The Impact of FinTech Companies on Financial Institutions in Sweden

A qualitative study on impacts and remedies

Moayad Almoustafa Alterkawi - Tamer Bittar

Department of Business Administration
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Supervisor: Catherine Lions
Abstract

FinTech companies have grown tremendously during the last decades and generated great impacts on traditional financial institutions and led to enormous alteration in the ways of providing the financial services. The continuous development of the financial services has stepped into a new stage, where new entrants impact incumbents even more and many challenges accompanied by threats might come to light. Questions started to appear about the future of the financial institutions, since the new entrants provide the same services of the incumbents in an effortless manner.

The choice of this research topic was driven by the fact that previous research about FinTech focused solely on the evolution of FinTech companies and their segments, but studies have been neglected the impact of FinTech companies on financial institutions and how the latter remedy with that impact. Hence, the interest in how the financial institutions are influenced by FinTech companies resulted in the following research question:

What is the impact of FinTech companies on financial institutions in Sweden?

We formulated two more detailed questions to guide our study: 1) How the financial institutions remedy with the development of FinTech companies to protect their existence as financial services providers? 2) What kind of relationship have the financial institutions with the FinTech companies?

The aim of this study is to extend the existing knowledge about the current and potential impacts of FinTech companies on financial institutions. Moreover, the purpose is to have a better understanding about how the incumbents remedy the effects of the new entrants and challenges that they confront. This study answered the research question through a qualitative method and the empirical data has been gathered from ten interviews with banks and insurance companies in Sweden.

The findings of this thesis revealed that the FinTech companies obliged the financial institutions to develop their IT systems and services, either inhouse or by cooperating with FinTech companies and made them more open for collaboration than before. Further, the banking sector is more impacted by FinTech companies than the insurance sector. That makes them more likely to leave some segments for the new entrants in future. Concerning the attitudes, all the financial institutions are positive about FinTech companies and their impacts even though a few of the new entrants attempt to provide financial services with low security, generally most of them keen to improve the financial services.

Keywords: FinTech companies, IT, Innovation, FinTech applications, Financial institutions, Business model, Regulation, Cooperation, Co-opetition
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Abbreviations list

- AI  Artificial intelligence
- BM  Business Model
- FinTech  Financial Technology
- EBA  European Banking Authority
- GDPR  General Data Protection Regulation
- InsurTech  Insurance Technology
- IT  Information Technology
- IoT  Internet of Things
- RegTech  Regulation Technology
- PSD2  Second Payment Services Directive
- P2P  Peer-to-Peer
1 Introduction

In this chapter, we provide the background and the theoretical background, followed by the purpose of our study, the delimitations and the research question. We conclude the chapter with presenting the research gap in the existing literature.

1.1 Subject choice

We are two master students at Umeå University with different sections. One in accounting and auditing and one in finance. During our courses, we got interested in the topic of FinTech, since we are both interested in technology within the financial sector. Therefore, we chose to write our master thesis about the impact of FinTech companies on financial institutions.

1.2 Background

The aftermath of the financial crisis in 2008, all the financial institutions were busy with managing the non-performing loans and regulatory requirement. The regulators put more strict conditions for lending activity in order to maintain the capital of banks and protect the depositors. However, the regulation did not take into account the embarkation of FinTech companies (Magnusson, 2018, p. 1167). Schindele & Szczesny (2016) mentioned that the financial crisis raised the cost of debt for a lot of small firms and some banks stopped their lending activities to companies. As a consequence of the financial crisis, people distrust the banks while FinTech companies had a white record of trust (Haddad & Hornuf, 2016, p. 7). They had the ability to exploit the strict conditions of financial institutions by offering products, which used to be offered by banks such as lending and payment services with less conditions than the banks required.

FinTech companies set a new culture in the financial industry, which is completely different than the prevailing culture in traditional financial institutions. Haddad & Hornuf (2016, p. 5) indicate that FinTech companies are driven by bankers who lost their work after the financial crisis and wanted to implement their financial skills in the financial sector by their own ways.

The increase of popularity of smartphones and internet made customers rely on technology and demand faster services, either locally or cross-border by using online platforms. Nowadays, customers prefer to transfer money or do banking online, e.g. in 2015, 73% of millennials in the USA were more excited about the financial services that provided by non-banks, such as Google and Amazon than the same services that provided by banks (Millennial Disruption Index, 2015). In 2015, shadow banks were holding 75% of the market share in the USA and one of the most significant segments of growth in shadow banks were FinTech lenders, which essentially provided mortgages through online platforms (Buchak, et al., 2018, p. 2).
The development of technology such as machine learning and artificial intelligence (AI) raise more automation of jobs, which used to be implemented by humans; nowadays, it is much cheaper to startup a FinTech company than before (Sankaranarayanan, 2015, cited Teigland, et al., 2018, p. 254). At the end of 2018, there were 2,575 FinTech companies with a total funding amount of $125 billion (Venture Scanner, 2019). According to PWC (2016), the FinTech companies will alter all the ways of providing the financial services such as payment, brokers and insurance, because they offer new platforms that enable clients to open accounts easily and can turn into other providers effortlessly with one click such as NerdWallet in the USA and BankBazaar.com. In their turn, they gather the offerings from many banks and insurers and get fees from them for providing these kind of services (Miklos, et al., 2016, p. 2). Therefore, the financial institutions are altering in order to diminish the technological gap between them and the FinTech companies; nonetheless, the way toward alteration and innovation is still full of obstacles due to two reasons: old routine that has never modified and solid business model (Nicoletti, 2017, p. 1).

Nowadays, the financial services are not confined to the traditional financial institutions, because there are a lot of prominent companies that are not even considered as FinTech companies, nor insider of financial sector that have experienced with offering financial services such as Facebook and Amazon.

There are two new laws that have been implemented in 2018 in EU concerning the embarkation of FinTech companies, PSD2 and GDPR (Teigland, et al., 2018, p. 160). The First one is PSD2 (Second Payment Services Directive), which obliges the banks to allow third-party providers such as FinTech companies to access client accounts, hence FinTech companies need bank’s client permission not bank permission (Teigland, et al., 2018, p. 160). The second law is GDPR (General Data Protection Regulation) due to the digitization such as social media and the internet that could jeopardize people's private information (Teigland, et al., 2018, p. 161). Thus, PSD2 generates opportunities for FinTech companies, while GDPR leads to more cost for FinTech companies remedying customer data to adapt to the new law (Teigland, et al., 2018, p. 161).

Several FinTech Hubs have been established in many countries such as Sydney’s FinTech community in Australia to aggregate Tech-hubs such as Tyro and Stone & Chalk, in order to encourage innovation and creation within the financial sector (Chishti & Barberis, 2016, p. 44). Moreover, the Hub of FinTech in the Netherlands was established in 2014 in Amsterdam with 250 FinTech companies (Chishti & Barberis, 2016, pp. 49-50). Further, Luxemburg attempts to be one of the world’s main Hubs for FinTech companies, since FinTech companies can avail of the most modern data center in Europe and the flexibility of regulations and the attractive tax regime (Chishti & Barberis, 2016, p. 51). Moreover, Sweden took an initiative to legitimate FinTech sector by establishing Stockholm FinTech Hub in 2017; this Hub is a coworking venue that enables Swedish FinTech startups, regulators and the financial institutions to meet and develop communication and innovation among these actors (Teigland, et al., 2018, p. 7). In addition, the aim of Stockholm FinTech Hub is to assert collective benefit instead of individual success, which means establishing cooperative and open culture that encourages newness (Chishti & Barberis, 2016, p. 44).

The changing in the financial services in Sweden began in 1990s, when the promotion started for the adoption of internet in the country; the Swedish government began to
deregulate the telecom market in the year of 1998 and put a set of tax breaks and subsidies for the utilization of PC at home (Swedish Competition Authority, 1998, p. 19). Nowadays, the FinTech sector is growing fastly in Sweden, because it attracted 2/3rds of FinTech investments in the Nordic area during 2017 (Investstockholm, 2018). The technology forced the Swedish financial institutions to be innovative and have their own digital process such as Swish App, which was invented between the largest banks in Sweden in order to offer their customers the possibility to transfer money immediately via their mobile numbers (Getswish, 2016).

Some banks and insurance companies started to worry about the impact of FinTech companies on the financial stability. For example, the Dutch bank points out that the new technology impacts the stability of IT system of financial institutions and increases concentration risk, e.g. innovation enables FinTech companies to a more thorough analysis of customer data that might lead to privacy risk (DNB, 2016, pp. 4-22). Moreover, the bank of England raises questions concerning the impact of new technology on traditional payment system and settlement system (Bank of England, 2015, p. 6). Moreover, the embarkation of new digital innovation in the financial sector presents a big threat to traditional business model (BM) of the banks; the FinTech companies and non-banks technology corporations in e-retailing utilize the mismatch in banks' BM (Miklos, et al., 2016, p. 1). The reason behind that, the development in technology and changes in customer behavior could offer the new entrants a chance to lower the ability of banks to maintain the relation with their customers over the long haul (Miklos, et al., 2016, p. 1). In addition, the European Banking Authority (EBA) asked the financial institutions within EU about the potential impact of FinTech companies on their business lines concerning increasing/decreasing profit and cost; the financial institutions indicated that payments and settlement business lines are the most influenced ones with a passive impact on financial institutions’ profit by 61%, followed by retail banking with 47% (EBA, 2018, p. 11).

The Swedish banks have several characteristics such as low loan losses, low risk exposure and proper earning; they use liquidity measures to strengthen their banks with stress tests to measure the degree of resiliency of the banking sector (Ramlall, 2018, p. 65). Moreover, there is a high degree of institutional trust among Swedish people (Teigland, et al., 2018, p. 161).

According to Teigland et al. (2018, p. 3), “incumbent firms do not immediately leave the field when there has been a new innovation, institutional legacies are visible in a field long after firms and businesses have moved on”. Consequently, our study aims to know what the impact of FinTech companies on financial institutions in Sweden and what financial institutions do to protect their existence and maintain long term relationships with their clients.

Our study is linked to co-opetition theory, game theory and legitimacy theory. Firstly, co-opetition theory gives an indication about the situation between the FinTech companies and the financial institutions. Harald D (2010, p. 257) defined the co-opetition theory as “a neologism that represents the ambivalence of competition and cooperation in business relationships”. It is a theory that proposes to elucidate competition and cooperation between different players within the same market. It is in the essence of game theory and there is no another connotation that expounds the duality of cooperation and competition in a business relationship (Harald D, 2010, p. 259). Secondly, game theory is suitable for
our study, because it is used to discover what might happen in a strategic interaction in order to enable a company to alter the game to its interest and analyze the behavior of a company that concerns about what its competitors do (Camerer, 2003, p. 5). Thirdly, legitimacy theory, which states that companies have to adapt to the new changes in society in order to survive and protect their existence, otherwise they might confront difficulties with maintaining the relationship with their clients; furthermore, they might face awkwardness in attracting new customers and employees (Deegan, 2006, p. 163).

We believe that these theories could help us to answer our research question, since some researchers described the relationship between the FinTech companies and the financial institutions as a competitive relationship such as Navaretti et al. (2017), while some of them described it as a cooperative one such as Bömer & Maxin (2018, p. 25). Therefore, our study used co-opetition and game theories in order to understand the impact of FinTech companies on financial institutions that forces the financial institutions to form new relationships with the FinTech companies. Moreover, this study used legitimacy theory in order to know what the financial institutions will do to adapt to the changes in the society and financial milieu.

1.3 Theoretical background

1.3.1 Factors and motivators for FinTech

As any other phenomena, the FinTech should have drivers and determinants that stimulate and inspire the trend and steer this phenomenon. Therefore, many studies tried to state the factors from different perspectives. For instance, Frame & White (2014) and Tufano (2003) checked the factors that influence the financial innovation. While Haddad & Hornuf (2016) were directly interested in the determinants that induce entrepreneurs to set up FinTech start-up, and Schindler (2017) focused on FinTech as a phenomenon.

Generally, the Profit-seeking is the main motivation to looking for a new and well functioned service, product, process and organizational structure, which lead to reduce cost, risk and increase customer demand satisfaction (Farme & White, 2004, p. 5). This Profit-seeking occurs either by formal R&D program or by trial and error efforts; when this seeking faces a fruitful outcome, this outcome is innovation (Farme & White, 2004, p. 5). This stream of (seeking and fruitful) is not a unified across all industries, because the financial industry is unique, since the R&D program is more linked to industries that have laboratories, R&D budgets and scientists (Farme & White, 2004, pp. 25-26). Thus, Farme & White (2004, p. 14) indicated that the Financial innovation can come from outside the financial sector.

Regulation is as a sword that has two-edges. First, it restrains innovations, while the second indicates that innovation is a consequence of regulation (Farme & White, 2004, p. 9). The last point depends on the regulation itself, if the society considers it negatively, i.e. waste of resources and has deleterious consequences or positively (Farme & White, 2004, p. 9). Further, the higher tax system makes the participants seek tools for lowering their taxes, which lead to innovations (Farme & White, 2004, pp. 9-10). In addition, Tufano (2003, pp. 318-319) merged the regulation and tax system together as a stimulating factor for innovation, because avoiding taxes and regulations is the main objective of creating something new or moving and acting freely, since the rules make
the functions of the financial system hard or even impossible to satisfy the needs of the participants at some points.

The change in macroeconomic conditions after the financial crisis, e.g. prices, interest rate and exchange rate is one of the factors that causes more innovations (Schindler, 2017, pp. 4-5). While Farme & White (2004, p. 8) stated that the result of unstable macroeconomic conditions led to more innovations in response to rising uncertainties and risks. In other words, instability changed the economic balance therefore a new wave of innovations will settle new equilibria (Farme & White, 2004, pp. 11-12). Besides, Haddad & Hornuf (2016, p. 21) observed that larger labor market caused more FinTech start-ups formations.

Schindler (2017, p. 6) added the demographics factor as a demand for FinTech companies, since the millennials are the higher proportion of current customers with new needs. Moreover, Haddad & Hornuf (2016, pp. 5-6) pointed out that the well-developed capital market led to more FinTech companies. While Tufano (2003, pp. 314-315) stated that markets, which are inherently incomplete stimulate innovation, because the market functions are not good enough or cannot move funds freely across time and space or manage risks.

1.3.2 The impact of technology on financial institutions

The FinTech companies have influenced the banking sector specifically, lending and payment system because they could provide these services at lower cost by utilizing innovative information and automation technology (Vives, 2017, p. 97). Furthermore, the new entrants create the possibility to disrupt the banking sector by using a sophisticated computing power (Vives, 2017, p. 97). Although the banks adjusted to the digitalization, the new entrants are able to affect the relationship between the banks and their clients that built on soft information, i.e. the information acquired from bank and client relationships (Vives, 2017, p. 100). As well as, Tidebrant (2013, p. 1) confirms that the banks are impacted by the new payment system therefore they need to develop their traditional services, otherwise they will fail in the market.

In addition, the payment service is a challenge for the banks, and this service stepped into a reshaping phase because the FinTech companies offer easy payment and transformation with a small amount; moreover, “FinTech startups are mushrooming in mobile payments.” (Jakšič & Marinč, 2015, p. 11). Hence, the banks need to create a new strategy to handle the FinTech companies booming (Jakšič & Marinč, 2015, p. 11). Further, the information technology (IT) has changed the bank industry through expanding the markets and increasing competition, since several new entrants provide the same services as peer-to-peer (P2P) lending and crowdfunding that use online platforms (Jakšič & Marinč, 2015, p. 10). In addition, the customers prefer to execute the financial transactions by using IT services, which are totally different than the traditional banks services (Jakšič & Marinč, 2015, p. 10). In line with above, RadhaKumari & Smrity (2017, p. 22) find that the FinTech companies worldwide promote financial inclusion such as Asian countries, which are moving toward FinTech in order to promote digital currency.
Other researchers foresee the future of FinTech companies and the financial institutions such as Boot (2017, p. 88) who finds that online platforms might disrupt the financial institutions because they can act as a marketplace where customers can interact directly, and the financial institutions may act as the back-office to the platforms.

Arumugam & Cusick (2008) did not take into account the banking industry, while they focused on the influence of technology on insurance industry in Australia, which boosts innovative insurance services and provide new manners of delivering insurance services. Firstly, P2P insurance market plays a significant role to enable people to insure one another; secondly, the embarkation of microinsurance that includes mostly limited products such as insurance for accidents and sickness has led commercial insurers to rely on technology, in order to provide innovative insurance products (Arumugam & Cusick, 2008, pp. 5-7).

In this study, we investigate the impact of FinTech companies on the financial institutions in Sweden more generally, rather than focusing on a specific segment of the FinTech companies. This study encompasses the financial institutions as a whole including banks and insurance companies in Sweden.

1.3.3 The relationship between FinTech companies and financial institutions

The reasons that make FinTech companies collaborate with banks are three. First, the banks facilitate the way for the FinTech companies to enter the market, since the banks already exist in the market and have their customer bases, second the banks boost the FinTech companies’ profitability, third the banks reinforce the FinTech products (Bömer & Maxin, 2018, p. 25).

By the same token, there are motivations that lead the banks and the FinTech companies to be in alliances. On the first hand, the banks eager to cooperate with the FinTech companies, since they need to accelerate innovation process, which consumes a lot of time and monetary and acquire competitive advantage and boost customer value, since the FinTech companies may provide different or better products than the banks (Holotiuk, et al., 2018, p. 307). Additionally, the banks attempt to save costs and avoid utilizing their resources on perilous innovations that lead to unpredictable outcomes, also they can learn from the FinTech companies way of thinking and develop their BM (Holotiuk, et al., 2018, p. 308). On the other hand, the FinTech companies keen to partner with banks in order to obtain trust and credibility of the customers; furthermore, FinTech companies can get good resources and avail of higher marketing budgets of the banks; also, they can benefit from the large customer bases of banks and obtain knowledge about market and financial industry (Holotiuk, et al., 2018, pp. 309-310).

However, some researchers argue that the relationship between the FinTech companies and the banks is competitive such as Navaretti et al. (2017, pp. 23-24) who believe that the banks have the ability to compete with the new entrants due to the following three reasons, firstly the banks have a tremendous source of funds that are protected either explicitly or implicitly by public guarantees, secondly the degree of regulatory stringency is more heterogeneous across the financial services that provided by the FinTech
companies, thirdly the largest banks have already started to integrate digital innovation within their BM.

In this study, we want to find out what kind of relationship between the FinTech companies and the financial institutions in Sweden, in order to know if they collaborate with each other as most of researchers believe or compete with each other, since the Swedish banks might have the ability to adapt to the new innovation environment in order to protect themselves against FinTech companies.

1.4 Purpose of this study

The purpose of this study is stemmed from the development and the increase number of FinTech companies that provide similar financial services of the traditional financial institutions. Therefore, the tension that elicited our interest is to investigate what impacts have FinTech companies on the traditional financial institutions in Sweden, and what the future of the financial institutions will be in this rapidly changing environment. Moreover, the increase expectations of researchers (we will explain later) that the new entrants are going to take a big part of the financial services in future led us to investigate what the financial institutions in Sweden do to protect their existence.

In addition, the purpose of our study is to know if the Swedish financial institutions consider FinTech companies as suppliers or complementors for their financial services or as rivals. In case, they consider the new entrants as rivals so what their reaction to protect their existence.

Moreover, we want to know if the embarkation of FinTech companies has led the financial institutions to form a dual relationship with the new entrants that incorporates cooperation with competition as coopetition theory proposes, since both the Swedish financial institutions and the FinTech companies might realize that they can operate together to obtain mutual benefits. Further, our study aims to investigate what the traditional financial institutions in Sweden do to respond to the changing in customer demands.

1.5 Delimitations

The delimitations have been determined with a view to enable us to conduct an appropriate and effective study.

Our study focuses on the financial institutions and FinTech companies in Sweden, because this country is considered as one of the best countries in transparency, since it is ranked in the 3rds place out of 185 countries (Transparency international organization, 2019). Moreover, Sweden has the probability to succeed in the digital economy, since it is ranked as one of most innovative countries, due to the sophisticated technological infrastructure, that enables this country to adopt policies, which create innovative environment (Teigland, et al., 2018, pp. 3-7).

Moreover, our study does not focus on the impact of one service of the FinTech companies, rather it aims to find out the impact of FinTech companies on the Swedish financial institutions. As well as, the study encompasses the banks and insurance
companies due to their paramount role in each economy and the power they have in the financial sector. Therefore, it does not focus on specific kind of banks, nor specific kind of insurance companies.

1.6 Research question

What is the impact of FinTech companies on financial institutions in Sweden?

The research question is followed with sub-questions in order to make it more accurate:

- How financial institutions remedy with the development of FinTech companies to protect their existence as financial services providers?
- What kind of relationship have the financial institutions with the FinTech companies?

1.7 Research gap

With our best knowledge until recently, the literature about the impact of FinTech companies on financial institutions is still limited. However, several studies have been conducted about specific financial services of FinTech companies such as Buchak et al. (2018) who focus on FinTech lenders, which originate online mortgages that increased significantly since 2007, since the lenders could exploit the technology in order to lend more cheaply and offer a better service.

Other scholars have focused on the segments of FinTech companies, and what kind of services they provide such as Gomber et al. (2017) who illustrate about the financial services that provided by the FinTech companies and how these services function, e.g. digital payment service, digital investment and digital insurance. Moreover, Tidebrant (2013, p. i) considers the new payment system as disruptive innovation in the Swedish payment market.

In addition, some researchers have conducted studies about the evolution of FinTech companies such as Puschmann (2017). Additionally, previous studies tried to set a definition for the FinTech companies, framework for FinTech phenomenon as well as specify their dimensions such as (Zavolokina, et al., 2016; Farme & White, 2004; Tufano, 2003), and other studies helped to list the motivations for alliances between banks and FinTech companies (Holotiuk, et al., 2018).

However, we could not discover any research, that addresses the impact of FinTech companies on financial institutions in Sweden. There is no specific study could answer our research question. Therefore, our study aims to contribute to the research conducted within the domain of FinTech companies and financial institutions.
In this chapter, the previous literature is reviewed. Each section consists of knowledge about topics pertinent to our thesis topic. The literature presents an overview of FinTech, and its applications, followed by the impact of FinTech companies. We conclude this chapter with presenting the theory part.

2.1 FinTech

2.1.1 FinTech definition and concept

The birth of the FinTech epoch was in the early 1990s by Johan Reed, the Citicorp’s chairman, during the announcement of Smart Card Forum consortium “Along with another Citicorp-initiated banking research project called FinTech, it tends to disarm any remaining criticism about Citicorp’s being arrogantly out of touch with market preferences” (Kutler, 1993, cited Puschmann, 2017, p. 70).

The two parties of the financial services, provider and buyer face one or two major problems during the implementation of the financial services which are, adverse selection (before transaction) and moral hazard (after transaction), while these two problems are derived from the asymmetric information that leads to the failure because the previous parties have not the same material knowledge (Mishkin, et al., 2013, pp. 153-159). Moreover, IT helps to manage the information and accelerate its flow that leads to mitigate the negative effects of asymmetric information. Thus, IT has intense imprint on the financial services industry because the information is essential for these services (Puschmann, 2017, p. 69).

