



Competition between traditional banks and Fintech

Cong Nguyen Gia

BACHELOR'S
December 2019

Degree Programme in International Business
Option of Accounting and Finance

ABSTRACT

Tampereen ammattikorkeakoulu
Tampere University of Applied Sciences
Degree Programme in International Business
Option of Accounting and Finance

Cong Nguyen Gia:
Competition between traditional banks and Fintech

Bachelor's thesis 33 pages, appendices 0 page
December 2019

The thesis has analyzed the Fintech and traditional banks sectors in order to suggest a way for traditional banks for reacting back to Fintech. Moreover, the potential future scenarios of Fintech and traditional banks are also analyzed.

A SWOT analysis was implemented to see what are strengths, weaknesses, opportunities and threats that Fintech and traditional banks have. The data was collected from existing academic sources and reliable researches. In addition, Fintech has been a popular for not only academic researchers but also big companies such as EY, KPMG and PwC.

The result of research has shown that collaboration is the best option in the competition between traditional banks and Fintech. Collaboration brings benefits for both competitors and also for customers to have better financial services. Besides, each competitor should develop to fulfill their weaknesses in the future, both sides should invest more in security and regulation. The future of banking industry will traditional banks transforming into digital ecosystem.

Key words: Fintech, traditional banks, financial services

CONTENTS

1	INTRODUCTION.....	5
1.1	Background	5
1.2	Objectives and research questions	6
1.3	Limitations	6
1.4	Methodology.....	6
1.5	Disposition.....	7
2	THEORETICAL FRAMEWORK.....	8
2.1	What is Fintech and traditional banks?	8
2.1.1	What is Fintech?	8
2.1.2	Evolution of Fintech	8
2.1.3	What is traditional banking?.....	10
2.1.4	Decline of traditional banking.....	11
2.2	Financial services.....	12
2.2.1	Payment.....	13
2.2.2	Wealth management.....	15
2.2.3	Financing	17
2.3	Competitive factors.....	18
2.3.1	Customer service.....	19
2.3.2	Speed of service	20
2.4	SWOT ANALYSIS	21
2.4.1	SWOT analysis for Fintech.....	21
2.4.2	SWOT for traditional banks.....	24
3	FUTURE OF FINTECH AND TRADITIONAL BANKS	26
3.1	Future of Fintech	26
3.2	Future of traditional banks.....	27
3.3	How traditional banks compete Fintech?	28
3.3.1	Traditional banks act open.....	29
3.3.2	Collaboration between traditional banks and Fintech.....	30
4	DISCUSSION AND CONCLUSION	32
	REFERENCES.....	34

GLOSSARY

Fintech	Financial technology
AI	Artificial intelligence
P2P	Peer-to-peer
SWOT	Strengths, weaknesses, opportunities, threats
Bigtech	big technology companies
Regtech	Regulation technology

1 INTRODUCTION

1.1 Background

After three industrial revolutions, finally, the fourth revolution which is Industry 4.0 has been occurring. Industry 4.0 stands for a revolution when the world transform the ways of producing product by digitalization. In this revolution, technology has been developing dramatically, it has inherited achievements from the third industrial revolution and enhance it with data and modern technologies (Marr, 2018).

In the past few decades, the more complex technologies have been controlled, the more complicated tasks such as multi-site production and logistics processes they require. Therefore, manufacturing and production have been working along with the support of information technology appliances. Hence, information technology has been playing a key role in every company in order to work productively and it's working conditions and productivity have been changed. (Nagy, Olah, Erdei, Mate and Popp, 2018.)

In this era 4.0, technology is taking part in changing most of the major industries, financial industry is not an exception (Hecht, 2018). Due to the boom of technology, Fintech which stands for Financial technology was introduced in 1886 but not until 2008 when the global financial crisis was occurred then it became the turning point for Fintech. In this milestone, many Fintech start-ups were established, Blockchain technology and Cryptocurrencies and many other technologies were invented. (Khan, 2018.) With the rapid speed of growing, Fintech market achieved the size of \$111.8 billion in 2018 compared to the year of 2017 when it was only 50% which means in one year Fintech grown 120% (Vardhman, 2019). Moreover, Fintech has expanded the services into more and more departments, it became one of the key player in financial industry. In contrast, during the financial crisis, new rules and regulations were the priority for banks, meanwhile, technologies were less important to banks. Therefore, Fintech has been disrupting financial and banking sector. Thus, traditional banks should

have actions to react toward Fintech which is considered as a huge threat to banking sector.

For recent years, Fintech versus traditional banks has been a popular topic for researchers and financial savvy to research.

1.2 Objectives and research questions

After seeing the vast development of Fintech, traditional banks has realized that Fintech became a key threat to banking industry. Therefore, this thesis is conducted to analyze Fintech and traditional banks in order to give opinions and ideas for traditional banks how to change in this digitalization world so that traditional banks can have actions to compete against Fintech. Moreover, the future of traditional banks and Fintech are also discussed in this thesis. Theoretical framework regarding theories about Fintech, traditional banking, financial services and competing factors are listed out to dig deeper into the topic. Furthermore, comparison between Fintech and traditional banking based on those theories in order to answer two questions of this theses:

1. Future of traditional banking and Fintech?
2. How could traditional banking compete against Fintech?

1.3 Limitations

This thesis also has its own limitations. Although it is conducted by using many articles, academic journal, theses and papers, new research has not been studied. As it was mentioned above, since technology has been developed rapidly, it makes things more unpredictable.

1.4 Methodology

The method of conducting this thesis based on researching and analyzing public articles and researches. Data was taken from reliable sources which were retrieved from reports from many popular financial companies such as PwC, Accenture and KPMG. Moreover, Information was also found in articles, reports, scientific paper from Google scholar and ResearchGate.

1.5 Disposition

This part of thesis is created to illustrate the outline of the paper and summarize vital information of each chapter in order to help readers can easily find the needed information.

Chapter 1 – In this chapter, the topic of thesis is introduced the general picture of the thesis. The objectives are set out as goals to achieve when the paper is completed. Moreover, limitations are pointed out in order for future improvement.

Chapter 2 – In this chapter, theoretical framework of the paper is introduced in order to illustrate the topic. It contains the definitions of Fintech and traditional banks, their financial services and SWOT analysis.

Chapter 3 – This is the chapter for answering research questions.

Chapter 4 – This part of the paper is to provide author's point of view based on prior research and literature review.

2 THEORETICAL FRAMEWORK

2.1 What is Fintech and traditional banks?

Traditional banks is a term which is well-known, however, Fintech is one of the new term in the banking industry. In this part of the paper, background of Fintech and traditional banks are mentioned to illustrate the concept of both.

2.1.1 What is Fintech?

The term Fintech is a combination between two words which are financial and technology, this term was first used in the early 1990s when the chairman of Citicorp – John Reed mentioned in the consortium Smart Card Forum (Puschmann, 2017). Fintech can be defined as a mixture of Finance, Technology Management and Innovation Management, this combination can bring new innovative idea which could develop financial service processes with technology solutions in order to solve business issues, create business models or even new businesses (Leong & Sung 2018, 75).

In the 21st century, the term “Fintech” is used as a new type to indicate financial services which change the traditional way of transaction. Moreover, Fintech is being developed and shifted into more consumer-oriented services, it also expands into several industries and fields such as online payment, retail banking, fundraising, investment management, money transfer. In the fast developed era of technology, Fintech is improved with more emerging technologies which include crypto-currencies, blockchain. (Kagan, 2019.)

2.1.2 Evolution of Fintech

Fintech in the early stage – Fintech 1.0:

In the very first place, finance and technology have related to each other, money became valuable thing which is able to be transferred. Moreover, double-entry

accounting was introduced and used which stated the milestones for development of finance. In the end of 19th century, more and more technologies were invented such as telegraph, steam machines which helped finance industry to work easier across borders. (Buckley, Arner, Barberis 2016.)

Fintech stage 2.0 (1967-2008): Digitalization era:

In the mid 20th century, many electronic payment systems were established all around the world. For instance, in 1968 The Inter-Bank Computer Bureau was found in the United Kingdom, the US Clearing House Interbank Payments System was formed in 1970. These establishments show the need and growth of international financial interconnection. When stock markets in the whole world were broken down in 1987, the results led to a prediction that markets needed technology evolution. Therefore, circuit breakers and mechanisms were invented to control and monitor price changes and to enhance cooperation. (Buckley, Arner, Barberis 2016.)

In this stage of evolution, digital financial technologies have been developed rapidly, financial services have started to be used popularly between financial institutions and clients all around the world. From the 1960s, IT departments were formed in many banks in order to develop systems and internal communication channels between their own branch offices. Moreover, SWIFT, which stands for Worldwide Interbank Financial Telecommunication, was introduced in 1973 as an emergence of multinational electronic networks. (Alt, Beck, Smits, 2018.)

