of data analysis. It also improves the level of risk management of banks by building the trust mechanism. On another hand, the banks competing with FinTech companies increase the risk-taking level of banks and to solve this situation, banks have to promote cooperation with FinTech companies or invest the programs that are related to FinTech. All this information is shown in the study of Guellec, Paunov, and Schumpeter [1]. In 2004, a new financial model emerged that first began to be used by Zopa which is a financial institution in the UK that runs money lending services. In 2008 it was announced by Satoshi Nakamoto which is a financial model through Bitcoin software [2]. In the study of Chen et al., FinTech brings many innovative creations that compete with traditional banking business. On another hand, FinTech has complementation with the core service of banking, such as insurance, payment, and other services on the other. Especially the development of FinTech in big data, blockchain, cloud computing, and artificial intelligence. This has a big impact on the traditional banking system [2]. The related study has shown that FinTech brings many benefits for us. According to Feng and Lee, they evaluate the IT program by testing their security level and state that this can be successful because of the moving out of the uncertain factor. Baly also evaluated the relationship between expected volatility and expected returns in the portfolio selected by the New York Stock Exchange by using the GARCH model [3]. The FinTech also brings some challenges for the banking industry. In the asserts business, according to Qiu et al., the development of FinTech will lead to the increase of interest rates in a market-oriented direction. This will change the liability structure of commercial banks. The cost of liabilities will increase. To cover the increasing costs of liabilities, the banks are going to investment some high-risk businesses to gain high profits [3]. According to Cheng and Yang, the effect of FinTech on banks can be divided into two parts which are the outside FinTech and bank FinTech. The outside FinTech is the FinTech companies that create the competition with banks and the bank FinTech is the technology that is used in the banking system, such as artificial intelligence and so on. This technology helps banks to promote their productivity and reduce problems [4]. Philipp Härle, Andras Havas, and Hamid Samandari show their opinion in their research, that the development of financial technology or FinTech has created many competitors for banks, such as financial technology companies. These kinds of companies do not want to be banks but they still want to snatch the consumers with banks and these companies tap into the most lucrative part of the value chain which is the origination and sales [5]. That the FinTech firms affect banks can be explained by consumer theory mention by Aaker and Keller in 1990 and disruptive innovation theory mention by Christensen in 1997. In Aaker and Keller's statement, the old service will be replaced by new technologies when the new creation matches the demand of consumers [6]. According to disruptive innovations, new technology that is more accessible and cost-effective will create competition in the market [7]. The security and privacy development of FinTech is a significant issue too. According to Gartner's statistical reports, the investment in cybersecurity is expected to turn into \$170 billion by 2020 globally. According to the statistics done by Silicon Valley Bank, only 35% of companies that highly rely on the usage of technologies for their business are confident of their security [8].

According to the different uses of FinTech in risk management, this paper want to deeply discover why FinTech is significant in the risk management of banks and how the functions of FinTech that used in risk management [9].

2. Characteristic

The FinTech is used in every part of the banking industry and financial area. Include the payment, lending, and loaning of money, settlement of transactions, wealth management, insurance, and retail banking. FinTech implements these functions based on big data and online data calculations, artificial intelligence, and blockchain. The most users of FinTech are banks and financial technology companies. This kind of company uses FinTech to expand the new market and reduce operational costs. In our daily lives, robo-advisors, payment apps, peer-to-peer lending apps, investment apps, crypto apps, and others use FinTech to make our lives more convenient. With the promotion of technology, FinTech is rising. More and more function of FinTech is developed. Now, it can help banks and investors to calculate the risk of investing or buying some financial products. This is a powerful function of FinTech because it not only selects better financial products for banks, companies, and investors but reduces the cost of investment. The FinTech combines financial business and technology to increase the productivity and security of financial businesses. With the increasing importance of data security and privacy protection, privacy computing has become one of the important development directions of FinTech. The FinTech stimulus the continuous development of the economy and promotes the innovation and evolution of the financial area. Individuation is one of the traits of FinTech. FinTech can provide customized services for every client to their different needs and behaviors. The FinTech achieves the goal that crossover cooperations and this brings more financial modes and business for the financial area. The fast iteration of FinTech can guarantee that financial institutions can adapt to the up-dating market and changing client needs. Also, FinTech can manage the clients of banks. It will divide the clients into different levels of groups so that it is easy to distribute the programs to clients for banks. The FinTech can monitor the market all the time and make the decisions to change strategy for financial institutions in the changing market.

3. Impact on Banks

3.1. AI Platform

According to JPMorgan, they created an AI platform which is called COiN(Contract Intelligence). This is an artificial intelligence based on basic robot learning and natural language processing technology. This AI is specially used for analysis and dealing with contracts and legal documents. The COiN can recognize and extract the key clauses, obligations, and risk points. In traditional processing of dealing with these things, it takes thousands of hours of legal experts to manually review, but COiN can finish these works in only a few seconds.