Some scholars define FinTech as “marriage of finance and technology” (Zavolokina, et al., 2016, p. 1) and “a contraction of financial technology” (Puschmann, 2017, p. 70). Therefore, the term of FinTech is tangled with financial innovation due to the facts that it creates new products and services, new processes and new companies (Frame & White, 2014, p. 4). In other words, it builds and promotes “new financial instruments, as well as new financial technologies, institutions, and markets” (Lerner & Tufano, 2011, p. 7). As well as, it invents a new BM (Fichman, et al., 2014, p. 329). Similarly, this term is heavily connected to IT, since it applies the technology in services or products in the financial industry to innovate and recast our perception about money and banking (Baur, et al., 2015). Hence, FinTech leads to transform the influence in favor of people by prompting them with the opportunities to slash the intermediaries, lower the cost and enhance the transparency (Zavolokina, et al., 2016, p. 1).

Currently, the financial innovations or the services of FinTech companies are all the time with us, e.g. mobile applications and are available everywhere, e.g. at home and restaurants; therefore, the FinTech companies or financial innovations can be seen as new services, new products, new organizational forms or new production process (Farne & White, 2004, pp. 3-4).
The research on FinTech topic remains nascent although growing state, and it has a foothold between scholars, beside to academic courses and research that show a rising interest; moreover, the students are more attentive to attend schools that teach this topic (Pullaro, 2017, pp. 25-26). The FinTech has conducted a hot discussion on application of innovations and more in the financial and business fields. In fact, this term is still ambiguous for two parts, the insider who deals with it in his/her working life and the outsider who will be affected by it (Zavolokina, et al., 2016, p. 2).

Further, Zavolokina et al. (2016, p. 2) noticed that there are two characteristics in the FinTech, which are dynamic and extended evolution of innovations. While Schindler (2017, p. 1) stated that "Financial innovation is a constant process, and yet now the financial industry has a set of innovations that share a common link of being enabled by technology and that have been given a special name”. However, all that makes the term of FinTech a very broad phenomenon due to the technology entities that are still entering and taking an action in the financial industry by changing its norms and revolutionizing it. In addition to this point, Dorfleitner et al. (2016, p. ii) remarked that the financial industry is in moving and dynamic phase, since the FinTech companies hold multitude BMs and due to the large number of start-ups.

As a term, the FinTech company is a parasol that embodies the applications of information technology innovations, which contribute to submit an appropriate and innovative financial solutions (Puschmann, 2017, p. 70); in order to fulfill the needs to improve business process, cut cost, increase both effectiveness and flexibility, boost rapidity and develop the innovations (Dapp, et al., 2014, p. 33). The FinTech could be seen as a service or as a company in general or start-up in particular (Zavolokina, et al., 2016, p. 2). Moreover, four studies (Shim & Shin, 2015; Lee & Teo, 2015; Lee & Kim, 2015; Arner, et al., 2015) confirmed that FinTech companies are a combination of financial and technology to provide a new type of financial services by using technology innovations, but Arner et al. (2015) considered FinTech as start-ups; some other studies proceed further by associating FinTech with digitalization on global scale of banking sector as Cuesta et al. (2015), while others linked it with digital innovation as Fichman, et al. (2014, p. 330).

Both Schindler (2017, p. 2) and Pullaro (2017, p. 4) agreed that there is no a unified widely definition for FinTech and both accepted the Financial Stability Board (FSB, 2017) definition of FinTech companies which is “technologically enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services”, because it considers the technology that permits this financial innovation to hold a material effect on the financial institutions and their services (Schindler, 2017, p. 2). Besides, it is divided into two parts, the first part is unambiguous (technologically enabled innovation in financial services) while the second is more theoretical (Schindler, 2017, p. 2). Thus, the FinTech company is more than automating the traditional transaction of financial services and its processes, the FinTech company is innovations that diminish the classical and radical ways of finance. Cortada (2004) and Pullaro (2017) asserted that these innovations (FinTech companies) will not only modify the relation between employees, but it will reshape the rules in the market place and financial system because FinTech company has entered a high-level phase, and the market and public have captured it with passion and ease.
2.1.2 The importance of FinTech

The importance of financial industry and its incentive role in the economic growth has become a global concern after the financial crisis 2008. Besides, this importance transmitted to the FinTech companies that lead to reduce risks and costs in the financial industry through the application of IT innovations (Frame & White, 2014, pp. 3-5; Zavolokina, et al., 2016, pp. 2-3). It is clear that the function of FinTech companies is to evolve the task of the financial system. Indeed, the rise in importance of FinTech companies on economy as a whole is due to the finance that forms inputs for production activities and consumption activity, as well as encourage saving, investment and superior investment decisions (Farne & White, 2004, p. 118).

The financial innovations would benefit all the parties in financial system, because it handles the imperfections in taxes, regulation, transaction costs, asymmetric information or when the market has some imperfect functions (Tufano, 2003, p. 313). Furthermore, these imperfections make the participants in the economic system unable to obtain optimal results from the functions of financial system efficiently as pooling of funds, moving funds across time and space, managing risk, extracting information to support decision-making, addressing asymmetric information problem and facilitating payment system (Tufano, 2003, p. 314).

Schindler (2017, pp. 10-12) tried to draw some explanations about the embarkation of FinTech companies, which is due to the changing in the financial landscape after the latest global financial crisis, regulatory burdens, risk aversion, prevalence of mobile technology and demographics change (millennials who demand convenient access to their financial accounts and financial services.

2.1.3 Conceptual framework and dimensions

The financial sector is subject to substantial changes, which affect its traditional financial institutions. Gomber et al. (2017, pp. 542-543) attempt to develop a framework for FinTech by linking it to digital finance. Thus, Gomber et al. (2017) identified three dimensions for their framework and named it as “digital finance Cube”; these dimensions are digital finance business functions, relevant technologies and technological concepts and finally the institutions that provide digital finance solutions. Moreover, Gomber et al. (2017, pp. 543) mentioned that this Cube has two characteristics, which are excessive degree of generalization and flexibility; they stated that not all the cube spaces are occupied and also some institutions may have a specific area in it, while some other institutions spread in the wider range within the cube such as Klarna. Figure 1 shows the framework of FinTech according to Gomber et al. (2017).
The first dimension, the business functions that comprises of the major financial services, which are financing, investment, payment, insurance, financial advice and lastly money (Gomber, et al., 2017, p. 542). Gomber et al. (2017, pp. 543-549) indicted clearly that FinTech companies and the financial institutions share the same business functions. The second dimension is “Digital Finance Technology and Technology Concepts”, which is concerned with technologies that facilitate the submission of the previous business functions, e.g. social networks, block chain, P2P system and Big data analytics (Gomber, et al., 2017, pp. 550-551). Finally, Gomber et al. (2017, pp. 551-552) stated three institutions for the third dimension “Digital Finance institutions”, which are FinTech companies (start-ups) and typically the traditional financial institutions, and the new institutions are the IT firms that are entering the financial services sector. Furthermore, Gomber et al. (2017, pp. 551-552) stated that the traditional institutions are in phase to adopt the new technologies to be more innovative, while the FinTech start-ups face obstacles to meet regulatory burdens and requirements.

Similarly, Puschmann (2017, p. 74) assumed that FinTech and digitization of the financial services industry are similar by showing the connection between FinTech and financial innovations through three dimensions model. First, innovation degree dimension shows the difference between two types of technology in accordance to the performance effects; one has incremental effects that induce optimization of the quality, time and/or cost of current status (Puschmann, 2017, p. 74). While the other is disruptive technologies that interfere with the performance in the early stages then lead to fundamental changes of the entire value chain due to the development (Puschmann, 2017, p. 74). Figure 2 shows the framework of FinTech according to Puschmann (2017).
Puschmann (2017, p. 74) mentioned five objects for FinTech regards “innovation object dimension”, which are products/services, organizations, processes, systems and BMs. Besides, Puschmann (2017, p. 74) noted that FinTech has two organizational scope in the “innovation scope dimension” (intra- or inter-organizational). The intra is related to internal changes of the innovation objects, which give the financial intermediary the facilitator and integrator position through the platform (Puschmann, 2017, p. 74). While the inter-organizational focuses on macro-economic forms that cause changes in the value chain, in this case the financial intermediary is considered as redundant in the new platform, e.g. E-wallet platform (Puschmann, 2017, p. 74).

As well as, Zavolokina et al. (2016, p. 9) presented their conceptual framework of FinTech based on the definition of FinTech. Their framework functions as sequential stages, which starts with input then mechanisms that produce output. Firstly, the input stage is consisted of technology (the underlying technology as platforms and applications), organizations (start-ups and companies which their operations focus on providing IT financial services) and money flow, i.e. investment that helps to create these organizations and to support their development (Zavolokina, et al., 2016, p. 9). Secondly, the mechanisms dimension holds the activities of creation, changing and enhancement of the current services by using the underlying technologies (Zavolokina, et al., 2016, p. 9). Lastly, output dimension which is new service, product, process or BM (Zavolokina, et al., 2016, p. 9). Indeed, Zavolokina et al. (2016, p. 9) remarked that in disruptive process in the second stage, the FinTech companies create competition, which leads to change the game and replaces the roles of the financial intermediaries. Figure 3 shows the conceptual framework of FinTech according to Zavolokina et al. (2016).
2.2 FinTech applications

Basel Committee and Banking Supervision (BCBS, 2017, p. 9) considers the FinTech companies services in three pillars as in figure 4, which precisely connected to the core business of banking; firstly, payment, clearing and settlement services; secondly, credit, deposit and capital-raising services and finally investment management services.

According DorfLeitner et al. (2016, p. 5), the distinctive BMs of FinTech companies are divided into four major segments which are: financing, asset management and payment and other FinTechs such as insurance. While Al Ajlouni & Al-Hakim (2018, p. 4)
mentioned eight categories: payments, insurance, planning, lending and crowdfunding, blockchain, trading and investments, data analytics, and security.

2.2.1 Finance platforms

It is an online platform, which intends to gather the different parts (businesses or individuals) who seek fund with other different parts (businesses or individuals) who have surplus of money in order to lend, invest or donate, i.e. rising a money without the interfere of the intermediaries (banks, business angel or venture capitalists) (Al Ajlouni & Al-Hakim, 2018, p. 6).

2.2.1.1 Crowdfunding

It is finance platform that allows a large number of individuals to finance a business, project or venture who use websites to make small contributions (Al Ajlouni & Al-Hakim, 2018, p. 6). As well as, crowdfunding portal acts as intermediary and can be divided into four types based on kind of return on investment given to investors (Dorfleitner, et al., 2016, pp. 5-6):

1. Donation-based crowdfunding, the investor gets commissions for his/her contribution (Dorfleitner, et al., 2016, p. 5).
2. Rewards-based crowdfunding, the investor gets non-monetary consideration for the contribution, but he/she can hold right to pre-order the product or any other prestige issue (Dorfleitner, et al., 2016, p. 6).
3. Crowd-investing, the investor receives an ownership portion, debt or hybrid, while the portal profit comes from fees as a percentage of financing (Dorfleitner, et al., 2016, p. 6). In different words, it called Equity crowdfunding (ECF), which focuses on financing the early stage of business or start-up and these small contributions of individuals or institutions help to finance the early stage of projects in return to shares in it (Al Ajlouni & Al-Hakim, 2018, p. 7). Moreover, this platform is as a market-maker to finance these types of business and can be considered as a marketplace to conduct this funding (Al Ajlouni & Al-Hakim, 2018, p. 7).
4. Crowdlending platforms aid to secure loans from the crowd for private individuals and businesses (Dorfleitner, et al., 2016, p. 6), and investor receives pre-determined interest rate (Bradford, 2012, p. 23). Besides, P2P lending is considered in the same category and in this type, there is no role at all for intermediaries who have been overthrown by a platform or application; indeed, this platform plays the role of the facilitator and directs the finance between single recipient (Brower) and multiple money suppliers (individuals or institutions) (Al Ajlouni & Al-Hakim, 2018, p. 7). This type is widely spread globally in all countries either developed or developing, and the size of the funding and the number of projects funded are clear indicators, e.g. USA and UK (Al Ajlouni & Al-Hakim, 2018, p. 7).

2.2.1.2 Credit and factoring

It is a cooperation with one partner bank or several partner banks to give loans for short-term periods from few days up to weeks by using mobile application; in other words, this
type offers factoring solutions (selling claims online, offering factoring without minimum requirement) (Dorfleitner, et al., 2016, p. 7).

2.2.2 Asset management platforms

Asset managers should provide transparency of trade-offs between cost, risk and performance during the whole life of the asset (Maring & Blauw, 2018, p. 390). However, the traditional assets management has been criticized for non-transparent fee structure and conflicts of interest (Magnusson, 2018, pp. 1175-1176).

The rise of FinTech companies within the field of asset management has created new rivals for the banks, because the new entrants do not have to comply with strict regulatory commitments like banks (Kerényi, et al., 2018, p. 90). Asset management is disrupted by DAMPs (Digital Asset Management Platforms) that include a set of services such as Robo-Advising, trading support and third-party analytics (Haberly, et al., 2018, p. 2). Robo-Advisor companies give a set of wealth management services (Magnusson, 2018, p. 1176).

There are two types of platforms, first a platform such as operating system, which is a basic pack of tools and standards that works as a basis for third party content or software, second a platform that works as a marketplace in which several groups of users deal with each other (Haberly, et al., 2018, p. 3).

2.2.2.1 Social trading

The investor can follow, chat and imitate the investment strategies of other members, the cost is for order or percentage of amount of investment (Dorfleitner, et al., 2016, p. 7).

2.2.2.2 Robo-Advisor

Robo-Advisor is a new invention therefore there is a lack in the literature that elucidates in detail the functionality of this invention and its impact on companies. According to Sironi (2016, p. 38), Robo-Advisors is “automated investment solutions which engage individuals with digital tools featuring advanced customer experience, to guide them through a self-assessment process and shape their investment behavior towards rudimentary goal-based decision-making, conveniently supported by portfolio rebalancing techniques using trading algorithms based on passive investments and diversification strategies”. Other researchers define it briefly as “providers of algorithmically driven and low-cost investment advice on the Cloud” (Broby & Karkkainen, 2016, p. 19).

The main feature for Robo-Advisor is the absence of the human contact between an investor and advisor (Fein, 2015, p. 2). Further, it provides an online comparison between prices that leads customers to the lowest cost investment products (Haberly, et al., 2018, p. 18). Moreover, it represents the front office functionality and an open access at low cost analytics, also it provides a scalable advice at fixed cost (Vasant & Stein, 2017, p. 14). Further, Haberly et al. (2018, p. 14) confirms that Robo-Advisors “boost all aspects of market efficiency”.
Although Robo-Advisor is considered as a new invention, it is growing fastly because the banks launched Robo services as an additional offer to their operations (Sironi, 2016, p. 37). Some of the leading Robo-Advisors companies in the USA are Betterment, Folio and Wealthfront that pledge to better portfolio returns for investors who are saving for their retirement over several of automated investing strategies (Magnusson, 2018, p. 1176). These companies do not have brick and mortar locations, because they utilize mobile application to deliver advice services and interact with customers by using emails and blogs as communications channels (Magnusson, 2018, pp. 1176-1177).

On the other hand, some researchers argue that Robo-Advisor has several flaws such as Fein (2015, pp. 3-4) who points out that it allows the investor to give only restricted information related to their investment needs, but it ignores key information, e.g. monthly expense and other source of wealth. In addition, it focuses on superficial information therefore the human evaluates investment needs and circumstances in a better way than Robo-Advisor (Fein, 2015, p. 4). Moreover, Paolo Sodini, the Co-founder of Advinans (Robo-Advisory company) in Sweden mentions that Robo part is significant, since it decreases the cost and increases work efficiency, but the advisory part still needs a transformation (Teigland, et al., 2018, p. 260).

2.2.3 Payment platform

This segment is consisting of applications that offer payment service in both national and international scales; actually, one part is blockchain and cryptocurrency as an alternative fiat money, while mobile applications are another part, e.g. e-wallet, P2P transfer (Dorfleitner, et al., 2016, pp. 8-9).

2.2.3.1 Cryptocurrency

The emergence of cryptocurrency such as Bitcoin, Litecoin, Dash and Monero has drawn the attention of the main financial institutions and regulators all over the world. The origins of cryptocurrency began in 2008 by Satoshi Nakamoto who invented the Bitcoin (Gupta & T.Mandy, 2019, p. 137). Bitcoin is kind of P2P payment system, which is a network of computers that execute financial transactions and link them with each other without the mediation of private or even central banks (Holmberg, 2018, p. 310).

The aim of the emergence of Bitcoin is to provide a safe and independent currency alternate to the worldwide financial sector that has a lot of scandals recently (Ali, et al., 2015, p. 283). Moreover, it promises to boost the digital inclusion and disrupt the global payment systems, including cross-border and P2P payment (Rodima-Taylor & Grimes, 2017, p. 109). The functionality of Bitcoin allows the clients to transfer value without the mediation of financial institutions through P2P platforms (Gupta & T.Mandy, 2019, p. 141). Similarly, it allows the users to execute transactions without intermediaries (Holmberg, 2018, p. 309).

According to Gupta & T. Mandy (2019, pp. 137-138), the cryptocurrency has three features; first, Cryptography that is derived from the utilization of the cryptographic primeval like digital signature; second, cryptocurrency is a blockchain technology that is open for public; third, consensus mechanism, which is significant in decentralized
network to reach a convention and considered as a common rules by which participators in the network concur to work.

Scholars are divided between two parts, some of them agree with the idea of cryptocurrency and its functionality, such as Rodima-Taylor & Grimes (2017, p. 109) who endorse the idea of cryptocurrency, since it boosts the access to several financial services through online platforms in the developing countries. For instance, the increase popularity of Bitcoin in the Philippines is due to the inefficiencies of the financial sector and the high fees for money transfers through the traditional channels (Rodima-Taylor & Grimes, 2017, p. 122). While other scholars disagree with this type of currency, such as Ali et al. (2015, p. 290) who argue that cryptocurrency specifically Bitcoin enables tax evasion and money laundering due to the anonymity and the absence of regulation. Moreover, cryptocurrencies have a great potential to disrupt the traditional financial institutions (Chishti & Barberis, 2016, p. 219).

2.2.4 Other platforms

2.2.4.1 Insurance

The insurance industry is not exempted from the new development of technology. For decades until 2010, the insurance industry was functioning as usual, but from 2010 a new type of insurers entered the market and started to offer innovative services (Passler, 2018, p. 24). This situation leads insurance companies to be more open for innovation, which means that insurers should not only focus on current clients and lower cost, but they have to think out of their “comfort zones” as the rivals of future who might come from another industry (Kleipass, 2018, p. 268).

FinTech companies that provide insurance products and services are dubbed InsurTech companies, which attack traditional insurers because they offer more attractive services for clients (Kleipass, 2018, p. 268). The first generations of InsurTech companies in Europe are Clark and Knip, which become a pioneer in digital insurance (Kleipass, 2018, p. 268). Moreover, VanderLinden et al. (2018, p. 7) confirms that the traditional insurance companies are disrupted by InsurTech companies, because the latter have a deep insight of technology and the ability to apply technologies in insurance business; in addition, they productize solutions and new applications, which traditional insurers did not perceive before. Tunstall (2018, p. 11) points out that the insurance industry is considered old fashioned in comparison with banks, and the failure of traditional insurers due to the inability to adopt technology and most of insurance transactions are conducted face to face and inefficiently.

The UK plays a paramount role in the FinTech embarkation including InsurTech in Europe and the main startups are existed in London (Volosovich, 2016, p. 40). Figure 5 represents the percentage of InsurTech transactions in the year of 2012, which shows that Sweden did 1 % of the transactions and the UK did 6%.
Technology obliges insurers to digitalize their business line and innovate new services (Kleipass, 2018, p. 268). In 2008, Arumugam and Cusick expected that P2P insurance, which has the same idea of P2P lending and Microinsurance would widely spread in the insurance market; they illustrated the idea of this insurance that individuals could insure one another such as friends rather than switching to general insurance services (Arumugam & Cusick, 2008, p. 1). Microinsurance is defined as “insurance for low-income people who are not served by social security, and which is characterized by low premiums and coverage limits” (Davies, 2018, p. 272). The insurance services provided by this kind of insurance are accident and health, in addition to specific kinds of agriculture and property risks (Davies, 2018, p. 272). Moreover, Burmeister (2018, p. 201) points out that P2P insurance is kind of crowdfunding.

In addition, Pietroni (2018, p. 202) mentions the characteristic of P2P insurance, first the pools of insurance risk is lower than insurer risk pools, because it provides more apparent relationship between the premiums paid and the claimed paid with a lower fraud level than the traditional insurance; further, one of the most beneficial characteristic of P2P insurance is the excess premiums are returned to the clients such as Firendsurance does.

The basis for P2P insurance model is smart contract, which will be the first step for the application of technology by insurers, since the technology enables the automation of claims remediation and transparent payout (Volosovich, 2016, p. 41). Nowadays, clients eager to do this kind of contract and pay the premium easily without even the need of bank account (Davies, 2018, p. 273). There are several companies that offer P2P insurance in Europe, such as Inspeer, Teambella, Insure a peer and Versicherix, in addition to Friendsurance, which established in 2010 in Germany; it applies the perception of social network and peril pooling among friends, and it returns excess premiums at the end of every year, the friends that apply for insurance expect trust in the group; this kind of insurance offers affordable and cheaper insurance than the general one (VanderLinden, et al., 2018, p. 209).

Volosovich (2016, p. 39) points out the difference between traditional insurance companies and startups; on the first hand, the traditional insurers utilize indirect connections with their clients and focus on product development, then they think about distribution of the product. On the other hand, the startups use direct connection and...
attempt to promote the diffusion of information about the new services through the right people, at timely manner and in the right place (Volosovich, 2016, p. 39).

However, the startups companies confront some challenges due to the lack of knowledge concerning how the insurance market functions, which might be better for them to cooperate with the traditional insurers; moreover, the deficiency of protection of insurance customers’ rights, which should involve regulations for their insurance market (Volosovich, 2016, p. 42). Further, the new entrants confront some challenges due to the high hurdles of entry by reason of the regulation and the high costs of customer acquisition, in addition to the complicated countries specifics (Tunstall, cited Vandelinden, et al., 2018, p. 16). Figure 6 represents the challenges for both incumbents and new entrants. On the first hand, the incumbents should develop their IT system, develop their internal procedures and new distribution channels; on the other hand, the challenges for the new entrants are how to reach end customers, and how to have underwriting and regulatory expertise. (EIOPA, 2017, p. 13).