Fintech in stage 3 (2008 to present):

After the financial crisis occurred in 2008, it led to a result of 8.7 million people of being unemployed in America only. The crisis also played a key role to open a new era for the world which led it to the era of technology, opened a new door for rapid growth and innovative start-up companies. Therefore, most of people who lost their jobs during the crisis tried to seek a new work place where they can utilize their skills. These things led to the evolution of Fintech. New regulations were set in order to prevent crisis in the future, these regulations also boosted growth financial institutes and start-up companies in many new areas such as peer-to-peer payment, crowd funding, mobile wallet. (Bhasin, 2018.)

According to Accenture, in 2014 Fintech companies had a growth rate of 201% in all over the world, in comparison with 63% of growing in venture-capital investments. Moreover, the amount of investment into Fintech has been tripled with a number of \$12.21 billion in 2014 which clarified that development of technology has its own weight in financial industry. (Accenture, 2014.)

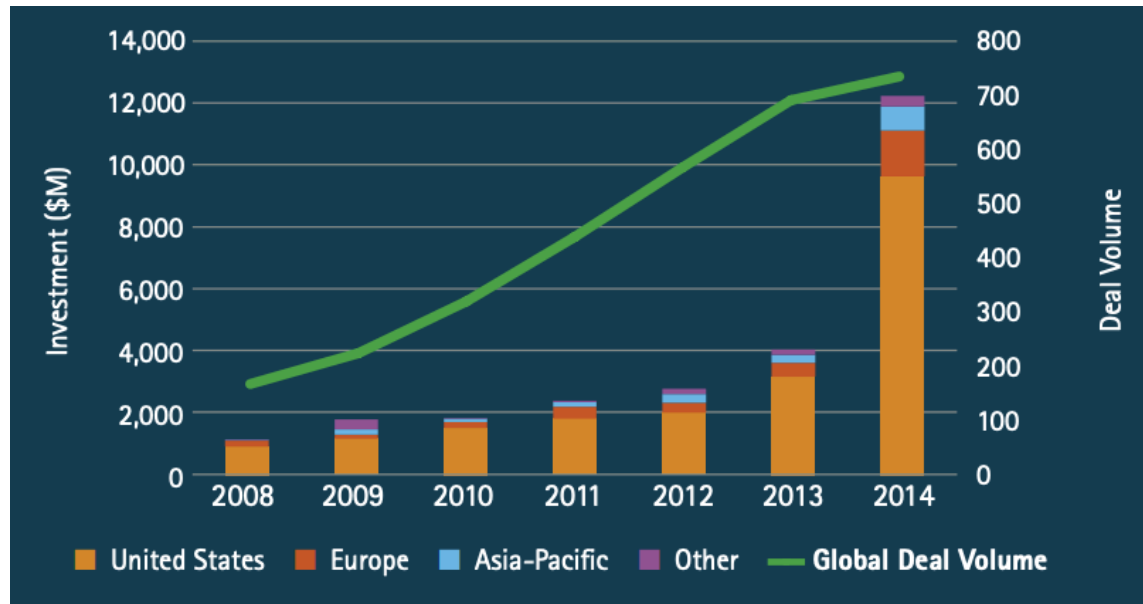


Figure 1. Global Fintech Financing Activity (Accenture, 2015).

Figure 1 shows that the amount of money has been invested in Fintech increased significantly from 2008 to 2014. Moreover, in the year 2013 to 2014, the size of investment was three times as the previous year, in which US has a biggest deal volume.

New competitors have been playing a key role in Fintech sector, they are not only start-ups companies, payment institutions but also new companies of enormous companies. For example, Amazon Pay is created by giant e-commerce Amazon, this service was registered by 33 million users in 2016. Furthermore, Alipay, which is a company of Alibaba group has 520 million users - a huge number of customers in China alone. (Skan, McIntyre, Caminiti, 2018.)

2.1.3 What is traditional banking?

Traditional bank is a financial establishment which is authorized with power to receive money of others as deposit, make loans or provide financial services such as exchanging domestic and foreign currencies, keeping money as a saving account for customer (Barone, 2019).

Bank is divided into two types: commercial or retail bank and investment bank. In the world banks are mostly followed by the regulation of the national bank. In commercial banks, managing transactions, withdrawals, deposits from customers and offering short-term mortgages for customers and small businesses are provided. Usually, commercial banks are popular to customers who use them to check information of their accounts, loans and transactions. On the other hand, investment banks are related to business clients, they provide services to companies with investment, merger and acquisition activity. (Barone, 2019.)

2.1.4 Decline of traditional banking

As being discussed above, the global crisis in 2008 caused many problems for banking companies all around the world. In the innovative world, economy is always forcing every industry to develop, banking industry is not an exception, this led to competitive financial markets (Edwards, 1995). Moreover, with the rapid development of Fintech, traditional banking is losing share of the market, there are more customers from usual account holders to businesses changing from using traditional banks to Fintech. According to McKinsey, traditional banking system will be lost from 10 to 40 percent of profits to Fintech companies by 2025. (Bilderlings, 2019.)

China is an example for declining market of traditional banking. Since China is one of the most powerful economy of the world so this example could show a picture of the market.

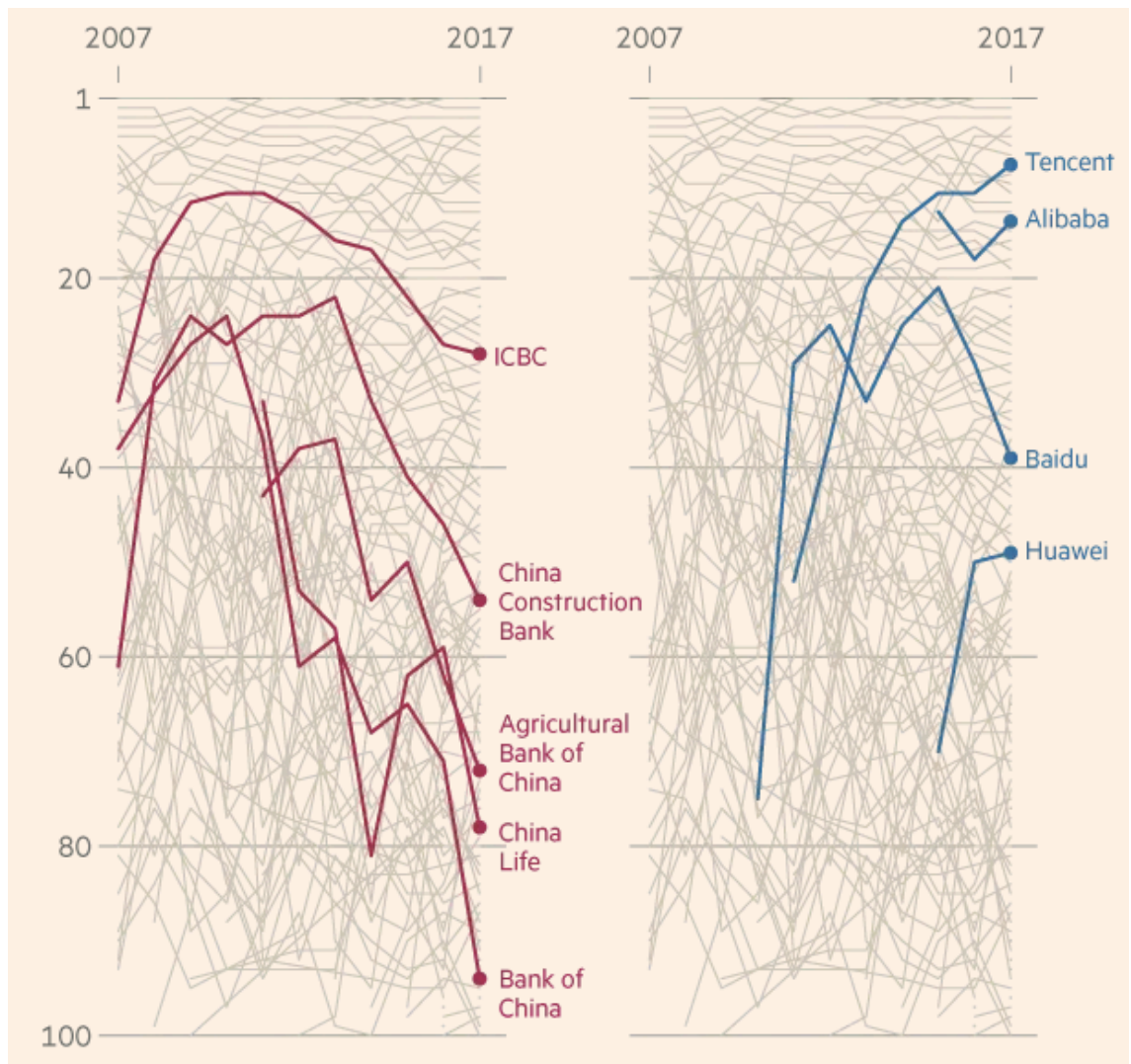


Figure 2. Chinese traditional banks versus Chinese technology companies (Weiland, 2017).