3.2. AI Risk Management

Ping An Bank, applies itself to fast and accurate evaluations and management of different consumers' trust risks and cheating risks. Ping An Bank developed a platform which is called AlphaRisk to manage the risk. It is a platform that combines the technology of AI, big data, and online calculations. AlphaRisk can analyze the consumers' data and produce consumers' credit scores and risk profiling. AlphaRisk has the function to detect the cheating in the transactions. If the consumers have abnormal behaviors, the system can detect and stop the cheating. This not only helps banks to reduce the cheating risk but also increases the satisfaction of consumers.

3.3. Data Analysis Techniques

Second, the one of biggest financial services companies, Citi Bank faces a complicated market and trust risk management through large-scale applications the data analysis technology. Citi Bank creates

a global big data analytics platform that combines every part of the business of banks in different areas. These data include transaction data, market data, economic indicators, and social media information [10]. This platform helps Citi Bank to evaluate trust risk and supervise the market risk. This helps Citi Bank change its investment strategy when the global market is changing. This platform brings more potential consumers and reduces the cost of changing the strategy for Citi Bank.

3.4. Blockchain Technology

The blockchain technology of HSBC in England. In the traditional trade finance area, it takes plenty of papers, lengthy processes, and complex operations. This led to an increase in operation and cheating risk. To eliminate these problems, HSBC explores and use of blockchain technology in this area. So, HSBC uses blockchain to design a platform that digitization the traditional commercial letter of credits and use the unchangeable trait of this platform to make sure the transaction is safe and transparent. In 2018, HSBC finished the first transaction in the world by using this platform. This business includes sellers and buyers, and blockchain technology ensures the visibility of this transaction. Eliminate the dependence on middlemen and save the time.

3.5. Blockchain Technology in Financial Regulation

BBVA which is a Spanish bank. As the development of financial regulation, to improve the safety and productivity of KYC processing. BBVA started to explore blockchain technology. BBVA cooperates with blockchain technology companies to develop a KYC platform and this platform can save the information of consumers and share it with financial institutions. On this platform, consumers can provide the information once and other financial institutions do not need to verify the information when they need these. This helps banks to authenticate identity in a high productivity and satisfy the regulations. This platform reduces the repeat work on consumers and improves work productivity. Make sure the information is complete and accurate. Reduce the risk that because of wrong data or cheating. It also improves the privacy protection level of data and increases the trust of consumers in banks.

4. Enlightenment and Prospect

4.1. FinTech

With the development of FinTech, the traditional bank will be replaced and abandoned. More and more financial institutions will be digitalized, and the online financial business will be in the mainstream in the future, like online payment and electronic banking. The inclusive finance improved by financial technology can make more people enjoy the convenience of the FinTech. The innovation of FinTech can help financial institutions to increase their productivity, reduce their cost, and expand their consumer markets. Banks also can open third-party cooperation by opening the API to share data and services to build a richer financial ecosystem. Stimulate the creation and cooperation of financial services and provide the best strategy immediately for clients. The development of financial technology can make online payments not only be used by people in one nation but also by all countries in the world. This benefits all people because people do not have to exchange their money or do some complicated procedure to get the money which can be spent in other countries. The green development of FinTech is important too. The FinTech can help financial institutions to analyze and detect green investment programs, and support green investment.

4.2. Regulations

The government will introduce new policies or other creative methods to monitor the financial market and FinTech use. Compliance and risk management are the problems that most financial institutions have to face. They have to make sure that all innovations are controllable.

4.3. Market

With the expansion of global financial markets, the money for investment is huge. More and more people are relying on the FinTech and change their payment behavior.

4.4. Electronic Banking

All the business of the bank will be accomplished online. Claim settlement is one of the advantages of the bank. The AI can calculate the claim amount for consumers in a short time and this reduces the waiting time of consumers when they have some accident. Also, the AI platform can analyze the subtle expressions of clients to help banks decrease the risk of lending money. The privacy of electronic financial information is the area in which most financial institutions going to improve because this will be a significant way to attract more clients or develop the trust of consumers to the financial institutions.

5. Conclusion

This paper discusses the difference between the traditional financial and the financial which evolved the FinTech. And every function that is used in every part of risk management. The big data also proves that FinTech increases every positive index in bank risk management. The results show that the FinTech can provide exact data and analysis for financial institutions. FinTech is an indispensable part of financial institutions nowadays. Banks will be broken if they cannot use the FinTech anymore. The benefit that FinTech brings to banks is very large. The development of FinTech has profoundly transformed the traditional financial industry, enhancing the efficiency and inclusivity of financial services through technological innovation. First, FinTech has made payment systems more convenient, accelerating the flow of funds and transaction efficiency through online payments, mobile payments, and the introduction of blockchain technology. Additionally, with the help of big data and artificial intelligence, financial institutions can assess risks more accurately, improving risk management. FinTech has also promoted financial inclusion, allowing underserved populations to access financial services. Looking ahead, FinTech will continue to drive the digital transformation of the financial industry. With the further maturation of technologies like 5G, blockchain, and artificial intelligence, areas such as cross-border payments, robo-advisory services, and decentralized finance (DeFi) are expected to see significant breakthroughs. However, the growth of FinTech also brings challenges related to data privacy and regulation, making the balance between innovation and risk management a key focus for the future.

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