![Figure 6: Challenges for traditional insurers and new Entrants](source: EIOPA (2017, p. 14))

Although the new entrants disrupt the traditional insurers, it does not mean that the traditional insurers are on the way to die because some insurers, such as Allianz and AXA are aware of the challenges, which they confront therefore they attempt to prevent themselves from being overrun by the new entrants, and raise the flexibility to adapt to new innovative technology (Ruthemeier, 2018, p. 16). Moreover, some of insurers in Europe, such as Aegon in the Netherlands, Allianz and Munich Re in Germany, Swiss Re and Zurich in Switzerland associate together in order to enhance the technology in the insurance industry and provide better services at higher quality and more protection; in addition they create their own blockchain insurance industry (Volosovich, 2016, p. 42).

### 2.3 The impact of FinTech companies

In this section, we are going to present previous literature about FinTech companies’ impact on financial institutions. We will begin with the changes in BM, then the impact on financial stability and regulations, followed by the opportunities and challenges of
We conclude this section with presenting the transformation in financial sector and the scenarios.

2.3.1 The changes in business model

BM is a paramount tool because it shows the substance of business activities, which lead to obtain profits. It is widely used by companies to illustrate how their business functions by including several aspects, such as suppliers, customers, channels and objectives of business. BM is defined by Osterwalder et al. (2005, p. 17) as “a conceptual tool that contains a set of elements and their relationships and allows expressing the business logic of a specific firm”. Another researcher defines BM as the scope for making money and creating value (Afuah, 2014, p. 4). Moreover, Magretta (2002, p. 4) describes BM as a story, which includes two parts, the first part contains all actions linked with making something, e.g., designing a new thing and buy necessary materials, while the second part contains all actions linked with selling something, such as finding the ways of reaching the clients and delivering the services.

Al-Debei & Avison (2010, p. 374) mention the advantages of BM, first it helps the companies to estimate the value of intangible assets, second it provides necessary information to support strategical decision-making. Furthermore, it functions as a roadmap for how new ideas might create value for a company (Tidd & John, 2014, p. 268). However, BM should be checked regularly to ensure its appropriateness with complicated and rapidly changing environment (Al-Debei & Avison, 2010, p. 374).

As we mentioned before that the technology impacts the traditional financial institutions, which might be stemmed from the inability of financial institutions to adapt their BM to the new technical environment, such as Nicoletti (2017, p. 1) who describes BM of banks as “rigid business model”. Moreover, the insurance industry is not exempted from the new technology, since their classical BM that offers financial compensation to their clients is threatened by the new technology as well; since nowadays the clients want “seamlessly-working digital solutions” (Chishti & Barberis, 2016, p. 195). Consequently, the traditional financial institutions confront serious challenges from the FinTech companies, because all business lines of the financial institutions are under threats not only due to the innovation of FinTech companies, but also due to production and the way of delivering the financial products and services (Bofondi & Gobbi, 2017, p. 113).

The innovative BM that is adopted by FinTech companies means that firm should look for new model continually or modify the current one, in order to increase the value created and return this value to the firm that created it, i.e., the firm should add two more elements to their traditional BM, the cost of creating value and the way to return that value to the firm, which can be used for other actions (Tidd & John, 2014, p. 265). Moreover, Afuah (2014, p. 4) defines the innovative BM as “a framework or recipe for creating and capturing value by doing things differently, it is often about changing the rules of the game”.

The FinTech companies exploit the increasing disequilibrium between the offers of traditional insurers and the customers’ expectations by providing modern solutions or making developments for insurance services (Chishti & Barberis, 2016, p. 195). Hence, the FinTech companies represent an earnest challenge for BM of traditional financial
institutions (Bofondi & Gobbi, 2017, p. 108). Consequently, the financial institutions started to alter their BM in order to sustain their profitability (Bofondi & Gobbi, 2017, p. 114). Figure 7 is represented by the EBA (2018, p. 8) that specifies the drivers, which shape and encourage alteration in the traditional financial institutions’ BM, which are “customer expectation/behavior, profitability concerns, increasing competition and regulatory changes”.

![Figure 7: The changes in incumbents’ business models](source)

The FinTech companies design their BM in a way that enables them to avail of changing demographic and consumer behavior that prefer automated services (Lee & Shin, 2018, p. 39). BM for the FinTech companies, which provide insurance services enables a direct relation between insureds and insurers; they utilize data analytics to compute and match risk, which enable them to offer services for current and potential clients (Lee & Shin, 2018, p. 40). Examples of InsurTech that disrupt the traditional insurance companies are Censio, CoverFox and ladder (Lee & Shin, 2018, p. 40).

2.3.2 FinTech and financial stability

The financial stability is defined as a financial system, which has the ability to facilitate the economy performance rather than encumber the performance of an economy and maintain the financial equilibrium by dissipating the financial disequilibrium, which might emerge either endogenously or exogenously (Schinasi, 2004, p. 8).

The first countries which started to publish financial stability reports (FSRs) were England by the bank of England, Norway by the central bank of Norway (Norges Bank) and Sweden through its central bank (Riksbank) in the year of 1996, with the aim to share research between central banks and increase the public awareness about the financial system (Ramlall, 2018, p. 33).

In financial stability, the major elements are safety, soundness and consumer protection, so the banks and the bank supervisors have to continue to keep the same level of risk management, control standards and protections to the financial institutions, which are introducing new emerging delivery channels and services via FinTech; thus, the financial stability standards and practices should respond to these changes in the financial sector that caused by FinTech companies in order to reflect the high codes of soundness and client’s protection (Al Ajlouni & Al-Hakim, 2018, p. 9).
The member states in the European Union have to fulfill the Maastricht criteria, which states: low inflation, low interest rate, and the public debt must not surpass 60 percent of the GDP; in addition, the countries legislation have to be appropriate with the EU agreements and the laws of the ECB system (Ramlall, 2018, p. 33).

In addition, Navaretti et al. (2017, pp. 22-27) raise a question concerning the impact of FinTech companies on the financial stability and the growth of FinTech companies that leads to implied concerns regarding the financial stability, which should not be overlooked, because the bigger the FinTech companies will grow, the further impacts will have on the financial stability; hence, they propose that there should be regulations to monitor FinTech companies business.

2.3.3 Regulation

Supervisors and regulators are still in the phase of building their ability to manage and regulate the business of FinTech companies (Bofondi & Gobbi, 2017, p. 117). Magnusson (2018, p. 1215) agrees that the regulators strive to grasp and monitor the behavior of FinTech companies. The main challenge for the regulators is to create an appropriate regulation and supervision for banks and non-banks (Mansilla-Fernández, 2016, p. 55). In addition, Vives (2017, p. 105) has the same point of view that the challenge for regulators is to preserve the financial stability by keeping a level playing field between the financial institutions and the FinTech companies. Furthermore, Magnusson (2018, p. 1214) mentions an additional challenge for regulators that FinTech companies present different problems than the problems of financial institutions, because they operate in dissimilar way than the financial institutions. Therefore, the regulators should consider this difference when they design the regulations for FinTech companies even though some financial institutions try to copy the techniques of FinTech companies (Magnusson, 2018, p. 1214).

However, the reason for designing regulations is not only to prevent the perils of FinTech companies per se, but also the financial institutions due to the "competitive pressure" from FinTech companies may avail of the opportunities of regulation and raise the perils of their actions (Navaretti, et al., 2017, p. 27). Figure 8 represents the percentages of FinTech companies that are subject to regulatory government, which shows that 31% of the FinTech companies are not subject to any regime, while the percentage of other segments, such as payment and investment that are subject to regulatory government are still very low (EBA, 2017, p. 21).
Magnusson (2018, p. 1214) suggests that the current regulations should be altered, e.g., the regulators should encourage the FinTech companies to disclose information concerning their businesses and provide it to them. Further, the FinTech companies should have guidance to apply the law, and the regulators should limit any contagion in case of unforeseen economic shocks and work together with their counterparts in other countries to layout regulations, which should be applied globally (Magnusson, 2018, p. 1214).

In addition, the regulators should take into account the nature of the innovation; for instance, the regulations for Robo-Advisor should be different from the regulations for companies that work with cryptocurrency (Magnusson, 2018, p. 1217). The UK has taken an initiative to increase transparency of FinTech companies business and encourage innovation by creating regulatory project, in order to authorize FinTech companies to provide new financial services with minimum regulatory barricades (Magnusson, 2018, p. 1216).

2.3.4 The opportunities and challenges of FinTech

Al Ajlouni & Al-Hakim (2018, p. 7) state that “FinTech firms considered as a real rival for the traditional banking system”, which means that the FinTech companies are the main competitors for banking sector in specific and for the financial sector in general in many foreheads, because the FinTech companies allow to adjust the traditional loans or services to be more personalized, and they offer a reduction in the use of intermediaries during providing the financial services. Indeed, the adoption of new technology (blockchain) shortens the transaction period, which means that significantly curtail the risk of counterparty and settlement risks (Al Ajlouni & Al-Hakim, 2018, p. 8; Peters &
Panayi, 2015, pp. 2-3). While Buchak et al. (2018, p. 481) indicate that FinTech companies do not offer a lower interest rate than the banks.

Al Ajlouni & Al - Hakim (2018, pp. 8 - 11) based almost entirely on the Financial Stability Board (2017) and BCBS (2017), epitomize the opportunities and threats of FinTech companies. Indeed, these studies suggest that FinTech companies open the door for more opportunities for clients, financial institutions or the financial sector, which are as following and according to Al Ajlouni & Al-Hakim (2018, pp. 8-9):

- FinTech companies make the loans and equity instruments more accessible to new types of borrowers who are previously unable to obtain funding. For example, SMEs that use P2P or ECF.
- FinTech companies have the ability to reach different locations that were previously unseen, which increase financial inclusion for the traditional financial services by serving the unserved part of society and for the new asset.
- The technology of blockchain helps to improve the security, since it is effortless to attack the central database than attack the blockchain nodes.
- RegTech provides banks with tools to make their processes of compliance and risk management more effective, at the same time it aids them to meet the regulatory requirements and address the changes in the regulatory environment with low cost.
- The FinTech companies as new players in the financial sector cause to break up the financial services market and lessen the systematic risk, which means support the financial stability through increase the competition.
- It is clear that the services provided by FinTech companies are faster than traditional services and less expensive.
- The services of FinTech companies have a better experience with customers as they are more tailored to customers’ needs, which will benefit customers and banks alike.

Beside of the opportunities, Al Ajlouni & Al - Hakim (2018, pp. 10 - 11) outline the threats posed by FinTech companies arising from the technology elements and the new financial sector practice which are:

- The market share of banks and their profit margin are under pressure because the FinTech companies try to attract substantial part of their customers.
- The FinTech companies provide the customers an open space to move between different services fastly which leads to increase the volatility of customers deposit, so the customers in this case are not totally loyal to a specific bank.
- The FinTech company service is platform-based and threats arise from both the possibility of a platform collapse and fraud of an application user.
- FinTech companies typically use IT to deliver their services, which increases the reliance on IT between market players (banks, insurance companies, FinTech companies) and market infrastructure. Thus, this means that FinTech companies have a high IT risk because the experience or ability to control IT risk is limited and contemporary.
- The FinTech company services have maximized the importance of sensitive issues such as anti-money laundering, counter the financing of terrorism AML/CFT obligations and compliance requirements. These issues are hard to
match due to the level of automation, less transparency (how transactions are executed and who has compliance responsibilities) and FinTech services have a lack in standardization.

- The risk of protecting the data privacy and its compliance, because the increasing of outsourcing that is compatible with FinTech companies.
- Cyber-risk, the increasing dependence on the application interface and cloud computing puts the system of financial institutions at risk.

2.3.5 Transformation of financial sector and the scenarios

Apparently, the longevity and stability of the concepts and procedures of the financial industry that had been going on for decades, suddenly faced new market participants and accelerated digital innovation in a critical period following the 2008 financial crisis; in addition to the growing wave of new FinTech start-ups, the industry as a whole is promising to be changed and could be the starting point for the banks' end (Alt, et al., 2018, p. 235).

The second part of FinTech's definition is the new technology that drives transformation in the financial sector and shows how things can be organized more easily, how processes can be coordinated, and how tasks can be carried out as soon as possible; in other words, the technology helps to reduce the complexity of the financial industry (Schindler, 2017, p. 2; Alt, et al., 2018, p. 235). Indeed, the complexity of the financial industry is derived from the secondary financial market that is created by the financial institutions to have an extensive network between each other and provide them with liquidity (Alt, et al., 2018, p. 235). Moreover, these interrelations are more complex and reciprocal than traditional manufacturing and retail industries (Alt, et al., 2018, p. 235).

In general, the primary goals for both the financial institutions and the FinTech companies are to attract customers and create a market for their products and services (Dorfleitner, et al., 2016, p. 4). These goals are a strong justification and motivation for the process of transformation that has taken place and continues to take place in the financial industry.

Alt et al. (2018, p. 237) split the transformation into periods and state that banks were the early adopters of IT during the digital period and invested in this sector. However, the FinTech period has some unique characteristics that are: it came after the financial crisis of 2008 and rely entirely on technology to conduct the business. Moreover, the difference between financial institutions and FinTech companies adds another characteristic, which is financial institutions are more concerned about protecting and sustaining a continuous customer relationship while FinTech companies are new to this business (Alt, et al., 2018, p. 237).

In addition, Alt et al. (2018, p. 236), strongly supported by examples, show that the concept of transformation is not contemporary in the financial industry, but over time the mechanisms or tools used during this process of transformation differed. Here are some historical examples: the in-house IT, the establishment of IT departments in the financial institutions began in the 1960s, followed by the IT development of the current IT system in the financial institutions, customers and electronic interfaces enabled by ATM and online banking (Alt, et al., 2018, p. 236). By the late 1980s, the financial services were largely based on electronic transactions between financial institutions, financial market
particles and global customers; in a different sense, the financial industry had become largely a digital industry (Arner, et al., 2015, p. 11).

The interconnection of various multinational systems or networks has led to the improvement and acceleration of the global interrelationships of international financial institutions as a result of the IT transformation, e.g. SWIFT in 1973, which helped to speed the transactions and increase efficiency then the TARGET in 1999 and recently the SEPA that started in 2009, which has recently been improved to handle banks' real-time processes (Alt, et al., 2018, p. 237).

2.3.5.1 The transformation phase of FinTech

Lee & Shin (2018, p. 36) point out that internet dissemination in the 1990s was as a seed for the FinTech phenomenon. While Alt et al. (2018, p. 237) argue that inefficiencies following the financial crisis have created a fertile ground for FinTech or the current transformation phase.

In addition to the exponentially increasing shift in banking customer behavior towards online banking and multi-bank relationships, these were supported by the spread of digital financial services, mobile devices and increasing rigid legal restrictions after 2007, which aimed at protecting consumers and maintaining stability on financial markets (Alt, et al., 2018, p. 237). Indeed, all these issues helped to increase the pace of transformation from banking IT innovations as a collection of modern digital financial services to FinTech as a solution that is limited in scope and offered a focused financial service for specific customer problems (Alt, et al., 2018, p. 237).

Overall and in spite of the fact that the benefits of FinTech are overshadowing its threats in many cases (Arner, et al., 2015, pp. 13-14), the regulators should be aware of the potential risks that inherent to these kinds of transactions when they occur electronically (Alt, et al., 2018, p. 236). In addition, the current situation has its own features, the remarkably significant presence of IT within financial institutions, and the competitive scene that remained relatively stable in the digital phase (Alt, et al., 2018, p. 236), which could be started to change with new entrants in the FinTech phase (Al Ajlouni & Al-Hakim, 2018, pp. 8-11).

In general, the IT implementation in the financial sector has two possibilities either helps to improve organizational activities, processes and improve interplay with business network participants (Alt, et al., 2018, p. 238) or affects the scope of the business and the logic of business relations within the broadened network (Venkatraman, 1994, p. 83). Thus, the financial sector transformation can be envisaged from two organizational and functional perspectives (Alt, et al., 2018, p. 4).

The organizational perspective is divided into three levels internal, external and business network level (Alt, et al., 2018, pp. 4-5). In the internal, FinTech technology changes the internal processes, substitutes the traditional branch office and modifies the core competencies to focus more on online channels, data analytics and platforms (Alt & Puschmann, 2016, p. 38; Shim & Shin, 2015, pp. 171-173). While the external is linked to the regulations, since the new rules can no longer be provided by centralized national bodies or focal firms, but by electronic systems operated by various network partners for specific tasks or by decentralized methods, such as blockchain (Gomber, et al., 2017, p.
540; Alt & Puschmann, 2016, pp. 33-35). Finally, the level of the business network connected to the intensive competitive landscape according to the new start-ups “FinTech companies” and lateral entrants and cost reduction (Alt & Puschmann, 2016, p. 33; Gomber, et al., 2017, p. 540). Functional perspective shows that FinTech solutions may be found for customer interactions for payment, lending and insuring, which is divided into three areas InsurTech, RegTech and BankTech (Alt, et al., 2018, p. 5). The insurance sector however has a similar phase of transformation as the banking sector, but in smaller scale because it has less interactivity in the insurance business (Alt, et al., 2018, p. 236).

2.3.5.2 The scenarios

Based on taking the advantage of FinTech opportunities and reducing its threats, Al Ajlouni & Al-Hakim (2018, pp. 11-12) mention three expectations about the future of FinTech companies, which are: FinTech companies will absorb key parts of the traditional banking franchise, FinTech companies will be curbed and acquired by the traditional banks or FinTech companies will fail. According to these three expectations, Al Ajlouni & Al-Hakim (2018, pp. 11-13) draw five scenarios for the future, which may not be identical to one specific expectation, but rather a combination of two ones; these scenarios show the impact of FinTech companies on the financial institutions which are as following:

- The financial institutions need to digitize and modernize themselves more and taking advantage of technology to change their current BM.
- New challenger financial institutions replace incumbents’ ones and apply the FinTech technology under existing regulatory regimes, and they obtain licenses and own the customer relationship.
- Financial services will be fragmented between FinTech companies and the financial institutions; this will open the market based on digital customer interface by other words “plug and play” rule.
- Financial institutions cede direct customer relationships to other providers of financial services (FinTech companies), in this case the financial institutions do not hold the rule of mediators.
- The disintermediated scenario, incumbent financial institutions are no longer major players and displaced by more agile platforms and technologies which matched according to their financial needs.

The banks have not yet lost their potency on the financial industry and still have the ability to improve themselves (Mackenzie, 2015, cited Al Ajlouni & Al-Hakim, 2018, p 13). Both the banks and FinTech companies need each other because the latter do not disrupt the banks (PWC, 2016) and banks allow FinTech companies to get access the payment system and customer base. In this case, the acquisition of FinTech companies by banks helps to gain access to the new technology, but the main challenge is how banks would open their structure in order to leverage the partnerships and allow FinTech companies to access their capabilities (Mackenzie, 2015, cited Al Ajlouni & Al-Hakim, 2018, p 13).
2.4 Theory

The purpose of this part is to provide the theories that are linked to our study, followed by the choice of the theory part, which includes an explanation about the appropriateness of these theories for our study.

2.4.1 Legitimacy theory

Legitimacy theory proposes that corporations should adapt to the new alteration in a society in order to survive, otherwise their existence will be threatened, since they will face awkwardness in attracting new customers or even maintaining the relationship with their customers; moreover, they will confront difficulties with attracting employees and capital (Deegan, 2006, p. 163). Furthermore, the corporations are not isolated from the society therefore they have to maintain their relationship with the society by fulfilling the society's expectations, not solely achieve the objectives of the owners (Fernando & Stewart, 2014, p. 153). In other words, the essential assumption of this theory derived from the belief that the corporation impacts the society in which it exists and vice versa (Zyznarska-Dworczak, 2018, p. 197).

By the same token, legitimacy theory assumes that the corporation should always ensure that it respects the norms of society in which it operates (Cuganesan, et al., 2007, p. 4). Moreover, this theory assists to understand the behavior of a corporation in executing, evolving and fulfilling its social responsibility strategy (Zyznarska-Dworczak, 2018, p. 195). The major presumption of such theory is to achieve the corporation's social contract that requires the embrace of corporate social responsibility (CSR) policy, which affects different areas of activities, especially the management accounting (Zyznarska-Dworczak, 2018, p. 195). Moreover, it remedies the social and environmental behavior of corporations and the disclosure of information about such behavior (Zyznarska-Dworczak, 2018, p. 196). Dowling & Jeffrey (1975, p. 131) consider that legitimacy theory is paramount in analyzing the relation between companies and their environment, as well as it is the linkage between the companies and society. However, the legitimacy theory is applied to demonstrate corporate disclosure practices and corporate social responsibility (Deegan, 2006, pp. 171-175).

2.4.2 Game theory

The main evolution of game theory started in 1920s by the work of the mathematicians Emile Borel and John von Neumann, then it started to be utilized in political science and economics (Osborne, 2000, p. 3). It is defined by Myerson (1991, p. 1) as “the study of mathematical models of conflict and cooperation between intelligent rational decision-makers”. The major presumption of such theory is the decision-makers strive to achieve a well-determined objective while bearing in mind the behavior of other decision-makers (Osborne & Rubinstein, 1994, p. 1).

Game theory is used to find out what is might happen in a strategic interaction; thus, the corporations can change the game to their benefit; moreover, it is used in two prospective ways, first to analyze the behavior of the company with regard to what its rivals will do, second to understand how its employees act (Camerer, 2003, pp. 5-7). Further, game
theory describes the strategic interaction between players and encompasses restrictions on the activities which players can take, but it does not determine the actions that should be taken by them (Osborne & Rubinstein, 1994, p. 2).

In addition, game theory is an appropriate theory for foreseeing results for inter-firm relationships, where one action of one player impacts the profit of other players (Shy, 1995, p. 11). Moreover, it includes analytical tool, which assists to understand problems and phenomena that the people observe when decision-makers react (Osborne & Rubinstein, 1994, p. 1). Furthermore, scholars applied game theory in order to understand conflict and collaboration by conducting quantitative method and putting hypothesis (Myerson, 1991, p. 2); and it gives advanced solutions (Okura & Cafri, 2014, p. 495).

However, it has received criticism that it utilizes complicated mathematical models and equations (Okura & Cafri, 2014, p. 458). Similarly, other scholars confirm that the game theory provides mathematical techniques to analyze different situations between decision-makers (Myerson, 1991, p. 1; Osborne & Rubinstein, 1994, p. 1).

2.4.3 Co-opetition theory

Cherington is the first researcher who mentioned coopetition for the first time in 1913, thereafter Brandenburger and Nalebuff introduced this theory to the public discussion and research; it is applied to elucidate cooperative and competitive relationship between different players in market (Harald D, 2010, p. 257). Coopetition refers to competition and cooperation concurrently take place between two rivals competing in the same markets (Luo, 2004, p. 12).