As figure 2 shows that traditional banks of China such as Bank of China, ICBC which were in the top ranks but then after financial crisis in 2008 all of them have been losing the ground. Meanwhile, more and more giant technology companies such as Tencent and Alibaba which founded Fintech companies have been climbing up in the ranking list.

2.2 Financial services

There are several types of financial services but in this paper, payment, wealth management and financing are discussed focused. This part of the thesis is to

give information about different type of financial services of Fintech and traditional banks.

2.2.1 Payment

Online payment is one of the most used service of financial services which is also known as electronic payment. Thanks to the rapid innovative developed technology, customers have been served with payment service with low cost. Moreover, Fintech companies are aiming to cut down the cost of the service by developing capabilities of payment. Fintech is working in two enormous markets which are individual customer, retail payment and largescale, corporate payment. Therefore, payment has become one of the most popular financial services which is used daily due to its fast service, customer-friendly model, easy to access and convenience. With individual customer and retail payment market, Fintech companies are offering to user mobile wallets, peer-to-peer online payment, crypto currencies, currency exchange and transaction. (Lee & Shin2017, 38.)

Mobile payments are defined as one of the categories of online payment which is used by a mobile device in order to perform a transaction of a payment to transfer money or funds directly from sender to receiver without going through an intermediary. With the developed technology, mobile applications are being used instead of initial payment structures such as cash, card or checks. (Gomber, Koch, Siering, 2017.)

Peer-to-peer payments or P2P payments are the terms which are used to indicate the type of payment between individuals. With P2P payments customer can immediately proceed to transfer money without delay compares to transferring by bank account. Moreover, when the payment is done, even the money has not been transfer to bank account, receiver is guaranteed by service provider with the transaction. Furthermore, bank account details are not needed to provide to anyone which increases confidence for users. (Gomber, Koch, Siering, 2017.)

Banks provides methods of payment to process the purchase with goods, services or securities. Payments can be proceeded either by financial assets or payment instruments. Those methods include:

Financial assets: Cash – which is used commonly with small payments. Cash should be bank notes or coin which are issued by authorized central banks are widely accepted.

Payment instruments: Debit card – which is used to as an instrument for payment by deducting straight from payer’s bank account. This payment method requires payer to have money in the bank account in order to proceed payment. (Kagan, 2019.)

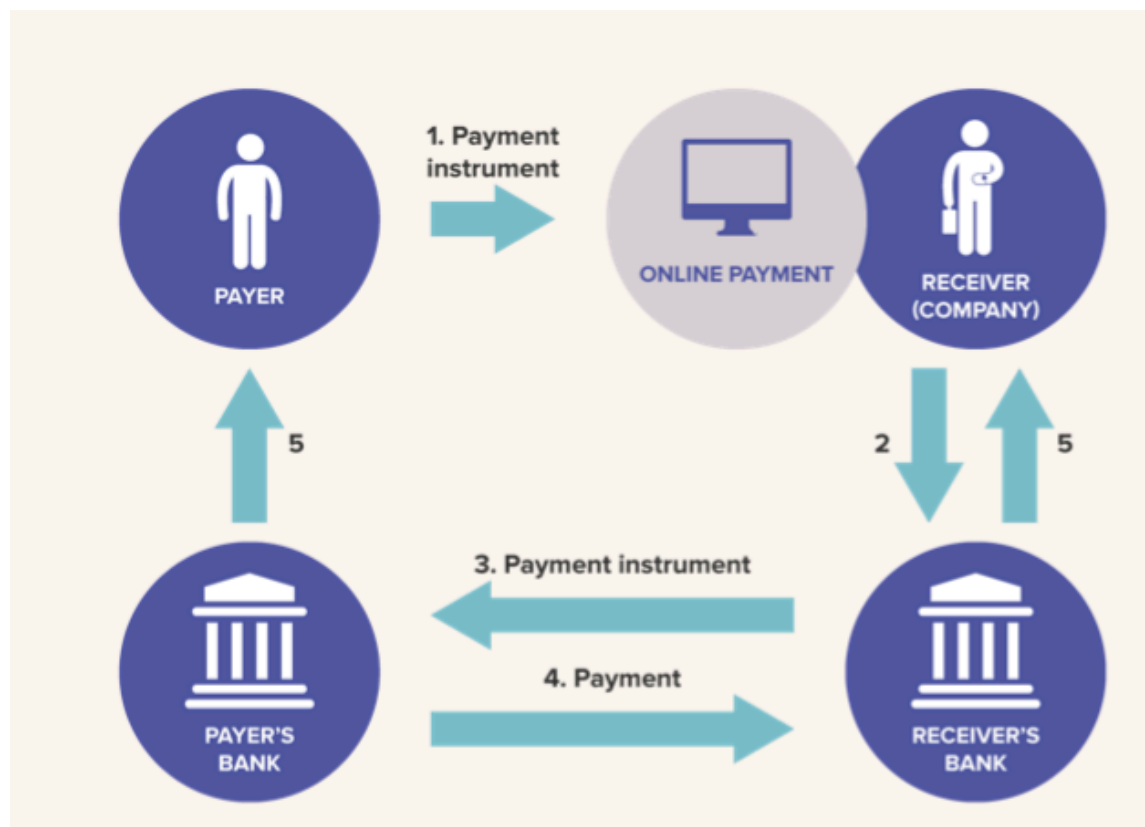


Figure 3. Debit-based payment instrument (Kokkola, 2010).

Figure 3 illustrates how debit payment works, when the payer wants to process a payment through debit-based system via online or at a checkout counter, data from payer will be transfer to receiver’s bank. After that, the data will be sent to

payer's bank, until then money is transferred from payer's bank account to receiver's bank account. Finally, receipt and information of payment will be sent into both payer and receiver's account statement. (Kokkola, 2010.)

Credit card – which has a similar payment method as debit-based payment. However, credit card does not require users to have money in their bank account, in return, customers borrow money with lender and then return on an agreed date as in contractual agreement. (Kenton, 2019.)

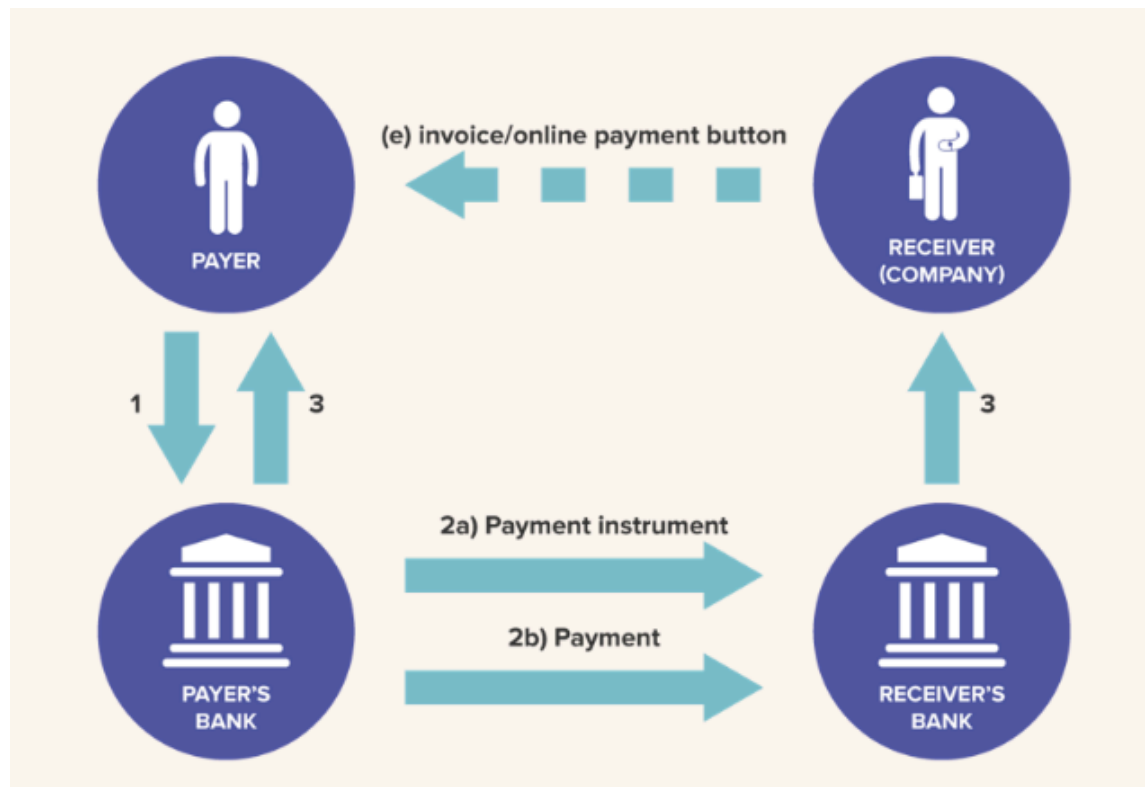


Figure 4. Credit-based payment instrument (Kokkola, 2010).