The competition might happen for input, such as human resource, technology and information; in addition, it might happen for output, such as contracts and market share; while the cooperation might occur between rivals for mutual gains, such as sharing common suppliers, development and form clusters for production (Luo, 2004, p. 12). Moreover, this dual relationship should be between the same rivals, i.e. it is not about competition with one player and cooperation with another one (Luo, 2004, p. 13). Similarly, Yami et al. (2010, p. 22) confirm this term by mentioning that the coopetition can be described as a relationship between two or more individuals that happens on a continuum between entire cooperation and entire competition, rather than the individuals might cooperate in particular activities and vie in others.

The popularity of coopetition is widely increased by the fact that more than 50% of cooperative and competitive relations are between corporations within the same industry (Harbison & Pekar, 1998, cited Gnyawali & Park, 2011, p. 651). The coopetition rises when the co-opeting players confront threats from other players in the markets, and when customers demand a new technology and an online service with a high quality; therefore, in order to respond to these appearing demands, competitors intentionally collaborate to share knowledge and resources to evolve new products and services (Luo, 2004, pp. 24-25).

According to Brandenburger & Nalebuff (1996, cited Harald D, 2010, p. 257) the basic parts of coopetition theory are players, added value, rules, tactics, and scope; the players according to this theory are five, firm, customer, supplier, competitor and complementor.
The competitor is a market participant who targets the same customers and tries to lower demand and price of other services or products by raising the value of his/her products or services in the eye of customers (Brandenburger & Nalebuff, 1996, cited Harald D, 2010, p. 257). Moreover, the competitor is a player who is competing with other players in the same market for a competitive position (Luo, 2004, p. 29).

The complementor is a player who offers services or products that raise the value to service or product of the own corporation, but the complementors do not vie in the same market, the clients value service/product more if they have the possibility to get a complementary one (Brandenburger & Nalebuff, 1996, cited Harald D, 2010, p. 257). Moreover, Rocco & Dagnino (2009, p. 26) define the complementor as a manufacturer of commodities, which are complementary to the commodities manufactured by the company at hand.

The added value refers to “the value difference between participation and non-participation”, it indicates to assess benefits which players acquire from net value (Brandenburger & Nalebuff, 1996, cited Harald D, 2010, p. 258). The third part is the rules that can be government rules, culture and rules to organize the relationships between partners (Brandenburger & Nalebuff, 1996, cited Harald D, 2010, P. 258). The fourth part is the tactic, which means the players should determine whether the game must be played transparently or not; firstly the scope which means the players should decide whether to connect/disconnect one game with/from another one; for instance, making long term contracts (Brandenburger & Nalebuff, 1996, cited Harald D, 2010, P. 258).

2.4.4 Choice of the theory

There are several theories that motivate the companies to respond to the customers demand and change in society. First, legitimacy theory is suitable for our study, since it states that each corporation should listen to the changes in the society. It is considered as a contract between the corporation and the society, which means that the corporation should respect the norms of the society and provide useful products and services in order to gain profits. The financial institutions and the FinTech companies are not exempted from applying this theory, i.e. they should respect the norms of the society in which they operate and listen to the change of the customer behavior. Apparently, the FinTech companies could listen to the change of the customer behavior by providing the financial services through technology in a fast manner. However, we linked our study to legitimacy theory to find out what the financial institutions do to be in line with the advanced technology, which is utilized by the FinTech companies and what they do to maintain their relationship with their customers and protect their existence. In other word, what they do to listen to the change in the customer demands.

Second, we believe that game theory is an appropriate theory for our study, since it is applied by a company to discover what might happen in the strategic interaction and analyze what its competitors do in order to change the game for its benefits. We linked our study to this theory, since it assists us to find out what the financial institutions foresee the strategic interaction with FinTech companies will be, and how they will change the game for their benefit.
Third, co-opetition theory is linked to our study because it guides us to understand the current situation between the financial institutions and the FinTech companies. As we mentioned in the theoretical background that there are mutual benefits between these two players and some of researchers described the relationship between the incumbents and the new entrants as a cooperative relationship, while other scholars described it as a competitive relationship. Hence, we want to investigate if there is a dual relationship between them, and if the financial institutions consider the FinTech companies as complementors or rivals, since they both exist in the same market and target the same customers. In addition, they both share some rules and the FinTech companies could add value to the financial institutions.

Agency theory states that the agents (the managers) have more information than the principals (the owners); and the information asymmetry negatively impacts the ability of the principals to observe if their interests are properly achieved (Ismael & Roberts, 2018, p. 294). Moreover, agency theory premises that the managers and the owners act rationally by using their contracting process to maximize their wealth (Ismael & Roberts, 2018, p. 294). The reason behind that, the agents have their own motives, which lead them to act against the interests of the owners (Adams, 1994, p. 8). Further, another agency problem might arise is adverse selection, that occurs when the owners do not have the access to all information when the decisions are made by the managers, which makes them unable to know if that decisions are in line with their best interest or not (Adams, 1994, p. 8). Moreover, “Agents and principals also diverge with regard to risk preferences. Agency theory assumes that managers prefer more wealth to less, but that marginal utility, or satisfaction, decreases as more wealth is accumulated” (Anthony, et al., 2014, p. 516).

This theory might be appropriate for our study, since the managers might decide to cooperate with FinTech companies in order to improve their services and develop new ones, which might be in contradict with the owners who want to develop the services inhouse without cooperating with external parties, and vice versa. However, our study does not focus on the nexus between the owners and the managers, rather it focuses on the relationship between the financial institutions and the FinTech companies, and how the later impact the financial institutions. Therefore, agency theory is not used in our study, we believe that legitimacy theory, game theory and co-opetition theory are the most suitable theories for our study.
3 Methodology

In this chapter, we present the philosophical point of view for our research and the related assumptions concerning epistemology, ontological, axiology and rhetoric. Moreover, we provide an explanation about our research approach, research method and research design, followed by data collection method and data analysis. We close the chapter with the ethical considerations.

3.1 Research philosophy

3.1.1 The paradigm

The research paradigm represents the philosophical framework that utilized as a guide in order to conduct a scientific research (Collis & Hussey, 2014, p. 43). It is the connotation that utilized to acquire a grasp about the nature and enhancement of knowledge (Burrell & Burrell, 1979, pp. 2-3). Similarly, the research philosophy refers to the evolution of knowledge (Saunders, et al., 2009, p. 127). Johnson & Clark (2006, cited Saunders, et al., 2009, p. 108) mention that the significant issue is not only the research will be philosophically informed, but the researchers should be able to think about their philosophical choices and defend them in relation to other alternates they could adopt.

The first main paradigm is positivism, which is a paradigm that generated in the natural science; it is based on the presumption that “social reality is singular and objective” and not influenced by the action of examining it (Collis & Hussey, 2014, p. 43). In positivism, theories illustrate and foresee the phenomenon and prophesy the occurrence of the phenomenon in order to know how to control it; positivism is connected to quantitative methods (Collis & Hussey, 2014, p. 44). Moreover, theories will be used in order to develop hypotheses, then these hypotheses will be examined and confirmed, either partially or totally or refuted which lead for more evolution of theory that might be examined by further research (Saunders, et al., 2009, p. 128).

The second main paradigm is interpretivism, which is developed as a consequence of the inaptitude of positivism to fulfil the need of social scholars; positivism has been criticized due to the fact that it is difficult to detach people from social contexts in which they live and, the researchers are impacted by their values and interest; in other words, the researchers are not objective (Collis & Hussey, 2014, p. 45). Saunders et al. (2009, p. 593) define interpretivism as an “epistemological position that advocates the necessity to understand differences between humans in their role as social actors”.

The interpretivism rests on the belief that the social reality is subjective, which is in contradictory to the positivism (Collis & Hussey, 2014, p. 45). Moreover, the interpretivism defends the fact that it is significant for researcher to grasp variations between people; this confirms the variation between conducting research among people, instead of using computers (Saunders, et al., 2009, p. 116).
The challenge for the researcher, who conducts interpretivism is to enter the social world of his/her research topic and understand their social world from their opinion; the interpretivism is suitable for a research in the field of business and management; for instance, organizational behavior and marketing (Saunders, et al., 2009, p. 116).

This study aims to investigate the impact of FinTech phenomenon on the financial institutions. We agree with Saunders et al. (2009) that interpretivism paradigm is more suitable for the research in business administration, since we want to have a deeper understanding about the impact of FinTech phenomenon on the financial institutions in Sweden. We believe that the positivism paradigm is not appropriate for our research, since it is too limited to obtain a deeper understanding about the impact of this phenomenon and our study does not aim to examine and confirm any hypothesis.

3.1.2 Ontological assumption

Saunders et al. (2009, p. 597) define ontology as a “branch of philosophy that studies the nature of reality”. The major aspects of the ontology are objectivism and subjectivism (Saunders, et al., 2009, p. 110). On the first hand, the objectivism aspect “represents the position that social entities exist in reality external to social actors” (Saunders, et al., 2009, p. 110). These social entities face everyone as external facts and beyond everyone's reach or influence that they exist whether people are aware or not (Bryman, et al., 2019, p. 26). The objectivism is linked to positivism (Collis & Hussey, 2014, p. 47).

On the other hand, the subjectivism aspect, which is linked to interpretivism that is important to examine the subjective meanings that motivate the behavior of social actors in order to enable the researcher to grasp this behavior (Saunders, et al., 2009, p. 111).

In this study, the subjectivism is adopted since we want to acquire a deeper understanding about the impact of FinTech companies on financial institutions in Sweden. Due to the fact that the impact of FinTech companies on financial institutions in Sweden has not been studied as far as we could review the literature. Moreover, FinTech companies and the financial institutions are rather complicated. Thus, we think the choice to interview experts from the financial institutions is suitable, in order to assist us to acquire a deep insight about this topic. Therefore, this study depends on the knowledge of the interviewees, that makes this study part of a specific social reality.

3.1.3 Epistemological assumption

Epistemology refers to the ways of learning and knowing about the world and how people can learn about reality (Ritchie, et al., 2014, p. 7). Further, Saunders et al. (2009, p. 591) define epistemology as “a branch of philosophy that studies the nature of knowledge and what constitutes acceptable knowledge in a field of study”. For positivist paradigm, knowledge is only a phenomenon, which can be observed and measured (Collis & Hussey, 2014, p. 47). Reality under positivist research is represented by objects, which are deemed to be real, such as computers (Saunders, et al., 2009, p. 143). In other words, in order to hold an objective stance, the researcher should be independent from the phenomenon during study (Collis & Hussey, 2014, p. 47).
In contrast, interpretivist paradigm endeavors to decrease the distance between researchers and participants; therefore, the researcher must interact with the phenomena during the study in order to acquire a deeper understanding about them, and the research is subjective (Collis & Hussey, 2014, p. 47). Interpretivism states that it is paramount for a researcher to know differences between humans (Saunders, et al., 2009, p. 116). Moreover, it is important for a researcher to adopt an empathetic posture, which might be a challenge for him/her to enter the social world of his/her research topic and understand their world from their opinion (Saunders, et al., 2009, p. 116). Moreover, “Knowledge comes from subjective evidence from participants” (Collis & Hussey, 2014, p. 46).

For our study, the interpretivism is adopted, since we believe that it helps us to know if the FinTech companies impact financial institutions in Sweden, and the interaction for this impact is inherently related to the perception of decision-makers in the financial institutions, which means that this study is based on some experts’ perceptions within the financial sector. Therefore, we are close to the phenomenon and we interact with it.

3.1.4 Axiological assumption

Axiology is defined as the branch of philosophy that aims to study judgement about values; the role of values is very important during all the stages of research process, since it affects the credibility of research (Saunders, et al., 2009, p. 116). For positivist paradigm, positivism is concerned as value free, since researchers are independent from the phenomena, and the objects are not impacted by their research process (Collis & Hussey, 2014, p. 48). However, according to Collis & Hussey (2014, p. 48), these assumptions are correct for the natural sciences, but they are incorrect for the social science that are concerned with behavior of people.

On the contrary, interpretivists believe that the researchers have values even if they did not mention them explicitly, these values enable to set what are known as facts and the interpretations derived from them (Collis & Hussey, 2014, p. 48).

We believe that positivist view is inappropriate for our study, since we have chosen the interpretivism paradigm. Further, positivism view concerning the axiological assumption assumes that process of research is value free. Indeed, we have preconceptions about the subject of our study. The choice of our research topic was influenced by our courses in business administration and the daily economic news about FinTech and financial institutions.

3.1.5 Rhetorical assumption

Rhetorical assumption refers to the language used in the study, it is very important for students when they write their thesis or dissertation (Collis & Hussey, 2014, p. 48). In positivist research, the language should be formal, and the researcher should use the passive voice. In contrary, the rules are less obvious, the chosen style should reflect the involvement of researcher and the immediacy of the research (Collis & Hussey, 2014, p. 48).
In our study, we adopt the interpretivist rhetorical assumption. Therefore, we chose to write in a personal style, for instance, our study, we believe, not the passive style which is used in a positivist study.

3.2 Research approach and methodological assumption

Research approach is “general term for inductive or deductive research approach” (Saunders, et al., 2009, p. 600). The choice of research approach is important due to a couple of reasons, first it enables a researcher to take an informed decision concerning his/her research design, which means that it is more than solely techniques by which data are collected and analyzed (Saunders, et al., 2009, p. 126). Second, it assists a researcher to choose his/her research strategy; for instance, if a researcher wants to understand the reason of a problem rather than describing it; hence, it will be more suitable for him/her to conduct an inductive research instead of deductive (Saunders, et al., 2009, p. 126).

The researcher may use one of two approaches, deductive or inductive approach. On the first hand, deductive approach, in which researcher should develop a theory and hypothesis, then he/she should design a research strategy in order to test the hypothesis (Saunders, et al., 2009, p. 124). In other words, if a researcher wants to use a deductive approach, he/she should develop a conceptual and theoretical structure, which should be tested then by empirical observation (Collis & Hussey, 2014, p. 7). The process of deductive approach is linear, since one step follows the other in an obvious and logic series, but sometimes there might be some exceptions when deductive approach becomes less linear (Bryman, et al., 2019, p. 21).

Deductive approach has several features, first the researcher should illustrate the relationship between variables, and concepts have to be operationalized in somehow to enable facts to be measured quantitatively; further, generalization is an important characteristic of this approach, but the size of samples should be sufficient in order to generalize the results (Saunders, et al., 2009, p. 124).

On the other hand, inductive approach is the opposite of the deductive approach, which is defined as “a study in which theory is developed from the observation of empirical reality; thus, general inferences are induced from particular instances” (Collis & Hussey, 2014, p. 342). The purpose of inductivism is to know what is going on in order to have a better understanding about the nature of problem; hence, if a researcher uses an inductive approach, he/she will use a sample that is much smaller than the one under deductive approach (Saunders, et al., 2009, p. 126). Moreover, inductivism is going from particular point to general one (Collis & Hussey, 2014, p. 7).

However, the researcher might combine deductive and inductive approaches in the same study which is often advantageous to do that (Saunders, et al., 2009, p. 127). The combination of moving back and forth between inductive and deductive is called abductive reasoning (Morgan, 2007, p. 71). Abductive reasoning commences with "the rule and the observation; the explanation is inferred if it accounts for the observation in light of the rule" (Mantere & Ketokivi, 2013, p. 71). Moreover, the researchers who apply this combined approach aim to explore how and why problems or phenomena occur through converting observations into theories, thereafter assessing the theories through actions (Morgan, 2007, p. 71).
Hence, we have chosen to adopt abductive approach, since the combination of inductive and deductive approaches enables us to use theories and test them if they are applicable in the financial institutions in Sweden or not without using variables and hypotheses, nor using a big sample, rather we use a small sample for our study. Moreover, the starting point of our research is the notice of this phenomenon of FinTech companies by reading economic Swedish news, international news and some banks reports, such as the Dutch Bank and the Bank of England and reports by EBA. In addition to some courses we studied concerning FinTech. Hence, the perception we have about FinTech is stained by some banks concern about the embarkation of FinTech companies. Therefore, we decided to investigate the impact of FinTech companies on financial institutions in Sweden.

Our study depends on reliable sources as Collis & Hussey (2014, p. 76) recommend such as academic articles, databases, banks reports and professional journals, thanks to Umeå library, Google Scholar, SSRN, KU-Leuven library and ResearchGate. We found most of the literature on the internet by using the database of Umeå University and KU-Leuven because one of the authors (Moayad) studied there. Moreover, we used several keywords in order to find pertinent literature.

### 3.3 Research method

There are two main methods for collecting data, quantitative method and qualitative method. First, quantitative method is usually accurate method and captured at any time; moreover, quantitative method is associated with positivist paradigm, which usually gives results in findings that are highly reliable (Collis & Hussey, 2014, p. 130). In this method, it is significant to study literature in order to identify an appropriate theory and then put hypothesis, which is an idea that is derived from the theory (Collis & Hussey, 2014, p. 51). Quantitative method uses numerical data (Saunders, et al., 2009, p. 151).

Second, qualitative method is defined as “non-numerical data or data that have not been quantified” (Saunders, et al., 2009, p. 151). It is used to acquire a deeper understanding about the nature of problem (Ritchie, et al., 2014, p. 37). Qualitative method is associated with interpretivist paradigm, which means that the researcher has no intention to analyze data statistically (Saunders, et al., 2009, p. 52). Moreover, interpretivist paradigm usually gives results in finding that are highly valid, which means “the extent to which the research findings accurately reflect the phenomenon under study” (Collis & Hussey, 2014, p. 130).

In our study, we have chosen the interpretivist paradigm. Thus, the qualitative method is more appropriate method for our study, since it enables us to acquire a deeper understanding about the impact of FinTech companies on financial institutions in Sweden, and the experts within the financial sector will enable us to obtain highly valid and rich data.

### 3.4 Research design

The research design is the choice of the methodology and method that the researcher uses in order to address his/her research question (Collis & Hussey, 2014, p. 59). Moreover, it is defined as “the detailed plan for conducting a research study” (Collis & Hussey, 2014,
According to Collis & Hussey (2014, p. 3) the type of research depends on the purpose of research which can be divided into four types: descriptive, explanatory, exploratory and predictive.

Firstly, descriptive research is defined as a “research for which the purpose is to produce an accurate representation of persons, events or situations” (Saunders, et al., 2009, p. 590). It is conducted to describe a phenomenon as it exists; and it is utilized to determine, identify and acquire information about the features of this phenomenon (Collis & Hussey, 2014, p. 4). The questions for this kind of research usually start with what and how, since the objective is to describe something, and knowledge could be required before the researcher commences the research (Collis & Hussey, 2014, p. 5).

Secondly, explanatory research is defined as a “research that focuses on studying a situation or a problem in order to explain the relationships between variables” (Saunders, et al., 2009, p. 591). The explanatory study is a continuation of the descriptive research, since the researcher goes beyond describing the features of the phenomenon and analysing why or how this phenomenon is occurring (Collis & Hussey, 2014, p. 5). Further, the objective of explanatory research is to acquire an understanding about the phenomena through discovering and measuring nexuses among them; one of the important elements of this kind of research is identifying and controlling variables in research activities (Collis & Hussey, 2014, p. 5).

Thirdly, exploratory study is defined as a “research that aims to seek new insights into phenomena, to ask questions, and to assess the phenomena in a new light” (Saunders, et al., 2009, p. 592). Furthermore, exploratory study is conducted when there are very few or no previous studies conducted in order to refer for information about the phenomenon; the objective of exploratory study is to explore ideas and develop rather than test hypothesis (Collis & Hussey, 2014, p. 4). The exploratory research assesses if existing theories or concepts can be applied to this phenomenon or there is a need to develop a new theory; moreover, exploratory study usually does not present conclusive answers for the problems, while it gives guidance and ideas about what future research must be conducted (Collis & Hussey, 2014, p. 4).

Lastely, predictive research is defined as “ a study where the aim is to generalize from an analysis of phenomena by making predictions based on hypothesized general relationships ” (Collis & Hussey, 2014, p. 343). The objective of predictive research is to generalize from analysis through prediction of specific phenomenon based on hypotheses and general relations (Collis & Hussey, 2014, p. 5).

Our study is considered as exploratory study, since the topic of FinTech is new as we mentioned in chapter one, and the authors have very few information about FinTech companies, and we relied on the knowledge of the participants who are expertise in the financial sector even though their knowledge about FinTech is limited due to the newness of the embarkation of FinTech companies, and the scarcity of literature, which makes our study exploratory rather than explanatory.
3.5 Data collection method in qualitative research

The first step for collecting data under an interpretivist paradigm is identify a sample or case, then choose the method to collect data followed by determining what kind of data the researcher wants to collect in order to design questions for interviews, then conduct pilot study, finally collect the research data appropriately (Collis & Hussey, 2014, p. 131).

3.5.1 Sample method

In order to answer the research question, the researcher has to select a sample, whether if he/she wants to make interviews, questionnaire or any other data collection techniques (Saunders, et al., 2009, p. 212). There are two sampling techniques, “probability or representative sampling and non-probability or judgmental sampling” (Saunders, et al., 2009, p. 213). On the first hand, probability sample is “the chance, or probability, of each case being selected from the population is known and is usually equal for all cases” (Saunders, et al., 2009, p. 213). It is associated with survey and assists to answer the research questions and reach the objective of the research, which requires the researcher to assess statistically the features of the population from the sample (Saunders, et al., 2009, p. 213).

On the other hand, non-probability sample, the likelihood of every case being selected from the overall population is not possible to achieve the objective of the research and answer the research question, which requires the researcher to assess statistically the features of the population, the researcher will be able to generalize the results from non-probability samples, but it will not be based on statistical ground (Saunders, et al., 2009, p. 213).

There are three kinds of methods to select non-probability sample, snowball sampling, purposive sampling and natural sampling (Collis & Hussey, 2014, p. 132). First, snowball sampling is utilized in a study where it is important to contain experienced people of the phenomenon under study; it is required that the researcher should ask the interviewees if they might know any else experienced people to participate in the study and extend the sample (Collis & Hussey, 2014, p. 132). Second, purposive sampling is rather similar to snowball sampling, since the researcher has to select experienced people of the phenomenon before the inception of the survey, but he/she will not extend the sample of his/her study (Collis & Hussey, 2014, p. 132). Moreover, it is usually used when the researcher wants to determine cases, which are very informative to enable him/her to utilize a judgment that will help to answer the research question (Saunders, et al., 2009, p. 240). Third, natural sample happens when a researcher has limited impact on the content of the sample due to some reasons, such as only specific participants are available during the study (Collis & Hussey, 2014, p. 132).

Due to the fact that the topic of FinTech is rather new and there has been limited previous research concerning FinTech companies and financial institutions generally and in Sweden specifically. Hence, the choice for non-probability sampling is to be more suitable for our qualitative study. The sample comprises of different financial institutions in Sweden, banks and insurance companies.
We did not want to adopt the snowball sampling, since we have limited time for our research. Therefore, the choice for purposive sampling is more appropriate to us because it enables us to determine all the participants in advance, the participants who will be able to support us to answer our research question. Hence, we want to interview expert people within the financial field in Sweden to give us a deep insight about the impact of FinTech companies on financial institutions. We put criteria to select the sample of our study such as the interviewee should have experience for more than three years in the banks or the insurers and his/her position should be in the middle or back-office, such as manager, deputy manager, financial analyst or one of the owners of the financial institutions. We determined the participants who work in these positions, because these people will help us to have an insight about the impact of FinTech companies on the financial institutions, which will lead us to answer our research question. Moreover, the people who work in the back-office have more knowledge about our research topic than those who work in the front desk, since they are responsible for making decisions and observing the performance of their financial institutions.

3.5.2 Data collection method and interview design

Collis & Hussey (2014, p. 133) define an interview as “a method for collecting data in which selected participants are asked questions to find out what they do, think or feel”. According to Saunders et al. (2009, p. 320), there are three types of interviews, structured, semi structured and unstructured or in-depth interviews.

Firstly, structured interviews are described as highly structured and formalized, a researcher should use standardized questions for every participant, and the questions should be standardized and predetermined (Saunders, et al., 2009, p. 320). Secondly, semi structured interviews, a researcher makes a list of questions to ask participants, but he/she might add more questions during the interviews or omit other questions, depending on the conversations because some answers might lead to more questions or the interviewees might cover more than one questions in an answer (Saunders, et al., 2009, p. 320). It is used when a researcher intends to evolve a deep understanding about the interviewees’ beliefs and opinions (Collis & Hussey, 2014, p. 134). Thirdly, unstructured interviews, a researcher does not make a list of questions despite that he/she should have an obvious idea about the aspects that he/she intends to explore, the interviewees are given the chance to talk freely about the topic (Saunders, et al., 2009, p. 321).

Kumar (2011, pp. 149-150) points out the pros of the interviews, first it is more suitable for a complicated case, and it is very appropriate to obtain in-depth information; moreover, the questions will be elucidated, since it is very rarely that the questions will be misunderstood by the respondent, and in case the respondent could not understand the questions, the interviewer will explain for him/her.

Hence, we have chosen semi structured interviews, which means that we will have predetermined questions and an interview guide, because this kind of interviews will enable us to control the discussions and cover all the themes that should be covered under our study. Simultaneously, we will give the interviewees the freedom to talk and elucidate about his/her opinion and beliefs that are pertinent to our research.
According to (Collis & Hussey, 2014, p. 133) there are two types of question, open and closed. On the first hand, an open question is the question that is not possible to be answered by yes or no, it requires a long and detailed answer (Collis & Hussey, 2014, p. 133). On the other hand, a closed question is the question that needs to be answered by yes or no or very briefly or give a respondent the possibility to opt from a list of predetermined answers (Collis & Hussey, 2014, p. 133).

Our interview questions include open question, which means the participant has to illustrate in detail about his/her opinion. We present our interview guide in appendix 1 and the interview questions in appendix 2. We divided the interview questions into nine themes. The first theme includes general questions about how the experts can define FinTech companies and their opinions about the FinTech companies. The second theme is about the impact of FinTech companies on segments of financial institutions in Sweden. The following themes comprise questions about the collaboration and competition between the FinTech companies and the financial institutions, in addition to questions about the challenges & opportunities and their BMs, followed by the last four themes which aim to know what the regulators should do in order to protect the financial institutions versus the FinTech companies, and how they foresee the future of the financial institution will be.

3.5.3 Pilot testing

The interview questions should be checked before the researchers conduct the interviews, in order to acquire an understanding about every question and its meaning; pre understanding should be executed not to obtain data, but to know if the questions are conspicuous and ensure that there is one meaning for each question, which means that the question should not be interpreted differently (Kumar, 2011, pp. 158-159). Moreover, the aim of the pilot test is to ensure that the interviewees will not have a problem in answering the questions, and to ensure that the data will be collected in a way that assists the researcher to answer the research question (Saunders, et al., 2009, p. 394).

Hence, we reviewed our interview questions with our supervisor and our opponent during the working in progress seminars to ensure that the questions are obvious and understandable and ensure that the questions respect the ethical principles. Our supervisor asked us to adjust some questions, which were not understandable and could be interpreted differently, and some questions were not directly pertinent to our research question. Moreover, we tested our interview questions with the brother of one of the authors (Moayad) in order to know the length of the interview. Thanks for the review, we could adjust the questions appropriately and be operational to make the interviews.

3.5.4 Conducting the interviews

After we formulated the interview questions and put the criteria for selecting the participants, we started to contact the banks and insurance companies in Sweden, through different means such as email, telephone call and LinkedIn, which was very helpful to select our participants. Some of the participants asked us to make the interview face to face, while the other accepted to interview them via Skype or telephone call. Although most of the interviews conducted via Skype and telephone calls, they were with the same quality of face to face interviews, and we could get all the information needed to answer our questions.
After we made seven interviews with the banks and three with the insurance companies, we found that there was no need to make more interviews, since we did not get new information for our research in the last interview with a bank and insurance company, which means the answers started to be repetitive. Therefore, we could reach the saturation, and we decided that ten interviews were enough due to the sufficient data that we obtained and the saturation we achieved. The details about the interviews are presented in table 1.

Table 1: Details of interviews

<table>
<thead>
<tr>
<th>Financial institution</th>
<th>Interviewee</th>
<th>Position</th>
<th>Language spoken</th>
<th>Means of communication</th>
<th>Duration</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handelsbanken</td>
<td>Helene Hedman</td>
<td>Deputy Branch Manager, Umeå</td>
<td>English</td>
<td>Face to face</td>
<td>00:57:01</td>
<td>2019-03-27</td>
</tr>
<tr>
<td>Länsförsäkringar</td>
<td>Fredrik Lundberg</td>
<td>Head of the Banking and Life Insurance, Umeå</td>
<td>English</td>
<td>Face to face</td>
<td>00:42:30</td>
<td>2019-03-29</td>
</tr>
<tr>
<td>Folksam</td>
<td>Johanna Gillberg</td>
<td>Manager of the Strategic Business Development, Stockholm</td>
<td>English</td>
<td>Face to face</td>
<td>00:53:44</td>
<td>2019-04-05</td>
</tr>
<tr>
<td></td>
<td>Terry Ekelöf</td>
<td>Business Architect, Stockholm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swedbank</td>
<td>Maria Hedblom</td>
<td>CEO of Sparbanksstiftelsen Norrland (one of Swedbank owners), Umeå</td>
<td>English</td>
<td>Telephone call</td>
<td>00:29:45</td>
<td>2019-04-05</td>
</tr>
<tr>
<td></td>
<td>Interviewee A</td>
<td>Responsible for FinTech Cooperation &amp; Growth of Existing FinTech Investment Portfolio</td>
<td>English</td>
<td>Skype</td>
<td>00:40:43</td>
<td>2019-04-10</td>
</tr>
<tr>
<td>SEB</td>
<td>Karin Johannessen</td>
<td>Team Manager Stockholm City and Bromma</td>
<td>English</td>
<td>Telephone call</td>
<td>00:28:54</td>
<td>2019-04-23</td>
</tr>
<tr>
<td>A large bank in the Nordic Area</td>
<td>Interviewee B</td>
<td>Business Developer</td>
<td>English</td>
<td>Skype</td>
<td>00:30:03</td>
<td>2019-04-26</td>
</tr>
<tr>
<td>Dina Försäkringar</td>
<td>Tomas Roos</td>
<td>Head of Market, Communication and Web</td>
<td>English</td>
<td>Telephone call</td>
<td>00:28:38</td>
<td>2019-04-30</td>
</tr>
<tr>
<td>Nordea</td>
<td>Sarah Häger</td>
<td>Head of Open Banking Community</td>
<td>English</td>
<td>Telephone call</td>
<td>00:37:18</td>
<td>2019-04-30</td>
</tr>
<tr>
<td>One of the biggest insurance companies in Sweden</td>
<td>Interviewee C</td>
<td>Business Development Manager</td>
<td>English</td>
<td>Telephone call</td>
<td>00:48:30</td>
<td>2019-04-30</td>
</tr>
</tbody>
</table>
3.6 Data analysis method for qualitative research

Miles & Huberman (1994, p. 10) identify three activities to analyze qualitative data, which are data reduction, data display and conclusion drawing. Data reduction comprises the procedure of selecting, summarizing and simplifying the qualitative data, which should be written up; moreover, the data reduction should occur when the researcher determines which conceptual framework and which data collection methods are used (Miles & Huberman, 1994, p. 10).

Data display means “an organized, compressed assembly of information that permits conclusion drawing and action”, it enables the researcher to summarize complicated data (Miles & Huberman, 1994, p. 11). Lastly, Conclusion drawing which might not appear till the end stage of the data collection, which means when the data collection is over (Miles & Huberman, 1994, p. 11).

Therefore, we chose to base our analysis on the three stages of Miles and Huberman (1994), which means that we wrote the interviews, then we summarized them and simplified the data by excluding some parts, which were not pertinent to our research. Thereafter, we coded the answers based on key words, which were replicated by the interviewees, and some keywords which were either correspond or contradict with our theoretical framework. The theoretical framework of our study helped us to execute the three procedures of analyzing the data, because we linked our theoretical framework with the themes of the interview questions.

3.7 Ethical consideration in qualitative research

The ethics related to the moral values, which lead people to form the base of a code of conduct, and the research ethics is related to the way that the researcher conducts his/her research, and how the researcher reports the results (Collis & Hussey, 2014, p. 30). Similarly, the ethics points the scope of the suitability of the researcher conduct in relation to the rights of the participants with the research (Saunders, et al., 2009, p. 183).

The ethics should be considered through the whole stages of the research, it is at core about how well the researcher remedies his/her study participants (Ritchie, et al., 2014, p. 78). The ethical practice builds on thinking through how the participants consider the research and what the research means for them, which means the researcher should attempt to stand in the shoes of the participants and think from their perspective how they would like to be treated (Ritchie, et al., 2014, p. 83).

The ethical research comprises that the research has to be valuable and should not make paradoxical requests to the participants and the participants should be well informed about the study, and avoid any kind of pressure on them; further, the researcher should respect the confidentiality and anonymity (Ritchie, et al., 2014, p. 78). Moreover, Collis & Hussey (2014, p. 31) point out the ethical guidelines for the researchers, which are harm to participants, dignity, informed consent, privacy, confidentiality, anonymity, deception, affiliation, honesty, reciprocity and misrepresentation.
Through our study, we have illustrated to all the interviewees about our research, in order to avert any kind of pressure on them. Therefore, when we were looking for participants, we could explain to them the aim of our study, and they could withdraw from the study at any time they like. Moreover, we informed them that they have the freedom to refrain from responding to any question, which they do not want to answer. Further, the privacy is respected, and they could have the possibility to choose if they want to mention their names in the research or not. Therefore, we respected the confidentiality of the participants who preferred to be anonymous, and we did not make any citations because some of them did not agree to do that, while the others mentioned that citations need special confirmation, which might take longer time. Hence, we agreed with them to do not make any quotations due to the limited time we had to submit our research.

In addition, we informed them that the interviews will be recorded in order to have a better analyzing for the data and avoiding any kind of misinterpretation. Moreover, we sent the interview questions to the participants in advance in order to give them the possibility to have an idea about them. The summary of the ethical consideration is provided in the appendix 1. In addition, we attempted to provide an obvious conclusion and in an objective way. Lastly, we agreed with the interviewees that they will receive the interpretation of the interviews before we submit our thesis, in order to prevent any kind of harm to them.
4 Empirical Findings

In this chapter, we present the data, which we could collect during the interviews and provide the results by each financial institution separately. First, we present the banks, then the insurance companies. We organize the results according to our interview themes. We present first Handelsbanken, Swedbank followed by Länsförsäkringar Bank, SEB, Nordea and one of the largest banks in the Nordic Area. Then Folksam, Dina Försäkringar and the empirical results ended up with one of the largest insurance companies in Sweden. Facts about the participating’s financial institutions in Sweden will be presented in the appendix 3.

4.1 Handelsbanken

4.1.1 General background of the interviewee

Helene Hedman is the deputy branch manager of Handelsbanken Umeå since 2015. Hedman has a Master’s degree in Business Administration from Umeå University.

4.1.2 The definition of FinTech companies

Hedman defines FinTech companies as companies that have a high degree of digitalisation, which commenced to enter the financial world during the last decades and could change the financial milieu by providing digital financial services. Moreover, they think out of the box since they have completely different way of thinking than the traditional banks.

Hedman divides FinTech companies into two parts. The first part includes FinTech companies that keen to provide good services for the customers, while the second part solely focuses on increasing profitability regardless the way of increasing it. For instance, a few of them that provide mortgage service without having the knowledge about how to ensure that the applier has the ability to repay the loan, nor how to analyze the applier’s financial situation. Moreover, they do not know how to do the calculations. They just check if the applier has borrowed money from any bank, then they can lend him/her the money.

4.1.3 The impact of FinTech companies on financial institutions’ services

Hedman mentions that lending service is impacted negatively by FinTech companies, since they attempt to attract the customers by providing lower interest rate than the banks. Despite the fact that they do not know how to assist the customers if they face any financial problem, nor how to support them if they need to extend their mortgages.

4.1.4 Cooperation and collaboration

Handelsbanken has no problem to cooperate with any company not only the FinTech one, especially if the latter provides services, which Handelsbanken cannot provide. For this reason, this bank was the first one which cooperates with Fortnox in 2018 that has
"affärssystem" Enterprise Resource Planning (ERP). The outcome of this collaboration enables the customers of Handelsbanken to see their bookkeeping and reports digitally. Moreover, Handelsbanken cooperates with Avtal24, which provides digital law services, since this bank provides law services solely for the owners of big companies and wealthy customers, because it does not have the capacity to provide it for all customers. Hence, this collaboration could enable Handelsbanken to provide law services for every customer and increase the customer satisfaction. Beside that Avtal24 could acquire more customers and increase its profitability.

On the other hand, FinTech companies keen to cooperate with Handelsbanken in order to access the big customers base and avail of the good reputation of Handelsbanken, which enable them to get people’s trust easily.

FinTech companies are considered by Hedman as rivals, since they provide similar services, but it depends on the policy of FinTech companies because some of them want to collaborate with the banks, since they realized that there would be mutual benefits between them and banks. In future, some FinTech companies might be serious rivals, since they might take small services such as payment, but right now the banks still have very high percentage of the market.

4.1.5 Challenges and opportunities

The embarkation of FinTech companies has created some challenges for Handelsbanken, since they vie with the banks. However, Hedman considers competition as a good thing, because it motivates them to observe what the others do in the market in order to do either the same or even better.

Hedman expects that FinTech companies might take over some services, such as payment or Mastercard, since some FinTech companies attempt to cooperate with Handelsbanken by providing Mastercard at cheaper price, but they will never take over all the financial services, rather the banks might acquire some of them or leave some small services for them. Moreover, Hedman foresees that some FinTech companies might fail, since they do not have enough knowledge about the financial market, and they do not have enough capital to provide the financial services with a high quality.

4.1.6 Business model

The strategy of Handelsbanken is to be local and digital, which means that it will maintain its branches everywhere and provide digital services. That might be in contradiction with other banks in Sweden, which closed most of their branches because they want to provide only digital services. The reason behind this strategy is to maintain the relationship with the customers who prefer to meet face to face. Moreover, the branches enable Handelsbanken to be closer to the clients and know everything about their business.

Handelsbanken has the whole ability to adopt the new technology, since it has special computer department in Stockholm and Malmo to develop the IT system and provide digital financial services. For instance, Handelsbanken is going to launch mortgage loans digitally very soon, which means the customer can apply online and receive the response and documents digitally.
4.1.7 Safety and regulation

According to Hedman, there is Bank ID system in Sweden that enables the banks’ customers to do online payment safely, but it is not the same case for all FinTech companies because some of them might impact the customers negatively, since they might have inefficient system, which means the customers might lose their money when they do payment or the money might be transferred for someone else. The FinTech companies, which do not care about the customers might hacker their customer accounts and steal the money. However, there are some safe FinTech companies, which are doing well in the market such as Klarna.

In addition, Hedman points out that the Swedish administration authority (finansinspektionen), which is responsible for checking the functionality of banks, should check the functionality of FinTech companies as well. Therefore, they should subject for supervision as the banks and apply the same regulation that is applied by the banks.

4.1.8 The expectations for the future of financial institutions

Hedman expects that the banks in future will be completely different than now. For instance, the way of reaching the customers will be different, maybe the banks will go to the customers not the opposite and the branches will not remain the same, but it is not obvious how they will be. Moreover, the employees will be required to have different skills and to be more specialized. Further, the advice service will be more online than now, since there will be more customers who want to contact the banks online. Handelsbanken might provide this service at any time even during the evening.

According to Hedman, the likelihood that the FinTech companies will take the front desk functions of the banks, and the latter will take the back-office tasks for FinTech companies will be high for the banks, which are completely centralized, because they closed a lot of their branches and provide almost all of their services online. Hence, these banks might be interested with working as the back-office for FinTech companies. However, Handelsbanken is not one of these banks because it has very strong culture when it comes to the decentralization. Handelsbanken is very decentralized, since it enables the bank to know the customers better and know which company should do business with.

4.2 Swedbank

4.2.1 General background of the interviewee

Interviewee A works within Digital Bank at Swedbank since 2012. He is responsible for FinTech cooperation and growth of existing FinTech investment portfolio.

Maria Hedblom is the CEO of the saving bank foundation of Norrland (Sparbanksstiftelsen) since 2017. Sparbanksstiftelsen is one of the biggest owners of Swedbank. It owns 3.4% of Swedbank.
4.2.2 The definition of FinTech companies

Interviewee A defines FinTech companies as young companies that leveraging new innovative technology within the financial industry. They have strong capabilities to analyze data, apply machine learning and AI. The platforms for distributing or aggregating financial services are often key in their offerings. While Hedblom defines the new entrants as companies that work with technical issues and operation management, in order to provide financial services such as payment and loans or sell new ideas for the financial institutions.

4.2.3 The impact of FinTech companies on financial institutions’ services

According to interviewee A, FinTech companies often focus on areas where the banks are not very active. While areas core to the banking business are harder to penetrate. The trend over time is that FinTech companies move closer and closer to the banks’ core products and segments. Moreover, Hedblom indicates that some FinTech companies attempt to take some financial services and some parts of the markets, but their impact on Swedbank is not obvious yet.

4.2.4 Cooperation and collaboration

Interviewee A mentions that Swedbank cooperates with FinTech companies, since the latter could enhance the way of providing the financial services and raise the agility and efficiency of Swedbank, but most importantly delivery increased customer value. On the other hand, FinTech companies keen to collaborate with Swedbank, since they can access the big customer base. Further, Hedblom mentions that even though the new entrants have knowledge and ideas, but their ideas cannot be converted into products or services by themselves. Hence, they need the cooperation with the banks.

In addition, interviewee A considers some FinTech companies as suppliers, since they supply the banks with technical services and some of them are rivals. Similarly, Hedblom confirms that some FinTech companies supply the banks with technical issues and some of them can be rivals and complementors, since everything in an open market works like that.

4.2.5 Challenges and opportunities

Hedblom points out that Swedbank faces some challenges due to the development of FinTech companies. Therefore, it has to be smarter and keep on developing its services. While interviewee A mentions that the financial services have a front end and a back end. The back end, which includes the production of the financial services that often is dependent on a strong balance sheet. The front end is the customer touch point and interaction surface. FinTech companies are focusing on different parts of these areas and mostly focused on the customer interaction points. In addition, interviewee A indicates that the new entrants in some cases struggle to reach customer trust, which is considered as a key competitive advantage in the financial industry. Although FinTech companies could push their products into the market, the customers might not be willing to take a risk with their finances. Furthermore, it is difficult and expensive to acquire customers.
However, some of them will succeed such as Enfuce, which provides cloud based financial services and open banking solution, since it managed to take a position on the market by helping banks with their core financial services. While Hedblom expects that a lot of FinTech companies might be acquired by the traditional banks such as Payex, which was acquired by Swedbank, and some FinTech companies will manage to survive in the future such as Klarna and obtain more knowledge about the financial sector and regulation.

4.2.6 Business model

According to interviewee A, Swedbank has the ability to adopt the new technology such as AI capabilities and cloud based, but the biggest issue is how to innovate and improve customer experience, and how to provide more products and design with the existence of the legacy system which limits speed to the market. Moreover, Swedbank has moved forward to digitalize some services and BM such as consumer loans, and it is moving towards digital corporate services.

In addition, Hedblom mentions that Swedbank does a lot of activities for informing people how to use the digital services. However, Hedblom considers that the biggest issue for Swedbank is not only to be digital, but how to work with companies in small areas and assist their businesses.

4.2.7 Safety and regulation

According to Hedblom, the safety of FinTech companies depends on the companies themselves; the customers should check what kind of companies they work with. For instance, there are a lot of companies working with pension system, some of them are quite good, but some of them performed very bad, since they exploited the trust that the customers gave them and took the pension money away such as Solidar.

Interviewee A indicates that the rules for FinTech companies depend on what kind of license they applied for, since the license restricts what services they can provide. Hence, the incumbents and the new entrants have a different regulatory burden to deal with.

4.2.8 The expectations for the future of financial institutions

Interviewee A mentions that the banks have four clear strategic options. Firstly, they will be the back end and producer of the financial services. Secondly, they will focus on customer relationship and own that. Thirdly, they can do both and lastly do nothing. Interviewee A foresees that there will be a place for both banks and FinTech companies in the future even though some of the new entrants will become banks. Hedblom asserts that the financial institutions will definitely change, but it is not clear yet how they will be in the future. She expects that some traditional banks might leave the front desk jobs for FinTech companies in order to survive, but some banks will not do so, since they are already aware about the changing in the banking milieu and attempt to improve their services.
4.3 Länsförsäkringar

4.3.1 General background of the interviewee

Fredrik Lundberg is the head of the banking and life insurance of Länsförsäkringar Umeå since 2016. He was the manager of Danske Bank Umeå for seven years. Lundberg has a Bachelor in Economic Data from Umeå University.

4.3.2 The definition of FinTech companies

Lundberg defines FinTech companies as companies that could enter the financial industry by providing digital financial services and create new ideas to develop the financial services. Lundberg considers FinTech companies as good companies, since they could come with new solutions for the business; in one way they copy some services from the banks and attempt to provide them in a smarter and more efficient. Further, they bring new insight to the financial industry and focus on one segment such as Klarna, which focuses on payment and cash flow, not like the banks that should focus and develop the whole range of the financial services.

4.3.3 The impact of FinTech companies on financial institutions’ services

FinTech companies did not impact any segment of Länsförsäkringar because it is aware about the development of FinTech companies. For instance, it could provide together with some banks in Sweden the best cash flow solutions through Swish app. However, they push Länsförsäkringar to be better.

4.3.4 Cooperation and collaboration

Länsförsäkringar is open to cooperate with FinTech company if the latter could make a better solution than Länsförsäkringar and provide a good service, which is not in its core business. Moreover, Lundberg supposes that the FinTech companies should cooperate with Länsförsäkringar to access the customer base and avail of the good reputation of Länsförsäkringar, since it was ranked as the best bank in Sweden for customer satisfaction several times, which is considered as an opportunity to attract the FinTech companies to cooperate with Länsförsäkringar.