In figure 4, when payer receives information about invoice, payment data will be sent from payer's bank to receiver's bank and payment will be issued so that money will be sent to receiver's bank account. Then, information of payment will be updated in account statement. (Kokkola, 2010.)

2.2.2 Wealth management

Wealth management is a service which is provided by financial institutes for wealthy clients. Clients are advised with investment management and financial guidance with suitable financial products in order to invest money efficiently and enhance growth. (Ganti, 2019.)

Fintech has been disrupting many sectors in banking industry and advisory service sector is not an exception. Fintech is famous for its service of robo-advisors, which is a new term in financial service, it is a product of new technology. To illustrate this, robo-advisors which are developed with artificial intelligence, big data and machine learn and built on digital platforms so that it can give automatically financial advice on wealth management for clients. Moreover, with the technology of machine learning, robo-advisors can learn more from customers in order to give personalize advice for each individual client, meanwhile, advice is updated in real time based on date of situations around the world. (Kelvin & Anna, 2018.)

In the digital era, companies focus more on customers which helps shaping and developing business model in order to create a customer-centric model instead of using product-centric model. Customer-centric model is shaped by end-customer expectations which create changed in the wealth management sector.

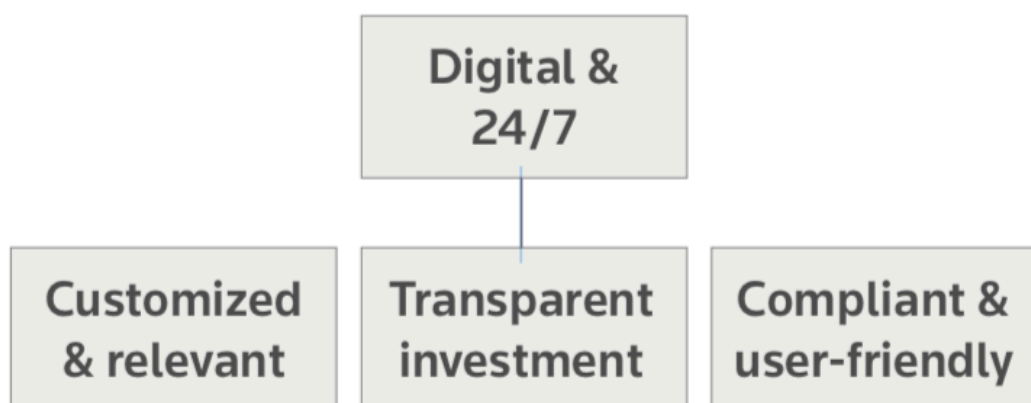


Figure 5. End-customer expectation in digital wealth management (Daily Fintech Advisers, 2016).

Figure 5 above lists four main points which are the trends of expectations from end-customer. The first point is digital and 24/7 service which requires wealth management service to be digitalized and available all the time in order to deliver the service to customer. Moreover, this element of change is also the core element in the changing model for other elements. The second point is customized and relevant which indicates that customers demand for tailored service to fit with customers' status, life stage, place and goals. Therefore, service needs to be customized and relevant to each individual customer. The third point is transparent investment, this point was listed since customers expect to pay lower service fees and they can monitor investment performance which is up-to-date. Moreover, fees are expected to be transparent to customers, risk/return net of fees are available for customers to access. The final one is compliant and user-friendly, wealth management is one of the most regulated sectors in financial market, thus, end customers need to be compliant. As the same time, customers expect to be served with user-friendly service. To meet all those listed expectations, technology has been offering digital wealth management which can work as several financial analysts, risk managers. Moreover, robo-advisor which was listed above is able to provide low cost fee for customers and achieve all customers' expectations. (Daily Fintech Advisers, 2016.)

In traditional banks, wealth management service is provided with wealth managers, it depends on what type of services or products that clients need so that the most suitable and specialized wealth manager can work with. Since the service itself is consultation, therefore, this financial service is customer-centered. (Prince, 2014.)

2.2.3 Financing

Individual clients, start-ups or companies are able to acquire financing from Fintech through internet with digital financing. By using many digital types, Fintech is able to offer various services such as invoicing, leasing and crowdfunding.

Electronic invoicing is one platform of Fintech which provides fast and secured service to help sending information of invoice electrically. Moreover, this service allows invoice to be automated process with structured and standardized format. Therefore, it makes invoicing to be quicker to cut down the time of waiting for bills to be paid. Another platform of Fintech which helps customers who do not have enough money to pay for assets such as cars, equipment or machines to have leasing service. Electronic leasing which is provided by Fintech offers customers to acquire asset and complete service online. Furthermore, customers are allowed to use the asset immediately without paying the full price at the same time. (Gomber, Koch, Siering, 2017.)

Crowdfunding is one of the successful emerging sectors of Fintech, it is also an alternative financing service. Crowdfunding is a platform where companies or individuals can raise fund for their project online, crowdfunding works base on the raise of small amounts of money which are donated by many people from the Internet community which is also known as the “crowd”. In return, people who support the fund can receive products or rewards in the future as an exchange for support. Because of online establishment, crowdfunding is easy to access and able to reach a huge amount of people. Therefore, this platform is an ideal choice for entrepreneurs to successfully get fund in order to support their businesses, projects. Kickstarter and Indiegogo are the most successful and popular websites for crowdfunding. Both websites are platforms for hundreds of thousands of people who are willing to invest in new projects. Over 160000 projects which cost more than \$4.2 billion have been funded through Kickstarter since 2009. (Smith, 2019.)

2.3 Competitive factors

In competitive market of banking industry, customer service and speed of service are the two important factors that differentiate Fintech from banks. This part of the paper is discussed about the two factors.

2.3.1 Customer service

Although there are still customers who would like to have human interactions in customer service in particular stages of the process, digital customer service is being developed quickly. Traditional banks are in the beginning period of customer-oriented solution. According to global Fintech survey of PwC in 2016, there are more than 80% of response of Fintech's respondents that choose consumer-centric model, meanwhile, there is only 53% of banking sector participants choose the same answer. Since traditional customers service is face to face or human interactions so that is impossible to serve customer 24/7, however, Fintech has overcome this problem with online and technology solution, customer service is offered by Fintech everywhen and anytime with omni-channel offering. Users of mobile applications are expected to increase by more than 90% of respondents from banks. In which 71% of the participants hope that in next 5 years there will be more than half of clients using applications for accessing financial services monthly which is shown in figure 6. (PwC, 2016.)

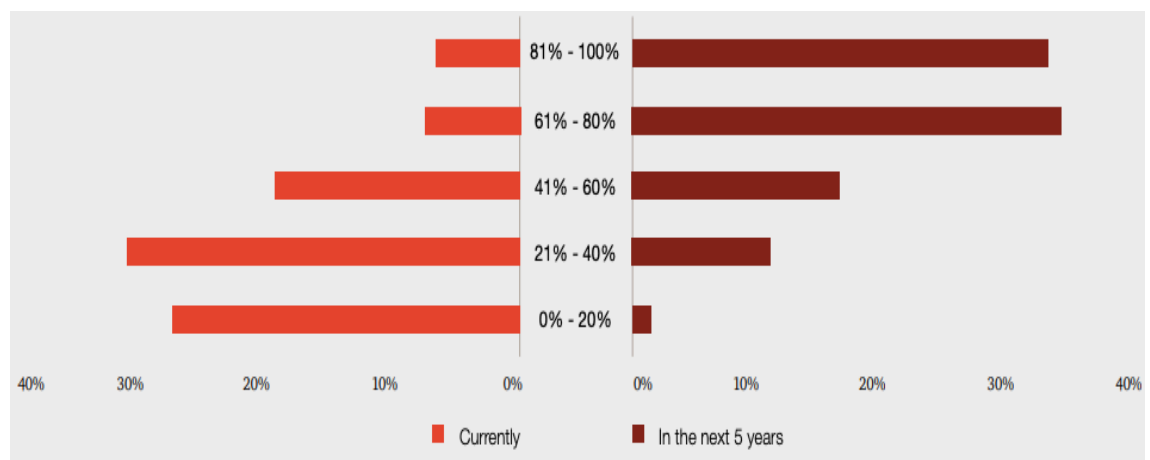


Figure 6. What is the percentage of your bank's clients using the app at least once a month? (PwC, 2016.)

Omni-channel is a digital channel which offers customers the experience of being served with mobile, social media, email and even live chat. Therefore, service providers can reach customers at all the time of the day and instead of visiting branches which customers of traditional banks do, customers can have service whenever they are online. Moreover, the newest technology has introduced co-

browsing which helps to assist and support omni-channel. To illustrate this, co-browsing uses show and tell approach which helps to direct customers and visitors so they can find suitable website and moreover, this helps to push pre-sale. (Bassano, 2019.)

Artificial intelligence, which is well-known as AI, is also a new technology used in customer service of banking sector. AI has been applied to financial services to enhance the experience of customer with chatbots and predictive analysis. Chatbots have huge advantage at speed of service for customers, it can support customers with simple inquiries and lead them to correct web pages. Besides, predictive analysis technology is able to learn from inquiries of customers and analysis them to give customers better answer. (Price, 2019.)

2.3.2 Speed of service

Speed is one of the competitive advantages that Fintech when it is compared to traditional banks. The platform is based online with new technology which helps Fintech provide faster service. For instance, payment service can demonstrate this factor obviously. With traditional payment method, it is either processed by cash or checks. Cash payments requires customers to visit a branch in order to send the fund to receiver. Moreover, check payments are variable in term of speed, however, it can be completed in a couple of hours or several days which depends on how checks are delivered from payer to payee and the issued banks. Therefore, the speed of cash and checks payments are rated as low-to-medium. In contrast, Fintech provides P2P payment method, which was mentioned above, is giving customer a rapid payment method. Transaction is done online which cuts the time needed for customers to visit the branches of their banks. Furthermore, customers can also check and monitor the transaction and track account at any time. Moreover, this does not only offer good service for customers who use new payment method but also for people who receive P2P payments. Hence, speed is definitely a comparative advantage for Fintech. (Bradford & Keeton, 2012.)

2.4 SWOT ANALYSIS

SWOT analysis is a framework which contains strengths, weaknesses, opportunities and threats analysis in order to evaluate situation and competitive position of a company, organization or an industry. Based on facts and data-driven perspective of strengths and weaknesses so that SWOT analysis can give a view of performance as well as point out the potential and risk of the company or industry. (Grant, 2019.)

This chapter is to give SWOT analysis for Fintech and traditional bank.

2.4.1 SWOT analysis for Fintech

Strengths:

Fintech has been growing rapidly since 2008 and it has become one of the main players in the banking industry. According to surveys that EY has been conducting through many years since 2015, the rate of adoption of Fintech services has been increasing dramatically from 16% in 2015 to 64% in 2019. Adoption rate is an index which is used to demonstrate how many percent of customers are aware of a product and use it. Another figure shows Fintech is well-known in the market is that 96% of customers at least either know about transfer money or payments services. Moreover, the adoption rate keeps growing and it is predicted not to be decreased in next year. Hence, it is clearly shown that Fintech has a strength of awareness and adoption from customers. (Hwa, 2019.)

One more strength of Fintech is digitalization of financial services. With the development of technology and digitalization, Fintech is able to provide online services which serve customers automatically at all the time with convenience and seamless experience. In addition, more and more people are using smart devices in order to conduct their banking activities primarily which is a demand for digitalization of financial services. Moreover, investment on Fintech is increasing through years, Fintech companies have been invested \$440 billion in 2018 and it is forecasted to be invested up to \$500 billion in information technology for financial services in 2019 (IDC, 2018). This investment is focused on hiring information technology employees in order to develop software and automated services in

different sectors of fintech such as online payments, data analytics, trading and other services. With this strength of attraction on investment, Fintech has advantage in developing its technology in order to enhance digital financial services. (Jacobs, 2018.)

Not only individual customers but also small and medium entrepreneurs (SMEs) have become tremendous users of Fintech all around the world. Fintech's services have been playing a key role in SMEs' financial management, banking and payments, financing and insurance. According to EY, SMEs are choosing to use Fintech because of variety in services, availability 24/7, low rates and fee, compatible with existed operations and trust.

Weaknesses:

The first weakness of Fintech is regulation, Fintech companies have to deal with data protection, capital requirement, money laundering, privacy and security. Since the technology is changing quickly, Fintech is required to have sufficient regulation in order to adapt to changes. Privacy and security are the most challenging to Fintech since the sector has been handling tremendous amount of sensitive data online which means critical information can be hacked and stolen from mobile devices. In 2016, a case from Dwolla – an online payment company was found with problem in cybersecurity by the Consumer Financial Protection Bureau which led to a fine of \$100,000 and improvement data security in 5-year period. Therefore, privacy and security of Fintech are crucial and it is the top priority for Fintech in order to gain and maintain trust from customer. (In & Yong, 2017.)

The second weakness of Fintech is risk management which includes financial risk. Financial risk is different among Fintech companies and it depends on the service that each company provides. For instance, a failure from robo-advisor from online wealth management company can lead to a huge loss of asset of customer and the company is responsible for the failure of algorithm of robo-advisor. Financial risk is also a problem for loans and mortgages Fintech companies, they might face a risk of shortage capital for small startup to cover. Therefore, it is important for Fintech companies to focus and improve on risk management. (In & Yong, 2017.)

Opportunities:

Customers are changing their behavior on using financial services when adopting new technology at a fast rate. Moreover, customers seem to be less loyal to traditional financial institutions and seek for more convenient services. In addition, the world is at the era of millennials and Gen Y who were born in the 1980s and 1990s are eager to drive in future trend, easy to adapt with new technologies. (Pollari, 2016.)

In the era of digital and smart devices, the cost for customers to use internet services is decreasing. Cheaper products of smart devices are being used popularly all around the world which creates an opportunity for Fintech to promote its financial services to more potential customers (Zaman, 2018). Another side of digitalization is that barriers for new technology startup are more narrow to entry. Moreover, fast development of digital provides cheap price for starting a technology company and it is easier to access low-cost development tools. Hence, it is not surprised to see the amount of technology startup companies increase. In result, the entry of many new players creates a competitive market which gains potential impact on financial stability (Ajlouni & Al-Hakim, 2018).

The weakness of regulation turns out to an opportunity for Fintech as well. Regtech has been created in order to fulfill the need of adapting to vastly changed regulatory requirements. To illustrate this, Regtech is a term to indicate the innovation which is using technology to comply with existed and future regulatory requirements so that Regtech can help Fintech firms to understand regulation, cut down risk and cost of compliance. This sector is considered to be one of the fastest growth in the market, it is estimated to be worth \$12.3 billion in 2023. (Consultancy.uk, 2019.)

Threats:

Bigtech is a term which is used to indicate big technology company such as Google, Apple, Amazon, these firms have been conquering the banking industry. This is a threat to Fintech startup companies since Bigtech firms have power to disrupt the market with their strong base of technology, huge amount of existed customers and sufficient capital. Moreover, with the appearance of Bigtech firms

in the market is causing loss of market share for startup companies. (Ajlouni & Al-Hakim, 2018.)

Another threat to Fintech is scams companies. When huge amount of Fintech startup companies have been established, there is presence of fraudsters which are unauthorized and illegal. In addition, cyber risk also threaten to customers when hackers are much more intelligent and skillful nowadays. Therefore, fraudsters and cybercrime are not only a threat to Fintech companies but also customers. (Ajlouni & Al-Hakim, 2018.)

2.4.2 SWOT for traditional banks

Strengths:

It cannot be denied that traditional banks has a long history which is the foundation of banking industry. Traditional banks have been improving and securing financial stability and financial trade. Moreover, it is the source for employment and helping to cut down the poverty. Hence, this proves that traditional banks are the factor for growing economy. Furthermore, individual banks offer a wide range of services such as insurance, loan, mortgage and investment. (Bhasin, 2019.)

Weaknesses:

The first weakness of traditional banks is time consuming, human resources are required for banks to operate to process financial services. Transactions which are done by banks cannot be processed in a short time, it even takes days to make transaction to different entities. Besides, customers need to visit a branch in order to proceed their demand on financial services. Therefore, it is not convenient for customers to use financial services in traditional banks.