Lundberg indicates that FinTech companies can be suppliers, complementors and rivals, since they are part of the financial industry even though they are not gaining so much in the industry. The new entrants attempt to be partners for banks more than compete with them, since it is very expensive to start-up banking business and difficult to be a full-service banking.

4.3.5 Challenges and opportunities

Lundberg points out that Länsförsäkringar confronts challenges all the time, not only from FinTech companies, but from all the rivals because everyone attempts to provide a better solution than the others. Moreover, Länsförsäkringar has to be very fast in developing the services and adopting new technology.
In addition, Lundberg does not believe that the FinTech companies will gobble up the services of the traditional financial institutions, rather there will be more collaboration between them, since it is very difficult for FinTech companies to get people’s trust. Moreover, Lundberg expects that FinTech companies, which provide not interesting services for the customers will fail and the good ones, which provide good services might be acquired by the big banks.

4.3.6 The business models

Länsförsäkringar has the whole ability to adopt the new technology, and it attempts to develop its services and provide digital services itself, since the customers want to do their daily business with the bank easily by themselves. For example, Länsförsäkringar could provide a good app for its services, which ranked as the best app three years in a row. Although some of the big banks change their channels from physical to digital, Länsförsäkringar provides digital channels and still maintains its physical ones, since there are a lot of customers prefer to meet face to face in order to get advice about some services such as mortgage loan and Länsförsäkringar does not want to lose them.

4.3.7 Safety and regulation

Lundberg mentions that FinTech companies should have the same security as the banks and should be trustfully, either if they want to get people’s trust or collaborate with the banks. Moreover, FinTech companies should implement the same rules which are applied by the banks and be subject to same supervision with similar conditions to the banks.

4.3.8 The expectations for the future of financial institutions

Lundberg expects that the banks will maintain their business without any dramatic change in the future. Therefore, the banks will not do the back-office tasks in the future for FinTech companies, but they have always to develop their services.

4.4 SEB

4.4.1 General background of the interviewee

Karin Johannessen is the team manager at SEB Stockholm city and Bromma since 2018. She worked before as the branch manager of SEB Mariatorget Stockholm for more than 9 years. Johannessen has a Master’s degree in Business Economics from Uppsala University.

4.4.2 The definition of FinTech companies

Johannessen defines FinTech companies as small companies that do not have the same scale as banks, but they can be quicker than the traditional banks with IT system and digitalization in order to make user friendly apps and services for clients. Further, Johannessen considers the existence of FinTech companies is necessary, since they could motivate the traditional banks to enhance their digitalization like Klarna, which could grow its market share and establish a name.
4.4.3 The impact of FinTech companies on financial institutions’ services

Johannessen mentions that there is no impact of FinTech companies on SEB in terms of profitability. But they might impact it in the future because there are some new entrants such as Klarna and Avanza competing the banks with digitalization and providing new solutions, which force SEB to improve its IT system and be quicker with applying technology.

4.4.4 Cooperation and collaboration

The likelihood for SEB to cooperate with FinTech companies will be high in the future, because they might support it with auto banking and some services that cannot be provided by SEB itself, because Johannessen believes that there is no company can provide all services for all clients. On the other hand, Johannessen indicates that if the FinTech companies aim to grow faster, they have to cooperate with the biggest banks, since the latter have big customer bases. Moreover, the cooperation between them will be good for the customers, since they can choose the services easily from the platforms of banks which will be supported by FinTech companies.

Although some FinTech companies could provide several financial services, they cannot be rivals for SEB, since the latter provides all the financial services and most of clients prefer to get everything in one place. Moreover, the reputation in the society is very important to get people’s trust and succeed, which means that FinTech companies should cooperate with the traditional banks in order to get people’s trust easily, since people do not trust FinTech companies yet. However, if the new entrants especially those that provide P2P and payment service can decrease the price enough to attract the clients, they might be serious rivals.

4.4.5 Challenges and opportunities

The challenge for SEB is to update all the systems which cost a lot of money. It is not like FinTech companies, which start from a “clean sheet” and provide modern solutions. Therefore, SEB needs to prioritize where and when to put its money in order to be able to update its systems.

Johannessen expects that some FinTech companies that provide brilliant solutions with new technology might be acquired by SEB, but she does not expect that the FinTech companies want to grow very fast, because they will not be able to evolve themselves. If they want to have a lot of customers, they should employ more staff and be more regulated which will be too costly for them. Hence, they cannot gobble up all the financial services at least not in the short and medium term.

4.4.6 The business models

According to Johannessen, SEB has already adopted the technology and it is working on accelerator program constantly, but it needs to increase the speed, like every financial institution. Moreover, SEB has changed some channels to reach the customers in order to maintain the relationship with them and attract the new generation who prefer the digital services. For instance, SEB provides advice service through Facebook. However, SEB
does not want to eliminate the physical channels, since the elderly people prefer the physical meeting to get information about the services and SEB does not want to lose them.

4.4.7 Safety and regulation

Johannessen does not consider FinTech services unsafe for the customers, but the customers are concerned of fraud and want to know more about these companies, in order to trust them with their money. It is like bitcoin; the biggest mass of people did not work with it, since they did not have enough knowledge about it. Moreover, Johannessen mentions that FinTech companies should have kind of ruling system like the financial inspection in Sweden, which means they have to be checked up regularly by the government in order to get people’s trust.

4.4.8 The expectations for the future of financial institutions

Johannessen foresees that the future will be very challenging for the traditional banks, and a lot of services will be provided digitally, but she still believes that there will be some clients who prefer to meet physically in the banks. Moreover, she does not expect that FinTech companies will take the front desk tasks of the banks, since this needs trust which the new entrants do not have today.

4.5 Nordea

4.5.1 General background of the interviewee

Sarah Häger is the head of open banking community at Nordea banks since two years. She worked in different positions in the same bank for eight years, such as the head of e-payment and global cash management adviser. Häger has a degree in Analytical Business Program from Gothenburg University.

4.5.2 The definition of FinTech companies

Häger defines FinTech companies as companies that use technology to provide digital financial services. Usually, FinTech companies are seen as small agile technology-based companies, but not only the new entrants are FinTech companies, also the incumbents such as Nordea, which is full-service bank considered by Häger as a FinTech company. It is working continually on financial technology to offer solutions that FinTech companies offer. Further, Häger sees the start-up FinTech companies positively, which are bringing new innovative solutions to the market. Small FinTech companies can bring their solution to the market and learn from the launch while the large incumbents or the banks have several security tests prior to launch that regulate product development and reduce flexibility and slow development, since they must take all the safety requirements into consideration before launching a service into the market.

4.5.3 The impact of FinTech companies on financial institutions’ services

According to Häger, FinTech companies impact the consumer segment of Nordea, since they provide among others consumer loans, cards or similar and only a few target small
corporates, but they do not yet have any impact on corporate segment yet. Presently, there is little impact on the profitability of Nordea at this point of time.

4.5.4 Cooperation and collaboration

Nordea already cooperates with some FinTech companies such as iZettle, which supports it to find new solutions and distributing them through its channels. Further, Nordea cooperates with Wrapp, which offers cash back service for the customers of Nordea when they purchase things from different stores that are partners to Nordea. Further, Häger mentions that FinTech companies keen to cooperate with Nordea to access the big customer base and build on their own.

Although some FinTech companies might impact for example the consumer loan service of Nordea, they cannot be rivals in all segments, since they have not yet expanded their product to cover most needs of a consumer. Hence, several of the service offerings not charging the consumer have turned into becoming suppliers for banks with technology. Moreover, up to today, very few of FinTech companies have been able to generate growth that is needed to become a serious rival. So far, only one Swedish FinTech company, has gone all the way to become a bank. In addition, FinTech companies that provide services that are not offered by the bank such as P2P are not considered as rivals, since this service is not provided by Nordea.

4.5.5 Challenges and opportunities

Häger indicates that FinTech companies give Nordea and other financial institutions opportunities more than challenges, since they push the banks to be more innovative, either by themselves or by partnering with FinTech companies. The challenge of choosing which FinTech company to collaborate or partner with needs to be aligned with each business area strategy. Nordea needs to determine its core services that it wants to offer for the customers, in order to stick to that core. Then, it can cooperate with FinTech companies for other segments that are not in its core services.

Häger does not expect that FinTech companies will gobble up the financial services in the near future, but they can take some smaller segments, since they are specializing in those. While the banks invest in FinTech companies as already happened such as Nordea acquired SPIIR and TINK. Moreover, Häger has observed that the majority of FinTech companies will fail, since it will be difficult for them to find paying customers in the consumer segment although getting funding from banks or investors.

4.5.6 The business models

Nordea cooperates with some FinTech companies to adopt the new technology for some segments such as the consumer segments, but for its core business, it will do it itself. Nordea is still working on digitalization in order to provide more digital channels to the customers. Moreover, Häger mentions that Nordea does a lot of activities to attract the youth, for example by targeting them in the schools to educate how students can work with their savings as well as provide special offers for students.
4.5.7 Safety and regulation

According to Häger, the safety of FinTech companies depends on their services. They should be evaluated in case by case scenario. Therefore, the regulators should build a competence base to evaluate FinTech companies and understand what these companies are offering. Further, the regulators should understand what FinTech companies are doing with the information that they are gathering to ensure security for the end user. Hence, a new set of rules has been provided in the PSD2 and GDPR which is needed to be followed by FinTech companies wanting to access accounts or payments.

4.5.8 The expectations for the future of financial institutions

Häger expects that few banks will disappear in the future, since they will not have the ability to adapt to the changing landscape. While some new players will grow, but she does not expect that FinTech companies will take the place of financial institutions, since they will probably not be interested in taking the final step to become a bank with a banking license. Moreover, Häger foresees that in some segments, the FinTech companies will act as the customer facing provider on top of the banks, while the latter will be pushed back in the value chain to be a technical provider. Nordea is working on that by looking for FinTech companies to partner with in order to increase perceived value of the bank. Häger expects the financial industry will be disrupted and become more similar to the aviation industry in which there are several different players today, focusing on regions or on specific segments of travel.

4.6 Large bank in The Nordic Area

4.6.1 General background of the interviewee

Interviewee B works as a business developer for more than three years in one of the largest banks in the Nordic area and has a Master of Science degree in Economics.

4.6.2 The definition of FinTech companies

Interviewee B defines FinTech companies as new entrants that utilize technology and innovation to provide financial services in a better way than the banks do and serve niche market, which was not well-served before they existed. Moreover, interviewee B considers FinTech companies as interesting companies, since they could combine technology and finance with innovation in order to find new ways for providing the financial services. However, they become more disruptive for the traditional financial institutions, since they commenced with offering small financial services then they started to grow and become like banks.

4.6.3 The impact of FinTech companies on financial institutions’ services

According to interviewee B, the FinTech companies impact the traditional financial institutions in terms of technology and software, since the banks do not have a high ability to adopt the new technology as fast as the new entrants. Moreover, FinTech companies are becoming very active in KYC (Know-your-customer).
4.6.4 Cooperation and collaboration

Although this bank has accelerator program, it is not the main component of its partnership with FinTech companies. This bank cooperates with some FinTech companies such as Tink, which provides pretty good services concerning secure several banks. Further, the bank does not have the technology to serve specific segments. Therefore, FinTech companies could support it by providing solutions. On the other hand, interviewee B indicates that FinTech companies keen to cooperate with his bank, since they need to access the customer base and get people’s trust and acquire a good reputation. Moreover, the banks should collaborate with FinTech companies, since the latter are innovative and can support the banks with technology, and they are more resilient than banks, which is very valuable for the traditional banks that have very slow and old system.

In addition, FinTech companies can be rivals, suppliers and complementors. It depends on what business they provide, what kind of people they target and what kind of relationships the banks have with them. However, it will be very difficult to cooperate with some of them who target the core business of banks such as business loans, since this bank has a very strong attitude towards its core business.

4.6.5 Challenges and opportunities

Interviewee B declares that FinTech companies create challenges for the traditional banks because they become obliged to be more open and collaborative than before. Despite the fact that the banks are risk averse. Hence, this creates kind of conflicts because they have to be open and cooperative, but they should take the risks of this cooperation into account. Therefore, the more the banks have experience with FinTech companies, the more they will improve their understanding about how they can get benefit from the collaboration with them.

Interviewee B believes that some FinTech companies, which will grow might take some parts of the traditional services of banks, but they cannot gobble up all the financial services. Further, this bank will acquire some FinTech companies that are strategically important, and some new entrants might fail because it will be difficult to them to get people’s trust.

4.6.6 The business models

Interviewee B points out that the cooperation with some FinTech companies such as Tink could enhance their ability to adopt the new technology and to be more digital. Further, the bank could distribute its products through FinTech companies. Moreover, this bank offers saving app to create stronger connection with younger people.

4.6.7 Safety and regulation

The small FinTech companies might not have good process and security to build secure services for the customers, i.e. there is more risk when the people deal with small FinTech companies than large established banks. Moreover, interviewee B mentions that FinTech companies have license, which is considered as a good thing, but the regulators should not make FinTech companies overregulated because it will be very difficult for them to
be in the market. The regulation should be depended on what kind of services they provide and how big they are.

4.6.8 The expectations for the future of financial institutions

According to interviewee B, the banks will not disappear in the future, but they have to adapt more with the new environment and the cooperation between banks and FinTech companies will increase in the future. Moreover, interviewee B expects that some banks will act as the back-office for FinTech companies such as Solaris bank, which provides the infrastructure for FinTech companies. While the latter do a lot of front desk tasks. However, not all the banks will do that because a lot of them want to maintain the relationship with their customers.

4.7 Folksam
4.7.1 General background of the interviewee

Johanna Gillberg is the manager of the strategic business development at Folksam since 2011. She worked as a project manager in the same company about 2 years. Gillberg has a Master of Science degree from KTH (Royal Institute of Technology).

Terry Ekelöf is a business architect at Folksam since 2016. He worked before in several positions at the same company such as business analyst for more than 4 years and lean project manager & process developer for 2 years. Ekelöf graduated from Mid Sweden University with a degree in Business Administration.

4.7.2 The definition of FinTech companies

Gillberg defines FinTech companies as “financial companies that are start-ups and using technology”. They have several features such as agility and innovative. Moreover, they have the ability to find openings in the market, where the traditional financial institutions are not performing as they could to exploit the opportunities. Despite the fact that the insurers and banks are big companies, but they have huge legacies and old ways of working. While Ekelöf defines FinTech companies as companies that could appear in the technology void of the traditional insurers due to IT legacy issues. Moreover, they are software-based technology that provide financial services such as payment and insurance at lower price. Further, they have several characteristics such as higher automation degree and customer relations than traditional insurers.

Ekelöf indicates that the embarkation of FinTech companies is good and Folksam is positive about it, since they mainly provide good value for the customers. Even though it puts more pressure on the traditional insurers, which leads them to make some changes in the business. Further, Gillberg confirms the positivity about FinTech companies, since she believes that the positivity pushes them forwards, rather than being negative and putting their energy into resistance.
4.7.3 The impact of FinTech companies on financial institutions’ services

Gillberg mentions that FinTech companies impact the traditional insurance companies, since they do things in new ways and show the established insurers how to develop the ways of providing the insurance services. However, there is no impact on the profitability of Folksam, since this company insures almost half of the Swedish population. Ekelöf agrees that some FinTech companies provide several services such as digital pension, comparison, insurance optimization, etc., but it is quite hard to acquire new customers in the insurance sector, because the customers have very low interest in insurance. Hence, the new entrants could not take the market shares.

4.7.4 Cooperation and collaboration

Folksam does not cooperate with FinTech companies yet due to the different way of working such as the latter have different culture and work with teams, but Folksam is a hierarchical organization, which has very traditional way of working. Therefore, there is kind of culture clash and Folksam has to cope with that before any cooperation with FinTech companies. Ekelöf adds the reason for the non-cooperation with FinTech companies is Folksam focuses on urgent problems and takes into account the business perspective, which means that Folksam is careful with its customers. Hence, it does not want to endanger half of the Swedish population in perilous business nor in a trial.

However, Ekelöf mentions that Folksam is being approached by many FinTech companies, since they want to access the big customer base that includes about 3.5 million customers. Gillberg indicates that Folksam has experience in insurance for 100 years, which enables it to have “financial muscle”. Besides, Folksam has good skills of dealing with compliance, which FinTech companies do not want to do, since they just focus on customers and technology. Moreover, Gillberg indicates that the accelerator will be beneficial for both players. On one hand, the start-ups will get offices, money and problems to solve. On the other hand, the insurers will be able to spread up their development. Hence, both players can learn from each other.

Ekelöf and Gillberg consider FinTech companies as complementors, since they focus on specific areas where insurers have been less successful such as technology, which means that InsurTech and FinTech companies can provide the traditional insurers with IT services such as platform.

Ekelöf considers P2P insurance very risky and vulnerable in big damages, which might lead to ruin the whole group. While Gillberg does not believe in P2P insurance at all, since it will be too expensive for a small group to cover any big damage. Further, there is an ethical issue. For instance, how a small group can afford to cover a person who has a cancer. Therefore, P2P insurance does not reconcile with the society principle in Sweden, because all the people who have cancer or big car accident will not be protected by this kind of insurance, since it is very costly for the group. Moreover, insurance is very important to make the people feel safe and focus on their work, but if it does not work appropriately, it will not lead to have a good society.
4.7.5 Challenges and opportunities

Ekelöf declares that FinTech companies create some challenges to the traditional financial institutions, since they focus on better customer experience and utilize new technology, which enables them to be more efficient than traditional insurers. However, Folksam is aware about the development of FinTech companies. Therefore, it attempts to be more innovative and might copy some services of the FinTech companies or networking with them or creating green field operations. Gillberg mentions that insurance is based on data and the risk assessment of data, and no one is better than FinTech companies with data analytics. The biggest challenge for insurance companies is PSD2, if this law will be applied within insurance field, the insurers should give their customer data, and the new entrants that provide advice services will be able to analyze the customers data and provide advice service. For instance, they will advise the customers to have insurance for their car in one insurance company and for their house in another one.

Gillberg does not foresee that FinTech companies will gobble up all the services of traditional insurers, but there will be successful FinTech and InsurTech companies, which will commence their business with Folksam or another traditional insurer until they gain enough customers. Then, they will start their own insurers such as Lemonade in the USA. While Ekelöf expects that one or two FinTech and InsurTech companies might be successful, and they will be together with the biggest four insurance companies in Sweden (Folksam, Länsförsäkringar, Trygg-Hansa and IF).

In addition, Gillberg expects that some InsurTech might be acquired by the traditional insurers, but this is not the only scenario that might happen because she expects that Folksam is going to network with InsurTech such as the accelerator program and might apply green field strategy or copy some services. While Ekelöf expects that some of FinTech and InsurTech companies might be acquired by traditional insurers. However, Ekelöf expects that some of them might fail because the market is tough and too costly to start-up a business. Hence, the start-ups should provide good services and have enough capital, in addition to “financial muscles” in order to survive such as Kivra, which did not make money for 10 years because it was building its customer base, but now it can avail of the big customer base and make profit.

4.7.6 The business models

Gillberg points out that Folksam is owned by its customers. Therefore, if the customers want to experience insurance services in new ways, due to the new behavior and new technology then the company has to change to listen to its customer demands. Moreover, Gillberg declares that Folksam is working very hard to adopt the new technology and catch up FinTech companies. For instance, it started to embrace new digital and mobile strategy. But the problem is the company has too old IT system even though there are some new IT systems, but the transformation is very difficult because it is huge and costly. Although Folksam has a good platform and good designers, the old system cannot communicate with the new technology. Therefore, there is a need to build kind of clean house to be able to do robotics and AI.

Ekelöf declares that Folksam does not have the full ability to adopt the new technology, but it is building its ability, since it has robotics team on site and future lab for testing
new technology in addition to data analysis and AI. Moreover, Folksam adopts new CRM (Customer relationship management) platform that enables the company to build solid relations with its customers, and it is shifting more towards mobile interactions.

4.7.7 Safety and regulation

According to Gillberg, there are some FinTech companies that provide safe services for the customers such as Klarna that has very high security, but some of them do not follow the regulations. Hence, Gillberg supposes that FinTech companies should be regulated like the financial institutions. Moreover, Ekelöf indicates that the regulators should observe the changes in the technology which affect the regulation. Further, Ekelöf mentions that Vitality company is doing well in the market by providing save advice services.

4.7.8 The expectations for the future of financial institutions

Ekelöf expects that the insurance companies will be more customer focused and provide insurance services at lower cost, since the digitalization and automated processes will be more in the future. While Gillberg believes that the digitalization is coming globally to the insurance companies and the robotics and AI will increase the efficiency. Moreover, there will be more automations of white-collar workers. Consequently, the digitalization is going to impact the whole industry inevitably, whether the traditional insurers like it or not. Hence, it is better to be positive about this transformation than attempt to resist it. Moreover, Gillberg expects that there will be more international insurance market than now such as Hedvig, which provides insurance services for the whole EU area. Ekelöf agrees that there will be more automated processes in future. For instance, Folksam has over 1000 people work with claims that can be automated, and there are about 600 people in customer advice that can be automated as well.

Ekelöf contemplates that the likelihood for the financial institutions to act as the back-office for FinTech and InsurTech companies will be higher for banks than insurance companies, since some banks might be attracted to do the back-office jobs and leave the customer relation for FinTech companies. While Gillberg foresees that the whole industry is moving towards aggregators insurers, instead of brokers.

4.8 Dina Försäkringar

4.8.1 General background of the interviewee

Tomas Roos is the head of web, market and communication at Dina Försäkringar, Stockholm since January/2019. He previously worked at Codan Försäkring for seven years where held positions such as head of marketing communication and brand & marketing director. Roos has a Master’s degree in Business and Economics from Växjö University.

4.8.2 The definition of FinTech companies

Roos defines FinTech companies as those that use technology to drive significant change in the financial industry, e.g. new ways of delivering products to customers and solutions
that improve effectiveness. Although there probably are some companies that attempt to provide financial services with low security, generally most of FinTech companies are keen to develop the financial services.

4.8.3 The impact of FinTech companies on financial institutions’ services

FinTech companies impact Dina Försäkringar, such as some FinTech companies provide comparison between different insurers through their platforms. Even though the changes in the insurance industry in other countries are more than in Sweden, there are some players such as Klarna, which could change the customer expectations. One thing that will impact all the insurance companies is PSD2, if this law will be applied in the insurance industry, then the insurers have to give other companies access to their customer data, which will enable the new entrants to analyze it and provide new services to the customers.

4.8.4 Cooperation and collaboration

Dina Försäkringar does not cooperate with FinTech companies yet, but it keeps its door open to collaborate with anyone that enables Dina Försäkringar to improve its services. Roos mentions that the most important thing for each insurance company is to determine its core service, in order to be proactive to know when it needs someone for assist and reactive to know for whom they have to say yes for the collaboration. On the other hand, Roos believes FinTech companies often keen to cooperate with established carriers such as Dina Försäkringar, since the latter have established brands and have long history with stability. In addition, incumbents can provide the infrastructure and capital for FinTech companies. While the FinTech companies can provide the technology, other ways of working and develop the products and services and access to the customer base.

Roos indicates that there are some FinTech companies that compete with insurance companies such as Lemonade, which is doing well in the market, since it utilizes technology and it could change the market. Further, some FinTech companies can be suppliers for insurance companies by supporting them with technology to develop their services. Moreover, Roos mentions that it is hard for FinTech or InsurTech companies that provide P2P insurance to be big commercial risk insurers, but there will be always reinsurance that can take the risks from the start-ups.

4.8.5 Challenges and opportunities

Dina Försäkringar, as all companies, has a challenge to keep up with the changes in the world. Therefore, Roos indicates that every insurer should understand the customers, know the customer needs and be flexible in order to know if the insurer has the ability to develop its services inhouse or through a cooperation with other companies.

Roos expects that the insurance companies will maintain their existence, but there will be more cooperation with FinTech companies. Further, some FinTech companies that focus on specific value chain might be acquired by the big insurance companies. While some of them will fail, since they will not be able to get people’s trust.
4.8.6 The business models

Roos believes that Dina Försäkringar can succeed and adopt the new technology by itself, as it has done for over 250 years.

4.8.7 Safety and regulation

Roos indicates that there is always risk in new technology, not specifically FinTech companies. The regulators should ensure that the new entrants follow the rules in order to ensure that they provide safe services for the customers.

4.8.8 The expectations for the future of financial institutions

Roos foresees that the IoT (Internet of Things) will have a big impact on insurance industry and the insurance companies will continue to be more digital in order to be more efficient. Further, the cooperation with other companies including FinTech companies will increase in the future. Besides, Roos expects that some new entrants will have the customer meetings, and some of the existing insurance companies will take the underwriting, since they are expertise with that.

4.9 One of the biggest insurance companies in Sweden

4.9.1 General background of the interviewee

Interviewee C works as a business development manager in one of the biggest insurance companies in Sweden and has a degree in General Business.

4.9.2 The definition of FinTech companies

Interviewee C defines FinTech companies as companies that utilize new technology to improve financial services or compete with the traditional companies within the financial industry. Moreover, FinTech companies are trying to alter the financial industry by simplifying or use automatic different processes both internally and externally. Further, they are very customer focused and moving fastly, since they have some benefit of not having legacy, which would hold them back.

4.9.3 The impact of FinTech companies on financial institutions’ services

According to Interviewee C, the Swedish insurance market is not yet impacted by FinTech companies, since it is dominated by big players (Folksam, Länsförsäkringar, Trygg-Hansa and IF). For now, FinTech or InsurTech companies focus on simple insurance products such as home insurance or car insurance and make them effortless for the customers.

4.9.4 Cooperation and collaboration

There is no cooperation between this insurance company and any FinTech companies yet, but this company is open for any cooperation that assists to improve its services and data quality. For instance, some insurance companies cooperate with FinTech companies that
produce boxes for the cars, which tell the insurance companies how a driver is acting. If he/she drives slowly and safe, the driver will get cheaper insurance than the driver who drives fast. Further, the insurance companies might outsource some processes to lower the costs.

On the other hand, interviewee C indicates the FinTech companies keen to collaborate with his company, since the latter has big customer base and can offer a lot for historical data, and FinTech companies can make money from the premium for outsourcing.

According to interviewee C, the new entrants might be rivals for the traditional insurance companies, but they have to understand the Swedish market first which is very brand focused. Moreover, FinTech companies that Provide P2P insurance might be serious rivals in the future if they could build a trust on the market and create a brand.

4.9.5 Challenges and opportunities

FinTech companies create challenge for the traditional insurers, since they could come up with good risk calculations, low cost base and excellent underwriting. Hence, all the insurance companies see that the disruption is coming which makes them nervous and alert. Moreover, the new entrants push them to be more flexible to move fast and be more digital and cost efficient.

Interviewee C does not expect that the new entrants will gobble up the financial services of the traditional financial institutions. While he expects that some FinTech companies will be acquired by the traditional insurers such as those who could offer lower costs and using algorithm to prevent fraud, instead of using a lot of employees. Moreover, some FinTech companies might fail, since the insurance market is very hard to get into due to lots of regulations, and it is very costly to gain market shares.

4.9.6 The business models

Interviewee C indicates that the disadvantage of BM of his company is the legacy system like all the traditional insurers which impedes the development and makes them slower than the new entrants. However, his company has the ability to adopt the new technology. Thanks partly to FinTech companies, which force the traditional insurers to be agile and more flexible. Further, this company is making a transformation from call centre to more digital, because online channel is one of the most important channels for any insurance company, but some products still need the physical channel such as complex claims.

4.9.7 Safety and regulation

Interviewee C does not see that using FinTech services might be unsafe for the customers, as long as they provide a proper contract and follow the regulation. Therefore, the regulators should put the new entrants on the same regulation that insurance companies have. Then everyone will be well-protected.
4.9.8 The expectations for the future of financial institutions

According to interviewee C, the Swedish insurance market is very profitable, but it will be hard for the traditional insurers to have the same level of profit in future, since there will be more competition and there will be two or three FinTech or InsurTech companies which will become big insurers. Moreover, the Swedish insurance companies will face a disruption by FinTech companies, such as Hedvig, which tries to get some market shares, but it will take long time to get the customer trust in Sweden.
5 Analysis

In this chapter, we analyze and discuss the empirical findings in chapter 4. The banks and insurance companies will be compared and analyzed based on our theoretical framework. The answer for our research question is presented in three topics: 1) the impact of FinTech companies; 2) attitudes towards FinTech companies; 3) the relationship between FinTech companies and financial institutions.

5.1 The impact of FinTech companies

As stated in the literature review that Gomber et al. (2017) determined three dimensions for the framework of FinTech companies and named them as “digital finance Cube”, which consists of the business functions that refers to the main financial services, such as payment, financial advice and investment. The new entrants and the incumbents share the same business functions (Gomber, et al., 2017, pp. 543-549). Our findings confirmed that the FinTech companies and the financial institutions share the same business function, since the participants clearly stated that the new entrants provide similar services of the financial institutions. For instance, Lundberg from Länsförsäkringar mentioned that FinTech companies copy some services from the financial institutions and try to provide them in different ways, and Gillberg from Folksam indicated that Folksam might copy some services from the FinTech companies.

The second dimension is “Digital Finance Technology and Technology Concepts”, which refers to the technologies such as blockchain and social networks that facilitate to launch the business services (Gomber, et al., 2017, pp. 550-551). That is in line with our findings, since all the interviewees declared that the financial institutions are impacted by the new technology, which plays a very important role in the production of the financial services and some services can be provided easily through technology. For instance, Hedman from Handelsbanken mentioned that the advice service can be provided easily through technology, and Johannessen from SEB indicated that SEB provides advice service through Facebook.

However, the third dimension of Gomber et al. (2017, pp. 551-552), which is “Digital Finance institutions” that consists of three players, which are financial institutions, FinTech companies and IT firms. Our empirical results could confirm the importance of the FinTech companies and the financial institutions in the financial industry and the impact of FinTech companies on the financial institutions. Our participants indicated that FinTech companies can support them with technical issues, but the results could not confirm the third player (IT firms), since our study does not focus on these companies that specialize only in technology, rather it focuses on FinTech companies that use the technology to provide new financial services.

In addition, Puschmann (2017, p. 74) indicated that the difference between two types of technology is based on the influence on performance; one of them leads to incremental impact that optimizes quality, time and cost, while the second one leads to disruptive impact at early phases, which leads to fundamental alteration in the whole value chain. This supports our findings, since all the interviewees pointed out that the new entrants
could provide the financial services at lower cost and have the ability to develop the traditional services in faster way than the incumbents. For example, Johannessen from SEB pointed out that FinTech companies are faster with the development than the traditional financial institutions, since they start from a “clean sheet”.

The third model, which represented by Zavolokina, et al. (2016, p. 9) who indicated that the input for FinTech companies is technology, followed by the mechanism to produce the output, which is a new service, product or BM. This is in line with our findings, since the interviewees declared that FinTech companies utilize technology in order to produce new products and services through new ways.

The findings show that most of the interviewees consider FinTech companies as start-ups that combine technology with finance in order to find new ways of delivering the financial services. Further, the interviewees indicated that FinTech companies have more agility and innovative thinking than the traditional financial institutions. This supports the perspective of the researchers who defined FinTech companies as “marriage of finance and technology” (Zavolokina, et al., 2016, p. 1), and companies that create new financial products and services through new processes (Frame & White, 2014, p. 4). In addition, Puschmann (2017, p. 70) who defined FinTech companies as companies that embodies the applications of IT innovations, which contribute to submit appropriate and innovative financial solutions.

However, Alt et al. (2018, p. 237) separated the digital period from FinTech period due to specific features, and Schindler (2017, p. 2) who endorsed the definition of the Financial Stability Board, which dismissed the technology from innovations. Moreover, FinTech companies are more than automating the traditional transaction of financial services and its processes; they diminished the classical and radical ways of finance (Schindler, 2017, p. 2; Cortada, 2004; Pullaro 2017). That is partially in contradict with the interviewees who mixed between the digitalization and the FinTech concept.

The interviewees clearly stated that the FinTech companies could not impact the traditional financial institutions in Sweden in terms of profitability and market share, except Häger from Nordea who mentioned that the profitability of Nordea is little impacted at this time. That is not the same case in the USA where shadow banks including FinTech lenders that provided mortgages through online platforms could hold 75% of the market shares in 2015 (Buchak, et al., 2018, p. 2). Moreover, no one of the participants pointed out that the profitability is under threat neither in the short term, nor the medium term because it is too costly to become, either a bank or insurance company. For example, Johannessen from SEB mentioned that FinTech companies cannot grow rapidly, since they will not have the affordability to be a big company, nor the capacity to serve a wide range of customers. That is in contradict with Al Ajlouni & Al - Hakim (2018, pp. 10 - 11) who indicated that the profitability of banks is under pressure due to the FinTech companies, which attempt to attract the customers. Moreover, the empirical results from the Swedish banks are not in line with the report of EBA, which indicated that the payment and settlement business lines are impacted by FinTech companies with a passive impact on financial institutions’ profit by 61% (EBA, 2018, p. 11).

In addition, the Financial institutions in Sweden do not have the anxiety like the Dutch Bank and the bank of England, which started to worry about the impact of FinTech companies on financial institutions (DNB, 2016, p. 22; Bank of England, 2015, p. 6). The
reasons that make the participants to do not have the same anxiety of these two banks are, the Swedish banks have much higher capital and market shares than the new entrants and long history in the financial industry. Moreover, all the interviewees believe that people in Sweden do not trust the FinTech companies yet, while they trust the financial institutions, since they have very good reputation in this country, which obliges FinTech companies to cooperate with them in order to get people’s trust and grow. Moreover, the participants mentioned that it is too costly to get people’s trust. This supports Teigland et al. (2018, p. 161) who mentioned that there is a high degree of institutional trust among Swedish people, but it is in contradict with Haddad & Hornuf (2016, p. 7) who mentioned that after the financial crisis the banks lost people’s trust, while FinTech companies had a white record of trust.

As outlined in the theoretical background and literature review that the FinTech companies could impact payment and lending segments of the financial institutions, since they use innovative information and automation technology (Vives, 2017, p. 97). Moreover, Buchak et al. (2018) mentioned that online lending from FinTech companies increased significantly since 2007, because the lenders could exploit the technology in order to lend more cheaply and offer a better service. Moreover, Buchak et al. (2018, p. 481) mentioned that FinTech companies do not offer a lower interest rate than the banks. Further, Tidebrant (2013, p. i) considered the new payment system as disruptive innovation in the Swedish payment market.

However, this is partially supported by the findings, because only two of the participants (Hedman from Handelsbanken and Häger from Nordea) explicitly stated that lending service is impacted by FinTech companies. Moreover, Hedman argued that FinTech companies attempt to provide lending service at lower interest rate than banks. While the payment service is not impacted by the new entrants, since the biggest banks in Sweden could provide the best payment solution through Swish app.

In addition, all the interviewees plainly declared that the FinTech companies could impact their financial institutions in terms of IT, which lead them to attempt to find a solution to enhance their IT system, in order to provide digital financial services and adapt to the changes in the financial industry. That is in line with Vives (2017, p. 100) & Tidebrant (2013, p. 1) who indicated that the financial institutions should develop their services; otherwise, they will fail in the market. Further, Jakšič & Marinč (2015, p. 10) mentioned that nowadays, the customers prefer to execute the financial transactions through utilizing IT services, which are completely different than the traditional banks services. However, this is partially in contradict with our findings, because the interviewees mentioned that nowadays clients prefer to use effortless services, but it does not mean that the financial institutions cannot provide digital services. All the participants mentioned that their financial institutions commenced to provide online services such as payment, and they are on the way to offer more online channels. For instance, Hedman mentioned that Handelsbanken is going to provide online mortgage loan service.

The new entrants disrupt the traditional insurers, because they have better knowledge in technology and productize solutions and new applications (VanderLinden, et al., 2018, p. 7). The participants from insurance companies argued that they have knowledge in technology, which enables them to develop new services, but they have a problem with legacy system, which cannot be connected with the new one.
In addition, the FinTech companies make the traditional financial institutions confront a challenge to alter their old BM, which make all their business lines under threats (Bofondi & Gobbi, 2017, p. 114). Moreover, Nicoletti (2017, p. 1) decried BM of the financial institutions as a solid BM. Hence, the financial institutions commenced to change their BM in order to maintain their profitability (Bofondi & Gobbi, 2017, p. 114). That is confirmed by all the participants who indicated that the new entrants impact them in terms of technology. They push the traditional banks and insurers to find new solutions and develop their services in order to be in line with the changes in the financial environment and maintain their existence.

Although the biggest majority of interviewees such as Gillberg & Ekelöf from Folksam mentioned that BMs of traditional financial institutions are old and cannot be improved easily. It does not mean that they are unable to maintain the relationships with their customers, since they are aware about what the others do in the market, and some of them have the ability to improve their services by themselves through providing digital services. For instance, Handelsbanken has special computer department in Stockholm and Malmo to develop the IT system. While the other realized the importance of cooperating with some FinTech companies in order to get support for auto banking such as Swedbank and Nordea. This is in contradiction with Miklos et al. (2016, p. 1) who indicated that the development in IT and the alteration in customer behavior could enable the new entrant to lower the capability of the traditional financial institutions to preserve the relation with their customers.

IT has changed the banking industry and increased competition, since some FinTech companies provide new financial services such as P2P lending and use platform (Jakšič & Marinč, 2015, p. 10). According to our participants, IT has changed the financial industry and AI will make a big impact on the financial institutions, but no one indicated that P2P lending impacts them, since this service is not provided by the Swedish banks at all, i.e. this kind of FinTech companies cannot be rivals for banks. Moreover, the interviewees from insurance companies did not agree with Arumugam & Cusick (2008, p. 1) who mentioned that P2P insurance will be widely spread in insurance market, by arguing that P2P insurance might be popular for simple insurance, but it cannot impact the traditional insurers, which provide various kinds of insurance and P2P insurance cannot cover people who have big damage or morbid disease. However, our empirical results from insurance companies, correspond with Kleipass (2018, p. 268) who mentioned that the new changes led the insurers to be more innovative and think about the future rivals.

In addition, the evolution of technology such as AI and machine learning boosts more automation of jobs, which used to be performed by human (Sankaranarayanan, 2015, cited Teigland, et al., 2018, p. 254). This is confirmed by our interviewees such as Ekelöf & Gillberg who indicated that there are some tasks such as customer advice and dealing with claims can be automated in the future.

The FinTech companies have the capacity to reach locations, which are not reached by the traditional financial institutions, and they have better customer experience because they are more tailored customer needs (Al Ajlouni & Al-Hakim, 2018, pp. 8-9). Moreover, the new entrants are active in specific areas by providing specific financial services (Alt, et al., 2018, p. 237; Gomber, et al., 2017, p. 543). This is confirmed by most of the interviewees who mentioned that FinTech companies are more customer focused
and reach areas, where the traditional financial institutions are not so active as they should be, and they focus on specific segments, not like the traditional banks, which are full banking service or the established insurers, which provide several kind of insurance services. However, the empirical results are totally corresponded with Mackenzie (2015, cited Al Ajlouni & Al-Hakim, 2018, p 13) who mentioned that the banks did not lose their power in the market yet and still have the possibility to develop themselves.

5.2 Attitudes towards FinTech companies

As outlined in the literature review that the new entrants need to collaborate with the traditional financial institutions, since they need to acquire knowledge about the market and financial industry (Holotiuk, et al., 2018, pp. 309-310). Similarly, Volosovich (2016, p. 42) mentioned that the new entrants face some challenges due to the shortage of knowledge about the functionality of the insurance market and regulation. Furthermore, Gomber et al. (2017, pp. 551-552) indicated that the financial institutions have entered the phase of adopting the new technology, while the new entrants confront obstacles to meet the regulatory requirements. Further, the new entrants also confront some challenges due to the high hurdles of entry by reason of the regulation and the high costs of customer acquisition, in addition to the complicated countries specifics (Tunstall, cited Vandelinden, et al., 2018, p. 16).

This is partially supported by our interviewees, because some of them pointed out that FinTech companies lack to the knowledge about the financial services such as Hedman who mentioned that the new entrants do not have enough knowledge about mortgage loans. Moreover, Häger agreed that FinTech companies have lack of knowledge about corporate loans, in addition to Hedblom who indicated that FinTech companies need to acquire more knowledge about the regulation if they want to succeed in the future.

The previous researchers suggested for the future of FinTech companies and financial institutions such as Ajlouni & Al-Hakim (2018, pp. 11-12) who foresaw that the FinTech companies will gobble up the financial services of the traditional financial institutions, or the FinTech companies will be acquired by the financial institutions, or the new entrants will fail. Moreover, Boot (2017, p. 88) expected that the new entrants might disrupt the financial institutions, since they will act as the marketplace where the customer will be able to interact directly, and the banks will act as the back-office for FinTech companies. Further, Alt et al. (2018, p. 236) pointed out that the transformation in the insurance industry is smaller than the banking one, since it has less interactivity.

According to our empirical results, these scenarios are more likely to occur for the banking sector than the insurance one, since the insurance market is dominated by the biggest four insurers and very brand focused, which make it very difficult for the new entrants to enter the Swedish insurance market as Ekelöf & Gillberg from Folksam and interviewee C mentioned. While in the banking sector, one of these scenarios started to occur for some banks such as Häger pointed out that Nordea is looking for FinTech companies to give them some tasks in the front desk, which means that some financial services will be gobbled up by FinTech companies. Moreover, interviewee A from Swedbank indicated that the banks will confront four strategic choices; firstly, they will be the back end and producer of the financial services. Secondly, they will focus on customer relationship and own that. Thirdly, they can do both and lastly do nothing.
In addition, Hedman from Handelsbanken asserted that some banks might be interested to be the back-office especially those who closed most of their branches. Further, Interviewee B expected that these scenarios will be more popular in the future, especially there is already some banks started to do that such as Solaris bank, which act as the back-office for some FinTech companies. However, the interviewees stated that FinTech companies cannot gobble up all the services of the traditional financial institutions, since it is too costly to be a bank or insurer and the financial regulation is too complicated for them. Moreover, there was a consensus of opinion of all the interviewees that there will be a mix between all the three scenarios, i.e. some banks will leave some services for the new entrants and some will acquire FinTech companies, which provide services that the banks and insurers cannot provide. For example, FinTech companies that are good in AI or strategically significant such as Payex, which was acquired by Swedbank and SPIIR was acquired by Nordea. That means the financial institutions are more likely to embrace the acquisition policy to improve their services and get the new technology.

In addition, the interviewees expected that some FinTech companies will fail, since it will be difficult for them to get people’s trust, capital and knowledge such as Häger from Nordea indicates clearly that the majority of FinTech companies will fail, since it will be difficult for them to find paying customers in the consumer segment although getting funding from banks or investors. Moreover, Hedman from Handelsbanken pointed out that the new entrants might fail, since they do not have enough knowledge and enough capital to provide the financial services.

As outlined in the background that PSD2 is applied in the banking sector that enables FinTech companies to access the client accounts without the permission of banks (Teigland, et al., 2018, p. 160). During the interviews with insurance companies, we found out that this law is considered as one of the biggest challenges for insurance companies as Gillberg and Roos mentioned. In case a similar law to PSD2 will be applied in the insurance sector, then insurance companies have to give other companies access to their customer data, which will enable InsurTech and FinTech companies to a more thorough analysis for customer data. Then they will have the ability to influence the customers to diversify their insurance between different insurance companies.

As stated in the literature review that the financial institutions should go more towards digitalisation in order to develop their services, and the financial services will be provided by two parts, the financial institutions and the FinTech companies, which will make the market based on digital customer interface (Al Ajlouni & Al-Hakim, 2018, pp. 11-13). Moreover, the traditional financial institutions will no longer be the main financial services providers, since there will be more agile financial service providers in the future (Al Ajlouni & Al-Hakim, 2018, pp. 11-13). This is confirmed by our interviewees who declared that they are going towards digitalisation and few FinTech companies will be main providers for the financial services together with the existing ones.

Regulation

The majority of our participants mentioned that the new entrants do not have a strict regulation that impedes them to innovate. Hence, they could change the financial landscape by coming up with new solutions at a low cost. This is supported by Schindler (2017, pp. 10-12) who pointed out that the reason for the embarkation of FinTech
companies is due to the alteration in the financial landscape, regulatory burdens and high-risk aversion.

Four of our respondents (interviewee A, Häger, Johannessen and interviewee B) mentioned that the regulation should be dependent on the activities of FinTech companies and what kind of license they applied for. This supports the perspective of Magnusson (2018, p. 1214) who mentioned that the regulators should take into account the differences between FinTech companies and financial institutions when they design regulation for FinTech companies. The reason behind that is the new entrants present different problem than the banks and insurance companies due to the different ways of working. While the rest of the respondents argued that the new entrants should apply the same rules, which are applied by the financial institutions, and they should be supervised in similar way as long as they provide similar services. That leads to make everyone (financial institutions, FinTech companies and customers) well-protected. Moreover, the respondents pointed out that regulators should observe the alteration in technology and the risks stemmed from it that affect the regulations.

Legitimacy theory

According to our empirical results, the financial institutions in Sweden are aware about the problems that they have such as old systems, which make the development goes slower than the new entrants. Moreover, they know well about the development of the FinTech companies, either in Sweden or globally and attempt to adapt with the new changes, either by developing themselves inhouse or through a cooperation with FinTech companies. Furthermore, the interviewees mentioned that their financial institutions are going to maintain the physical channels, since some customers still prefer face to face meeting in order to get information about their services. That leads them to maintain the relation with their customers and listen to the changes in the society.