The second weakness is losing trust from customer. After the financial crisis from 2008, traditional banks are still finding difficulty in gaining trust back from customer which was a huge damage to financial lives that customers have experience (Cabell, 2019).

Opportunities:

Traditional banks have opportunity to invest into more digital strategies as a digital attacker. By implement new advanced digital strategies, banks have chances to entry new market and reach more customers. For instance, Dutch bank ING has been releasing an app called Yolt for customers to store their all information in a place and monitor spending and saving of the accounts. In result, ING has successful gained more than 400000 users in United Kingdom in last year and the bank is going to scale up in France and Italy. (Arnold, 2018.)

Acquisition is another opportunity in the digital era, buying or investing in a startup company which has already built their platform seems to be a wise choice for traditional bank. Moreover, acquisition is much more cheaper than digital attacker strategy. Furthermore, partnership is another option for traditional banks to reduce time in investing for technology. Banks are making partner with big technology company in order to offering good quality of financial services for large amount of existed customers. Moreover, it helps banks and big technology companies to expand the financial services in new market. (Arnold, 2018.)

Threats:

One of the biggest threats that traditional banks have to face is that their customers are switching to another financial services provider. When more and more customer are losing trust to keep their money in the banks in the fear of next financial crisis to happen, customers are trying to switch their banking providers which are more efficient and better services. (Bilderlings, 2019.)

Centralized banking is another threat to traditional banks, consumers in the fast growth economy world are eager to have quick financial services, however, traditional banks keep using centralized banking method which is inflexible, time-consuming and not customer-friendly. Meanwhile, other new providers of financial services are working and focusing on customer centric which offer a faster option for customer. Therefore, traditional banks are expected to change into decentralized banking. (Sham, 2019.)

3 FUTURE OF FINTECH AND TRADITIONAL BANKS

3.1 Future of Fintech

Security is the most concerned topic that Fintech should focus on. In the Global Fintech Survey of PwC, more than half answers from respondents agreed that cyber risk, security and privacy is the biggest threat for Fintech to rise. By handling a huge amount of data and information of customer since all of financial services which are provided by Fintech are online, it challenged Fintech to protect the data they have from third parties and cybercrime. Therefore, Fintech companies need to invest more in technology in order to enforce the system and prevent information of customers to be leaked or misused. Moreover, with strong base of security, it will be an advantage for Fintech firms to get consent from customers to use data and build trust from customers. According to PwC, solutions for Fintech in this issue is to develop data labelling and selective data sharing. (PwC, 2016.)

Another trend for future of Fintech is to invest in the latest technologies which are artificial intelligence and machine learning in order to enhance security. With this trend, Fintech can shift from detect frauds into prevent them. To illustrate this, the new technologies can support Fintech to tracking transactions in real-time precisely. Meanwhile, old technologies are taking more time and complicated. (Saratchandran, 2019.)

Revolution in regulation technology is a potential future for Fintech. RegTech has been the quickest growing sector in the financial services market with the development of advanced analytics, automation in order to gain regulatory and compliance results productively. Moreover, RegTech is a must-have equipment of financial institutions to fulfill compliance gaps, cut costs and recognize the risks before regulators. Furthermore, it helps to enhance the service, improve the security of customers and gain back trust in the financial industry. RegTech is being used by companies in order to deal with tremendous amount of data that is being generated. By using RegTech, it means data is being processed in correct way

which provide better information and preparation for risk and compliance. According to KPMG, RegTech received the investment of \$1.37 billion in the first half of 2018 which is more than the total investment in 2017. A revolution of RegTech is predicted as a transformation for the financial industry when not only startups but also big tech companies are eager to support a change in digital and increasing in investment. (KPMG, 2018.)

3.2 Future of traditional banks

The future trend for traditional banks is to moving forward to digital ecosystems. The term “digital ecosystem” is referred to the era of digitalization and its power to modern internet technologies adoption. Most of the traditional banks in the world which have analogue system as their background have been transforming themselves into digital systems so that those banks can remain competitive. However, the progress of transforming in to digitalization is still slow when digital change requires traditional banks to have strong structure and strategies with extensive adjustments. Moreover, most of strategies which are related to digitalization of banks are too weak in order to compete for medium to long term. Therefore, traditional banks need to have fundamental structural digital strategies in order to transform into digital ecosystems. (Dapp, 2015.)

The aspect that traditional banks should focus the most is gaining the trust by enhance the security and protection of customers’ data. Personal data of customers is sensitive which requires traditional banks to handle carefully, in the worst case that traditional banks leak personal customers’ data, customers can terminate the relationship with their banks which leads to loss in trust from customers and bad reputation of the bank. Therefore, traditional banks should invest their resources in data protection and securing systems and processes. Moreover, traditional banks can use their investment in security and data protection as a competitive advantage for marketing campaigns in order to attract their potential customers and increase trust in their existed customers in the matter of security. (Dapp, 2015.)

Data is a new trend for every industry and banking is not an exception. However, traditional banks need suitable strategies so that they can monetize and use their data successfully. According to McKinsey, around half of financial services providers have started to monetize data which illustrate that data is extremely important resource in banking industry. Traditional banks have many ways to monetize their data. Investing new technologies in analytics in order to analyze data is the way for traditional banks to use their data more effectively. Besides, reports or benchmark analytics can be created based on internal data by traditional banks. Moreover, traditional banks has a huge valuable amount of information from customers such as payments, consumption and behaviors, by analyzing those existed data, banks are able to offer more for their customers in term of convenience or one-stop shopping in order to improve customer services (Dapp, 2015). Therefore, it is necessary for traditional banks to invest in data analytics technologies in order to use data efficiently. (Khanna, Martins, 2018.)

3.3 How traditional banks compete Fintech?

This part of the paper discusses about possibilities that how traditional banks can compete or react to Fintech.

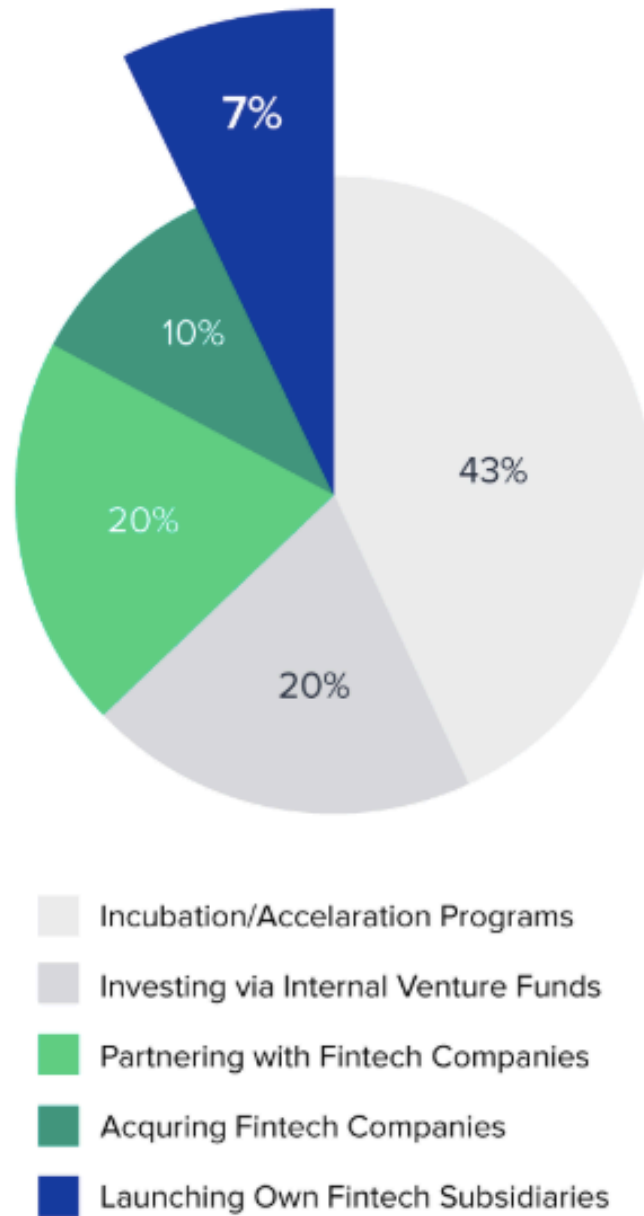


Figure 7. How banks are currently responding to the Fintech (Graham, n.d.).

In this figure 7, it shows that half of banks have chosen to incubate or launch their own programs in Fintech. Besides, the other half of banks have strategies to collaborate with Fintech companies, the strategies are either partnering with Fintech companies or investing in those existed companies or acquiring them.