The empirical results support what stated in the theory part such as Deegan (2006, p. 163) who mentioned that legitimacy theory states that each company should adapt to the changes in the society in which it operates in order to survive, otherwise it confronts difficulties with maintaining and attracting customers; then its existence will be threatened. Further, a corporation is not isolated from the society therefore it should fulfill the society’s expectations, not only focusing on achieving the objectives of its owner (Fernando & Stewart, 2014, p. 153). Hence, the legitimacy is applicable within the Swedish financial institutions.

5.3 The relationship between FinTech companies and financial institutions

FinTech companies are considered as real competitors for the traditional banks (Al Ajlouni & Al-Hakim, 2018, p. 7). This is in contradict with our empirical results because no one of the interviewees declared that FinTech companies vie with the traditional financial institutions yet, since they solely focus on areas, where the banks are not active or they focus on specific segments, but they might become rivals in the future.
The cooperation will occur between the new entrants and the Swedish financial institutions due to the mutual benefits between them. For instance, the new entrants might complement the financial institutions with some services like the case in Swedbank, which cooperates with FinTech companies to raise its agility and cost efficiency. In addition to Nordea, which collaborates with iZettle in order to get support in service development and find new solutions. That supports Holotiuk et al. (2018, p. 307) who found that FinTech companies can support the banks and insurers with innovation that would consume a lot of time and monetary.

On the other hand, the FinTech companies keen to cooperate with the financial institutions, since they can benefit from their big customer bases, and banks boost FinTech companies’ profitability (Bömer & Maxin, 2018, p. 25). All the respondents confirmed that FinTech companies can avail of the cooperation with them by accessing the big customer bases of financial institutions and obtain people’s trust. In addition, they can get financial supports, which enable them to find new solutions.

As stated in the theoretical background, some researchers indicated that the relationship between FinTech companies and banks is competitive. For instance, Navaretti et al. (2017, pp. 23-24) who believed that the banks have the ability to compete with the FinTech companies due to their tremendous source of funds that are protected, either explicitly or implicitly by public guarantees; further, the largest banks have already started to integrate digital innovation within their BMs. This is confirmed partially by our respondents who indicated that they could provide digital services through new channels by themselves and have the whole ability to develop their services inhouse.

In addition, the financial innovations would benefit all parties in financial system, because it handles the imperfection in transaction costs or the imperfection functions in the market (Tufano, 2003, p. 313). That is confirmed by our empirical results because the participants pointed out that the outcome of the cooperation with FinTech companies leads to increase cost efficiency and benefits all parties.

**Game Theory**

Game theory describes the strategic interaction between different players and includes constraints on the activities that players can take without determining, which action must be taken by them (Osborne & Rubinstein, 1994, p. 2). Moreover, game theory is used to determine the behaviour of a company and its competitors (Camerer, 2003, pp. 5-7). Further, the decision-makers attempt to reach a well determined objectives by considering other decision makers’ behaviour (Osborne & Rubinstein, 1994, p. 1).

Our empirical results confirmed that the financial institutions in Sweden are aware about their rivals and know what other players are doing in the market. Some of the participants mentioned that they have to determine their core services in order to know if they can cooperate with their rivals or not. Other participants mentioned that their financial institutions have commenced to collaborate with FinTech companies. That means the incumbents in the financial industry in Sweden could determine their problems and the behaviour of their institutions, e.g. they know how the legacy systems impacts their development, and what FinTech companies are providing, and how they perform in the market, not only in Sweden, since the participants could mention several examples about global FinTech companies such as Lemonade in the USA. Moreover, the empirical results
gave us that the Swedish financial institutions have ability to change the game, either by competing or cooperating with FinTech companies based on their core business and their abilities. That led us to find out that game theory is applicable within the financial institutions in Sweden.

Co-opetition theory

As stated in the theory part that the cooperation might happen between two competitors when they realize mutual benefits between each other, e.g. development and form clusters for production (Luo, 2004, p. 12). That is confirmed by our interviewees, since they realized the mutual benefits with FinTech companies even though solely four interviewees clearly mentioned that they cooperate with FinTech companies. While the other participants indicated that the cooperation does not exist yet, since they focus on their urgent problems and legacy system before any collaboration with FinTech companies, but they clearly stated that the cooperation will occur in near future.

In addition, the competition may occur for the input, e.g. human resources and technology and for the output such as market share and contracts (Luo, 2004, p. 12). Our empirical results partially in line with that, because the interviewees mentioned that the new entrants vie with them in technology, since they are more agile and innovative than the incumbents. That means there is a competition between them for the input, but no one mentioned that the new entrants are vying with the established financial institutions in the output due to the trust and reputation that are very significant in Sweden, which the new entrants could not acquire yet. Moreover, the new entrants could not establish a name in the market except Klarna, which was mentioned by all the interviewees. Further, the participants mentioned that the reason for the non-competition is the high cost of establishing a bank or insurer, which did not enable the new entrants to vie with the established financial institutions in Sweden. However, all the interviewees pointed out that the FinTech companies can be more as a supplier for technology and as a complementor for some segments of the financial institutions than a rival.

However, Co-opetition refers to the duality relationship (cooperative and competitive) between two players, which should occur at the same time, i.e. the players should compete and cooperate with each other simultaneously, rather than individuals might cooperate in particular activities and vie in others (Luo, 2004, p. 12; Yami, et al., 2010, p. 22). Moreover, the coopetition is widely growing due to the fact that more than 50% of cooperative and competitive relationships are between companies in the same industry (Harbison & Pekar, 1998, cited Gnyawali & Park, 2011).

Our empirical results show that the coopetition does not exist between any FinTech company and financial institution in Sweden, since some of the interviewees mentioned that they cooperate with some FinTech companies, while other indicated that some FinTech companies that provide mortgage loan vie with the banks, but there is no cooperation and competition between any FinTech company and bank. Further, the empirical results show that there is no cooperation between any FinTech company and insurer at all.

According to Luo (2004, pp. 24-25) the coopetition rises when the players faces threats from other players and when the customers demand new services with high quality; hence, the players should cooperate in order to respond to the new demands, i.e. rivals
collaborate to share knowledge and resources to develop new products and services. The interviewees clearly indicated that they confront challenges due to the embarkation of FinTech companies, which might become serious rivals in future. Moreover, the participants were on one opinion that there will be more cooperation with FinTech companies in future. This gave us a glimmer that Co-opetition theory might be applicable in the future even though that it is not applicable right now between the new entrants and the incumbents in the financial industry.
6 Conclusion

In this chapter, a general conclusion concerning our main research question and its two sub-questions will be given. Thereafter, the four contributions of our thesis are stated and the trustworthiness in qualitative research. Then the chapter continues with suggestions for further research and limitations of our study.

6.1 General conclusion

FinTech companies is very current topic and hot issue in the financial sector. Even though research is scarce about FinTech companies and their impacts on the financial institutions. The purpose of this research was to investigate what impact FinTech companies are having on financial institutions in Sweden. The tension that elicited our interest about this topic was the daily news and debates about FinTech companies and their future. Previous studies, which were conducted about FinTech companies did not consider their impact on the financial institutions and what might happen for the financial institutions in future. Therefore, the neglecting and scarcity in the literature about this topic raised a main question to be answered, which is:

What is the impact of FinTech companies on financial institutions in Sweden?

In order to make the question more precise, we created two sub-questions: 1) How the financial institutions remedy with the development of FinTech companies to protect their existence as financial services providers? 2) What kind of relationship have the financial institutions with the FinTech companies?

All the interviewees were on the same opinion that the financial institutions are going towards a big alteration due to the development of technology, which will make a massive impact on them. Moreover, several insights were stemmed from the participants for this study. We found that FinTech companies forced the Financial institutions to be more innovative to enhance their systems and provide new services. The findings clearly pointed out that the banks are impacted more by FinTech companies than the insurance companies in Sweden. Consequently, the banks have become more open for cooperation with the new entrants than before, in order to be able to adapt with the changes in the financial milieu and protect their existence. Moreover, the banks such as Swedbank adopts the acquisition policy for the FinTech companies that specialize in AI or the ones that are strategically important.

In addition, the interviewees foresaw that some banks will leave some segments for the new entrants and focus on their core services or leave the front desk tasks for the FinTech companies. For example, Nordea is looking for trustworthy FinTech companies to leave some segments for them. Even though the new entrants impact the insurance industry in terms of technology, but the latter are not forced to cooperate with any FinTech company so far. The reason behind that, the insurance market in Sweden is dominated by four major insurance companies. One of them is Folksam, which insures half of the Swedish
population, which makes it more difficult for the new entrants that provide insurance services to succeed in this country. Moreover, the results show that the relationships between FinTech companies and financial institutions are more cooperative than competitive, since some of banks cooperate with FinTech companies, while no one of the interviewees clearly stated that FinTech companies vie with his/her financial institution by saying that FinTech companies are specialized in specific segments, and they focus on areas where the financial institutions are not so active as they should be. Even though two of the participants (Hedman from Handelsbanken and Häger from Nordea) mentioned that few FinTech companies vie with consumer segment. Therefore, the results are in line with legitimacy and game theory, since the findings gave us that the financial institutions in Sweden are aware about the development of FinTech companies, which means that they monitor what other companies do in the market as game theory states. Moreover, they could determine the weaknesses in their systems and services, in order to find a solution to develop their systems and respond to the changes in the customer demands and financial environment as legitimacy theory supposes. Even though some financial institutions, the banks in specific could identify their problems and find a faster solution by cooperating with FinTech companies, but the rest of the participants, in specific insurance companies mentioned that they have the whole ability to develop their systems as they could do before the embarkation of FinTech companies, but the development might be slow due to the legacy system.

Moreover, the empirical results showed that co-opetition theory is not applicable yet between the new entrants and the incumbents in the financial industry, since no one of the participating financial institutions met the criteria of coopetition theory, which supposes that there should be a dual relationship (competitive and cooperative) between two players in the same market. The findings showed that some banks cooperate with FinTech companies, but the latter do not vie with the banks at the same time, which is in contradict to the terms of coopetition theory.

Although the FinTech companies impact the financial institutions, but all the participants were positive about FinTech companies, since they could make the financial institutions alter their way of thinking and make them more open to change and collaborate with the new entrants. Even though the way for cooperation between FinTech companies and insurers is full of pitfalls due to the legacy system of insurers, which make it more difficult to connect the new systems with the old ones. The positivity stemmed from their confidence that their history and experience enriched them to be able to remedy with FinTech companies and mitigate any negative impacts.

### 6.2 Contributions

This study gives four contributions, theoretical, practical, Social and managerial.

#### 6.2.1 Theoretical contribution

This study has shed a new light on a new topic, which has not been studied before. Therefore, the results of this study attempted to fill the gap in the literature that stated in the introduction. The study could discover the impact of FinTech companies on financial institutions in Sweden, e.g. some banks are being forced to cooperate with FinTech
companies and one bank is going to act as the back-office for FinTech companies in specific segments such as the consumer loan service. Therefore, the study contributes to the existing literature about FinTech companies. Besides, some findings are in contradiction with the current literature. Indeed, it was not expected that FinTech companies could not impact the profitability of the financial institutions in Sweden, and the cooperation between some Swedish banks and FinTech companies was not expected by us before we conducted our study.

6.2.2 Practical contribution

This thesis has some practical contributions as well. On the first hand, it has discovered that some Swedish banks have been impacted by FinTech companies in consumer loan and one of them is going to be the back-office for some segments. Moreover, all the participating financial institutions impacted in terms of technology, which might be interesting for all the financial institutions to know that. Moreover, the study included one impact, which might appear in the future that was not known for the most of interviewees who did not know about the scenarios that expected by previous researchers for the future of FinTech companies and financial institutions. Further, the interviewees gave us their expectations about what might happen in the future and gave some hints about their future policies. Hence, the impact is interesting for all people who work in the financial institutions.

6.2.3 Societal considerations

As the financial market has become even more significant in our daily lives than before and the technology has an indispensable rule in the current economy. Our study aimed to inform all citizens about FinTech companies, and how they could change the financial services by making them effortless. Moreover, our study provides a broader scope to all financial institutions that are interested in FinTech and its impacts. FinTech is very paramount today and our conclusions can assist the financial institutions especially the smaller ones, which are interested to know how the new entrants impact the biggest financial institutions in Sweden, and how the incumbents remedy with that impact to survive in this rapidly changing environment. Also, what are their expectations about the future of the banks and insurers with FinTech companies will be.

6.2.4 Managerial contribution

This study illustrates how managers in financial institutions remedy with the development of FinTech companies, either by deciding to develop their systems and services by themselves or through a cooperation with FinTech companies. Although our study focuses on biggest banks and insurance companies in Sweden and our data gathered with Swedish banks and insurers. Hopefully, our research can contribute to other financial services companies such brokerage firms and accounting companies.
6.3 Trustworthiness in qualitative research

Trustworthiness refers to the way of assessing the quality of qualitative study, which consists of four criteria: credibility, transferability, dependability and confirmability (Bryman, 2012, p. 390).

Firstly, credibility refers to the validity of the research, which should be based on “canons of good practice” in order to ensure the validity and credibility of the research (Bryman, 2012, p. 390). Hence, we used the interviews as a mean to gather the data for the study, and we believe that the amount of the interviews is adequate to result trustworthy findings. Moreover, the interviewees possess good experience in the financial sector, which enabled them to give significance information for our research. As we mentioned in the methodology part that we adopted semi structured interviews, which could enable us to ask more questions when the interviewees did not give obvious answers, and we sent the written interviews to the participants to confirm them in order to prevent any kind of misinterpretations.

Secondly, transferability refers to the ability of transferability of the results from a particular situation to another one or the possibility to generalize the results (Bryman, 2012, pp. 391-392). In this study, as all the participants indicated that their financial institutions impacted in terms of technology. Therefore, the likelihood that the results can be transferred for other banks in Sweden is higher than the insurance companies, since as we mentioned before that the insurance market is dominated by four insurance companies. That makes it more difficult for the new entrants to enter and success in the Swedish market and impact the incumbents. The remedies and attitudes are varied, since some of the banks cooperate with FinTech companies. While other acquired FinTech companies, which means the attitudes towards the impact cannot be transferred to all financial institutions in Sweden, since it depends on their core business and the internal and external impact of FinTech companies on them.

Thirdly, dependability which means the researcher should embrace an auditing approach, i.e. the researcher should ensure that the records are kept of all stages of the research process, problem formularization, choosing the participants, interview transcript and data analysis in reachable way (Bryman, 2012, p. 392). In our study, we illustrated each step in an obvious and detailed way. Our thesis done via our laptops therefore we saved each document related to our thesis, email and recorded interviews.

Lastly, confirmability, which means that the researcher should act in a good faith. Even though a complete objectivity in a social research is impossible; moreover, the researcher should not allow personal values to sway the conduct of his/her research and results stemmed from it (Bryman, 2012, pp. 392-393). In our study, we prepared for the interviews and discussed the information, which we could acquire from the interviewees before we started to analyze the interviews in order to decrease the biases.

6.4 Future research

We chose the qualitative method in order to have a deep insight about the impact of FinTech companies on financial institutions. The topic of FinTech companies is very new. However, the impacts that we have discovered are solely previous expectations for
researchers and some new ones in terms of technology, but there is no an obvious impact on profitability. Hence, future research can be conducted when more impact can be visible. Thereby, the further research will substantiate, contradict our findings or give new insights and impacts that we did not discover. We believe that more qualitative studies are needed to investigate further the new challenges that the financial institutions confront due to the FinTech companies by focusing on banks particularly specific kind and size of banks such as investments banks and focusing only on insurance companies or pension funds. Moreover, more qualitative studies which focus on one service of FinTech companies and the impact on either banks or insurance companies might be possible to be conducted in future. In addition, future studies that focus on other financial services providers such as brokerage firms, and how they are impacted by FinTech companies, and the impact of the new entrants on auditing and accounting firms might be possible to be discovered in the future by conducting qualitative studies. Further, studies that focus on small size financial institutions might be possible in future, since they might be impacted by the new entrants more than the bigger financial institutions which have big customer bases and have the ability to acquire easily some FinTech companies in order to improve their services.

Moreover, as most of the interviewees stated that they acquired or they are going to acquire some FinTech companies. Therefore, quantitative studies can be conducted in future to measure the impact on acquirer and target and more quantitative studies that focus on one segment to give more specific outcomes. Further, the quantitative studies can take bigger samples and focus on wider market instead of focusing on the Swedish market. For example, a quantitative research can take the whole EU area.

As pointed out in the results that the insurance market is dominated by four insurance companies, which impedes the new entrants to grow. Therefore, future research might be conducted in another country that has more insurance companies with higher competition, which might result with more impacts than the technical one that we found.

6.5 Limitations

There are several limitations in our research. The first one regarding the typology of interviews. All the interviewees were Swedish speakers, which means our study lacks to the diversity among the participants even though the number of interviews meets the standard of quality of qualitative study. Moreover, the study focuses on banks and insurance companies in Sweden and the sample consists of six banks and three insurers, which means the study lacks to the balance of the participants between banks and insurance companies.

Moreover, the study focuses more on the biggest banks and insurance companies in Sweden, which limits the perception of impacts, since they might have different challenges and remedies towards FinTech companies than the small ones. Small financial institutions including brokerage firms may have more impacts from the new entrants, since they might face more difficulties to protect their existence.

Further, we conducted three interviews face to face, two via Skype and five over telephone calls. The lack of body language could probably prevent the interviewees from feeling comfortable. Therefore, some of them insisted to interview them face to face. Despite the fact that the vast majority of the interviewees speak English perfectly, and
they did not have any problem with talking in English during the interviews, except one of them who was not comfortable with speaking English, which might be considered as a limitation for our study. Moreover, the scarcity in the literature concerning FinTech companies is one of the limitations that did not able us to build a solid base for our research.
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Appendix

Appendix 1: Interview guide

Hello,

We are Moayad and Tamer, two master students at Umeå University with different focus. Moayad studies master program in accounting, auditing and control, and Tamer studies master program in finance. We conduct an academic research in English for our master thesis. Therefore, we need your support which is crucially significance to continue our research.

The aim of our research is to investigate the impact of FinTech companies on financial institutions in Sweden. The participants of our study are banks and insurance companies in Sweden. For this reason, we would like to interview you personally.

The participation in our study is completely voluntary, which means that you have the possibility to withdraw from the participation at any time, and you are free if you do not want to answer any questions during the interview without saying the reason.

Umeå University has approved the research ethically. The interview will be recorded in order to have a better analysis of the information and for ethical reason. The recoded material will be available only for the thesis writers (Moayad and Tamer). The analyzed material will be included in our thesis. You will have the possibility to choose if you want to include your name, your occupation and the name of your financial institution in our thesis or you prefer to be anonymous. In case you prefer to be anonymous, you can mention this at the beginning of the interview, and we will preserve the confidentiality of the information that you will discussed under the interview and we will not mention your name nor your occupation and the name of your financial institution.

In case you want to have more details about our study, please do not hesitate to ask us. you can contact us via email, moayad.terkawi@gmail.com and tabi0004@student.umu.se or via telephone, Moayad: 0739251924 and Tamer: 0700417318.

Sincerely,
Appendix 2: Interview questions

Theme one: general questions

1. How can you define FinTech companies?
2. What is your opinion about FinTech companies?

Theme two: impact of FinTech companies

3. Are FinTech companies impacting any segment of your bank/insurance company?
   ▪ If yes, which segment?
   ▪ If no, which segment do you think that might be impacted by FinTech companies in the future?

Theme three: collaboration and competition

4. Is your bank/insurance company moving toward a cooperation with FinTech companies? Why?
5. Do you think that FinTech companies keen to cooperate with you?
6. Do you consider FinTech companies as rival, supplier, or complementor? Why?
7. Do you think that FinTech companies vie with your bank/insurance company? Why
8. Do you think that some FinTech applications such as payment system and P2P platforms are serious rivals for your bank/insurance company?

Theme four: challenges & opportunities

9. Do you think that FinTech companies create a challenge for your bank/insurance company?
   If yes, what is it? what should be done to remedy this challenge?

10. What are the mutual benefits that could be between your bank/insurance company and FinTech company?
11. Which scenario do you think is more likely to occur?
    a. FinTech companies will gobble up the financial services of the traditional bank/insurance market.
    b. FinTech companies will be acquired by the traditional banks/insurance companies.
    c. FinTech companies will fail.
Theme five: business model

12. Does your bank/insurance company have the ability to adopt the new technology (the financial technology)?
13. Did your bank change any element in the BM?
   a. Channels: the ways how to reach the clients.
   b. Customer relationships: to maintain the relationship with customers.
   c. Customer segments: FinTech companies could add new customers. How does your institution deal with this?

Theme six: safety

14. Do you think using FinTech services might be unsafe for the customers? Why?

Theme seven: regulation

15. What do you think the regulators should do to protect the financial institutions against FinTech companies?

Theme eight: opinion

16. Do you know any FinTech company is doing well? Why?

Theme nine: conclusion

17. What do you expect the future of banks/insurance companies will be?
18. Do you think that FinTech companies will take the place of the financial institutions?
19. Do you agree with some researchers who expect that the banks will act as the back-office for FinTech companies in future?
# Appendix 3: Facts about the participating financial institutions

## 2017

<table>
<thead>
<tr>
<th>Financial institutions</th>
<th>Founded</th>
<th>No of employees 2017 in Sweden</th>
<th>No of branches 2017 in Sweden</th>
<th>Total assets 2017 (SEK M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nordea bank(^1)</td>
<td>2001</td>
<td>6 912</td>
<td>133</td>
<td>4 110 200</td>
</tr>
<tr>
<td>Handelsbanken(^1)</td>
<td>1871</td>
<td>6 519</td>
<td>420</td>
<td>2 012 876</td>
</tr>
<tr>
<td>Swedbank(^1)</td>
<td>1820</td>
<td>7 732</td>
<td>218</td>
<td>1 316 319</td>
</tr>
<tr>
<td>SEB(^1)</td>
<td>1865</td>
<td>6 869</td>
<td>118</td>
<td>1 892 163</td>
</tr>
<tr>
<td>A (large bank in the Nordic Area)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Länsförsäkringar bank(^1)</td>
<td>1996</td>
<td>293</td>
<td>128</td>
<td>160 397</td>
</tr>
<tr>
<td>Folksam(^2+3)</td>
<td>1908</td>
<td>3 900</td>
<td>30</td>
<td>534 000</td>
</tr>
<tr>
<td>Dina försäkringar(^4+5)</td>
<td>1986</td>
<td>153</td>
<td>45</td>
<td>4 581</td>
</tr>
<tr>
<td>B (One of the biggest insurance companies in Sweden)</td>
<td>-</td>
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## Notes:

1. (Swedish Banker's Association, 2018)
2. Folksam, Annual report 2017, (Folksam, 2018)
3. Folksam, (Folksam, u.d.)
5. Dina försäkringar, (Dina försäkringar, u.d.)