3.3.1 Traditional banks act open

In the digital era, open innovation is the key role for revolution, it has been shown by new born technologies in recent years. To illustrate this, traditional banks have been adopting external technology solutions, gaining knowledge and resources for innovation process so that traditional banks can develop their own intellectual property in order to generate new ideas and figure out new areas to grow. According to Accenture, 40% of banks which took part in their survey answered that they already have had open technical innovation programs. For instance, Goldman Sachs bank collaborates with GitHub, which is an online community for coders, to open a competition for external coders to improve Goldman Sachs' proprietary registered source code in capital markets field. French bank Credit Agricole is another example when they launched an open Application Programming Interface, which is a set of protocols and tools for building software application, in order to boost developers in building applications based on the bank's services such as payment and finance analysis application for their clients. (Accenture, 2015.)

3.3.2 Collaboration between traditional banks and Fintech

Collaboration is one of the strategies for traditional banks in the development of Fintech companies. Collaboration and co – innovation are the momentous factor in the relationship between financial services and technology industries so that participants can seek ways for growing in the market with their alliances by selecting different players. Moreover, it has been always an ideal strategy for financial services provider to collaborate with others in the same industry which does not only help them to reduce the cost but also creates new market opportunities. For instance, the partnership between group of banks founded MasterCard in 1966 which is the most well-known interbank card payment service for customers, the result of this collaboration has been offering a better customer service in payment. (Accenture, 2015.)

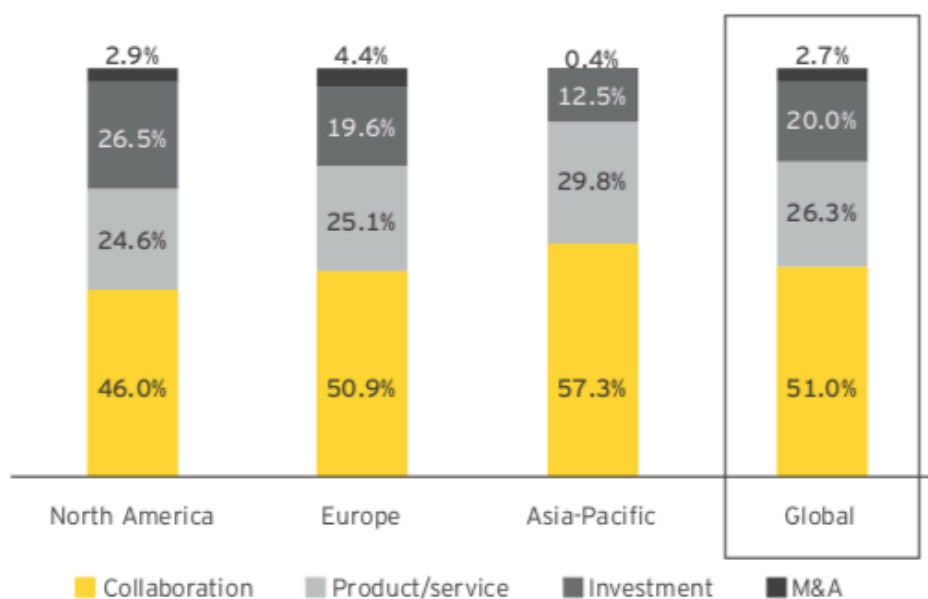


Figure 8. Analysis of Fintech with banks in three regions (EY, 2017).

In this figure 8, among different possibilities, collaboration seems to be the most popular option for relationship between banks and Fintech companies when more than half of the engagements are collaboration compared to product/service, investment and merge and acquisition. In collaboration between Fintech and traditional banks, banks are able to unleash the potential of products or systems which are provided by Fintech companies such as collaboration between robo-advice Fintech and bank to create new investment management services. Moreover, collaboration is the base for testing new technologies and solutions or creating a digital marketplace by joint ventures. (EY, 2017.)

Collaboration brings many benefits for both traditional banks and Fintech companies. It helps to change the mindset of customers and customer behaviors, since the technologies of Fintech are able to offer customers much more convenient services online. Traditional banks are capable of enhancing customer experience through the agility and new technologies of Fintech companies. Moreover, collaboration creates a strong foundation for improvement and innovation. Besides, Fintech companies can offer their products to a huge group of customers in order to scale up and develop more in the future. Furthermore, with partnership, Fintech can have chances to learn how to handle with a complicated regulatory place. (Fintechtris, 2019.)

4 DISCUSSION AND CONCLUSION

This thesis has analyzed some aspects of Fintech and traditional banks which are the players in banking industry to give a general picture of future of both Fintech and traditional banks,. Moreover, possible moves for traditional banks have been analyzed in order to conclude for research questions.

Research has shown that the fast development of Fintech in recent years since the financial crisis has occurred. The conveniences of new technologies in financial services of Fintech cannot be denied. Fintech has changed the whole banking industry by providing faster and customer-centric services which has not been offered by traditional banks ever before. With the appearance of Fintech, banking industry has become more competitive market than ever which makes traditional banks to have new strategies in order to remain competitive in the market. Moreover, the adoption of new technologies and Fintech since the users are mainly millennial and gen Z which are considered to be the generation of technology. Besides, with the weaknesses have been mentioned above, Fintech should invest more in regulation and security in order to adapt with fast pace of transforming technology. Moreover, security is tremendous in banking industry because financial services providers have to handle sensitive information of customers. Therefore, enhancing the security can lead Fintech to gain the trust of customers and also build a strong foundation to prevent from financial crisis.

Traditional banks have been struggling after the financial crisis since 2008, customers demand more from banks since they are putting their money in the banks. In the era of digitalization, customers also require a transformation in traditional banks which could improve the customer experience. Furthermore, because of financial crisis, traditional banks need to focus more in regulation which was the reason for the crisis. Moving to digital ecosystem is one of the key thing in traditional banks' next moves. By transforming into digitalization, traditional banks can keep up with the fast development of technology. Moreover, digitalization is the answer for banks to fulfill their weaknesses and prepare for the potential threats from security to regulation. Besides, technology is the only way for traditional

banks to use their advantages e.g. traditional banks can invest in data analysis which is considered as the most valuable resource.

In the competition of Fintech and traditional banks, collaboration is seemed to be an ideal option rather than competing each other. Both sides are able to gain benefits from partnerships. It is a chance for traditional banks to reach out technologies easily in order to improve customer service and digitalize financial services. Moreover, this helps banks to offer customers online services on mobile devices which is the current trend of the world. Fintech can get the benefit from the huge amount of existed customers which helps Fintech to scale up their services and products quickly.

REFERENCES

Accenture. 2015. Future of Fintech and Banking. Read on 07.10.2019.
https://www.accenture.com/_acnmedia/accenture/conversion-assets/dotcom/documents/global/pdf/dualpub_11/accenture-future-fintech-banking.pdf

Ahmed, A. T. A. and Al-Hakim, M. 2018. Financial Technology in Banking Industry: Challenges and Opportunities. Read on 1.12.2019.
https://www.researchgate.net/publication/331303690_Financial_Technology_in_Banking_Industry_Challenges_and_Opportunities

Alt, R. and Beck, R. and Smits, M. 2018. Fintech and the transformation of the financial industry. Read on 16.10.2019.
https://www.researchgate.net/publication/326991488_FinTech_and_the_transformation_of_the_financial_industry

Arnold, M. 2018. Five ways banks are responding to the Fintech threat. Read on 30.11.2019.
<https://www.ft.com/content/d0ab6b84-c183-11e8-84cd-9e601db069b8>

Barone, A. 2019. Bank. Read on 14.10.2019.
<https://www.investopedia.com/terms/b/bank.asp>

Bassano, C. 2019. 5 ways Fintech is reshaping the financial services industry. Read on 5.11.2019.
<https://www.business2community.com/finance/5-ways-fintech-is-reshaping-the-financial-services-industry-02228834>

Bhasin, B. 2018. Evolution of technology in financial markets. Read on 15.10.2019.
<https://www.ijirr.com/sites/default/files/issues-pdf/3039.pdf>

Bhasin, H. 2019. SWOT analysis of Banking industry. Read on 30.11.2019.
<https://www.marketing91.com/swot-analysis-of-banking-industry/>

Bilderlings. 2019. Why are banks' clients switching to Fintech? Read on 07.10.2019. <https://bilderlings.com/blog/why-are-banks-clients-switching-to-fintech/>

Bradford, T. and Keeton, W. R. 2012. New person-to-person payment methods: Have checks met their match? Read on 6.11.2019. <https://www.kansascityfed.org/publicat/econrev/pdf/12q3Bradford-Keeton.pdf>

Buckley, R. and Arner, D. W. and Barberis, J. N. 2016. The evolution of Fintech: A new post-crisis paradigm? Read on 15.10.2019 https://www.researchgate.net/publication/313365410_The_Evolution_of_Fintech_A_New_Post-Crisis_Paradigm

Cabell, J. 2019. Fintechs vs. traditional banks: Who has the bigger advantage? Read on 22.11.2019. <https://thefinancialbrand.com/84106/fintech-bank-credit-union-competition-advantages/>

Consultancy.uk. 2019. The growth of Fintech and Regtech in financial services. Read on 2.12.2019. <https://www.consultancy.uk/news/22261/the-growth-of-fintech-and-regtech-in-financial-services>

Daily Fintech Advisers. 2016. The golden key to digital wealth management. Read on 25.10.2019. http://images.financial-risk-solutions.thomsonreuters.info/Web/ThomsonReutersFinancialRisk/%7B444f2dbc-33ce-423c-8883-aed085706508%7D_TR_Digital_Wealth_Management.pdf?utm_campaign=e4&utm_medium=social&utm_source=FRblog&utm_content=How-fintech-will-transform-the-wealth-management-industry-May17

Dapp, T. F. 2015. Fintech reloaded - Traditional banks as digital ecosystem. Read on 4.12.2019. https://www.deutschebank.nl/nl/docs/Fintech_reloaded_Traditional_banks_as_digital_ecosystems.pdf

Edwards, F.R. 1995. The Decline of Traditional Banking Implications for Financial Stability and Regulatory Policy. Read on 07.10.2019.

<https://www.researchgate.net/publication/46567205> The Decline of Traditional Banking Implications for Financial Stability and Regulatory Policy

EY. 2017. Unleashing the potential of Fintech in banking. Read on 7.12.2019. [https://www.ey.com/Publication/vwLUAssets/ey-unleashing-the-potential-of-fintech-in-banking/\\$File/ey-unleashing-the-potential-of-fin-tech-in-banking.pdf](https://www.ey.com/Publication/vwLUAssets/ey-unleashing-the-potential-of-fintech-in-banking/$File/ey-unleashing-the-potential-of-fin-tech-in-banking.pdf)

Fintechtris. 2019. How Fintech partnerships with banks shape the future of finance. Read 10.10.2019 <https://www.fintechtris.com/blog/2019/6/20/how-fintech-partnerships-with-banks-shape-the-future-of-finance>

Ganti, A. 2019. Wealth Management. Read on 14.10.2019. <https://www.investopedia.com/terms/w/wealthmanagement.asp>

Gomber, P. and Koch, J. and Siering, M. 2017. Digital finance and Fintech: Current research and future research directions. Read on 19.10.2019. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2928833

Graham, A. n.d. Fintech and banks: How can the banking industry respond to threat of disruption? Read on 8.10.2019. <https://www.toptal.com/finance/investment-banking-freelancer/fintech-and-banks>

Grant, M. 2019. Strength, weakness, opportunity and threat (SWOT) analysis. Read on 28.11.2019. <https://www.investopedia.com/terms/s/swot.asp>

Hecht, J. 2018. How technology is driving change in almost every major industry. Read on 03.10.2019. <https://www.forbes.com/sites/jaredhecht/2018/11/30/how-technology-is-driving-change-in-almost-every-major-industry/#2db558672f6f>

Hwa, G. 2019. Global Fintech adoption index 2019. Read on 30.11.2019. https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/banking-and-capital-markets/ey-global-fintech-adoption-index.pdf

IDC. 2018. Worldwide Financial Services External and Internal IT Spending to Reach \$500 Billion in 2021, According to IDC Financial Insights. Read on 22.11.2019. <https://www.idc.com/getdoc.jsp?containerId=prUS43990118>

Jacobs, J. 2018. What's driving Fintech's growth? Read on 30.11.2019. <https://www.globalxetfs.com/whats-driving-fintechs-growth/>

Kagan, J. 2019. Debit card. Read on 12.11.2019. <https://www.investopedia.com/terms/d/debitcard.asp>

Kagan, J. 2019. Financial Technology – Fintech. Read on 05.10.2019. <https://www.investopedia.com/terms/f/fintech.asp>

Kenton, W. 2019. Credit. Read on 23.10.2019. <https://www.investopedia.com/terms/c/credit.asp>

Khan, F. 2018. Evolution of Fintech - A timeline. Read on 03.10.2019. <https://www.datadriveninvestor.com/2018/06/15/evolution-of-fintech%E2%80%8A-%E2%80%8Aa-timeline/>

Khanna, S. and Martins, H. 2018. Six digital growth strategies. Read 4.12.2019. <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/six-digital-growth-strategies-for-banks>

Kokkola, T. 2010. The payment system. Read on 22.11.2019. <https://www.ecb.europa.eu/pub/pdf/other/paymentsystem201009en.pdf>

KPMG. 2018. There's a revolution coming. Read on 3.12.2019. <https://assets.kpmg/content/dam/kpmg/uk/pdf/2018/09/regtech-revolution-coming.pdf>

Lee, I. and Shin, Y. J. 2018 Fintech: Ecosystem, business models, investment decisions, and challenges. Read on 05.10.2019. <https://www.sciencedirect.com/science/article/pii/S0007681317301246>

Leong, K. and Sung, A. 2018. FinTech (Financial Technology): What is It and How to Use Technologies to Create Business Value in Fintech Way?, 75.

Marr, B. 2018. What is Industry 4.0? Here's a super easy explanation for anyone. Read on 03.10.2019.

<https://www.forbes.com/sites/bernardmarr/2018/09/02/what-is-industry-4-0-heres-a-super-easy-explanation-for-anyone/#493a7e739788>

Nagy, J., Olah, J., Erdei, E., Mate, D. and Popp, J. 2018. The Role and Impact of Industry 4.0 and the Internet of Things on the Business Strategy of the Value Chain—The Case of Hungary. Read on 03.10.2019.

https://www.researchgate.net/publication/328037412_The_Role_and_Impact_of_Industry_40_and_the_Internet_of_Things_on_the_Business_Strategy_of_the_Value_Chain-The_Case_of_Hungary

Pollari, I. 2016. The rise of Fintech opportunities and challenges. Read on 28.11.2019.

https://www.finsia.com/docs/default-source/jassa-new/JASSA-2016-/jassa-2016-issue-3/jassa-2016-iss-3-the-rise-of-fintech-pp-15-21.pdf?sfvrsn=5f839b93_4

Price, P. 2019. Fintech & banking: the shift in customer Experience. Read on 30.10.2019.

<https://customerthink.com/fintech-banking-the-shift-in-customer-experience/>

Prince, R. A. 2014. What is wealth management? Read on 14.10.2019.

<https://www.forbes.com/sites/russalanprince/2014/05/16/what-is-wealth-management/#71b80f3c133e>

Puschmann, T. 2017. Fintech. Read on 05.10.2019.

<https://link.springer.com/article/10.1007/s12599-017-0464-6#CR18>

PwC. 2016. Customers in the spotlight. Read on 30.10.2019.

<https://www.pwc.com/gx/en/financial-services/fintech/assets/fin-tech-banking-2016.pdf>

PwC. 2016. Security challenges in the evolving Fintech landscape. Read on 3.12.2019. <https://www.pwc.in/assets/pdfs/consulting/cyber-security/banking/security-challenges-in-the-evolving-fintech-landscape.pdf>

Saratchandran, V. 2019. Artificial intelligence and machine learning: the cyber security heroes of Fintech. Read on 3.12.2019. <https://www.fingent.com/blog/artificial-intelligence-and-machine-learning-the-cyber-security-heroes-of-fintech>

Shan. 2019. Risks and threats of the traditional banking sector. Read on 2.12.2019. <https://medium.com/cashaa/risks-and-threats-of-the-traditional-banking-sector-a30ec9ed1e10>

Skan, J. and McIntyre, A. and Caminiti, F. 2018. Star shifting: Rapid evolution required. Read on 19.10.2019. <https://www.accenture.com/acnmedia/pdf-87/accenture-banking-rapid-evolution-required.pdf>

Smith, T. 2019. Crowdfunding. Read on 27.10.2019. <https://www.investopedia.com/terms/c/crowdfunding.asp>

Vardhman, R. 2019. 40 incredible Fintech statistics in 2019. Read on 03.10.2019. <https://carsurance.net/blog/fintech-statistics/>

Weiland, D. 2017. China's traditional banks lose branding ground to internet rivals. Read on 08.10.2019. <https://www.ft.com/content/196cfd50-46d9-11e7-8d27-59b4dd6296b8>

Zaman, S. 2018. Blog: Fintech – A SWOT analysis. Read on 1.12.2019. <https://thecommonwealth.org/media/news/blog-fintech-swot-analysis>