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# FINANCIAL TECHNOLOGY IN THE FINNISH BANKING SECTOR AND CHANGING STAKEHOLDER DYNAMICS IN THE COVID-19 ERA

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## Abstract

Financial Technology (FinTech, hereafter) has integrated with the operations of the financial sector, in general, and banking sector, in particular. However, FinTech is a relatively new and under-explored phenomenon, both in the academic and corporate spheres. The current study aims to explore the following research objectives: the role and relevance of FinTech in the commercial banking sector in Finland; and second, the changing dynamics of stakeholders of the banking industry in the light of FinTech. Due emphasis has been laid on the fallouts of Covid-19 when exploring the abovementioned objectives. The primary data has been collected through interviews, whereas the quantitative data has been sourced by the banks' annual reports. The study shows that FinTech has a strong impact on all the main stakeholders and activities in the bank in many ways. Significant impact of FinTech has been observed on the following aspects of the banking sector: customers, investors, operations, competitiveness, and future growth. The respondents' opinions and data indicate that the FinTech considerably impacts banks' strategy, risk management, operations, and investors. FinTech adoption has been contributed by the growth in the IT sector, in general, and innovations in the field of financing including crowdsourcing, and peer-to-peer financing, in particular. Nonetheless, the unpredictable factors, such as the ongoing Covid-19, can influence

the future innovation and adoption of FinTech. Changing customers' demands and behaviours have also facilitated FinTech adoption. Banks have been integrating FinTech into insurance services and this feature has become more profound ever since banks increased their cooperation with the international insurance companies. Similarly, there has been a significant increase in collaboration between banks and FinTech start-ups.

## 1. INTRODUCTION

Technological developments have influenced modern-day businesses in several ways including business ideas, planning, strategy, operations, innovation, and performance, to name a few. However, technology does not reach out to the financial sector as it does in case of the non-financial sector. This is so because the financial sector is a highly regulated sector, and it entails substantial personal and business sensitivities (Borio, Vale, & von Peter, 2010). After the global economic crisis of 2007, the financial sector has been inundated by a series of new developments and the technological development in this sector is one of the most significant amongst all. The current paper receives its motivation from the ongoing discourse whether FinTech will supplement the banking sector with respect to the performance of the latter including efficiency and expansion or it will even supplant the traditional banking institutions. Furthermore, the discourse underlines whether traditional banking institutions will successfully adopt technological innovations, redefine their performance measures and continue to exist and thrive or whether these institutions will be devoured by the technology wave. Similarly, the current discourse underpins whether the rise of Fintech in the banking sector is compatible with the ongoing Covid-19 pandemic and any similar potential „shocks‘ in the time to come, which can disrupt, for example, social, psychological, economic, business, political equations in the nations across the world.

FinTech, on the one hand, has necessitated banks and other financial institutions to keep pace with the technological advancements and, on the other hand, it has motivated them to ingrain and upscale the user-centric approach in their business models. FinTech has played an instrumental role in transforming even the traditional operations of banks including payments, borrowing, transfers, lending, and investing (Chishti & Barberis, 2016). Noticeably, the commercial banks not only apply their *home-grown* financial technologies into their operations but also utilize the services of specialized FinTech companies to enhance their efficiency, service quality and overall competitiveness.

According to the PwC (2017) report, up to 77% of financial institutions are expected to intensify their internal efforts to innovate with the purpose to enhance security and reflect their commitment to the adoption of FinTech. On the other hand, it is being argued that in

the long run, due to the lack of digital strategy, many banks may experience a decline in their performance. Similarly, due to the distinct nature of their balance sheet, it is difficult to apply traditional accounting indicators-based performance measures to evaluate the performance of banks. Amidst the wave of FinTech, the need to redefine the performance measurement system of banks has gained even more momentum.

The selection of Finnish banks in the current study has been motivated by several factors. First, Finland is one of the most digital societies in Europe and the world. Second, the Finnish businesses substantially invest in the digitalization of their operations and the Finnish banks are no exception to it. Third, Finnish banks seem to be the first ones to capture the change in the competitive landscape in the financial sector due to the inundation of technology in it. Hardie, Gee, and Hannestad (2018) find that the percentage of the revenues of Nordic banks including those of Finland perceived to be at risk due to the FinTech interference in the next five years has soared 12 points to 38% in 2018, which is 7% more than among European banking peers. Furthermore, the number of FinTech companies in Finland is significantly increasing.

The study addresses the following research objectives-first, to study the role and relevance of FinTech in the commercial banking sector; and second, to study the changing dynamics of stakeholders of the banking industry in the light of FinTech. The above objectives have also been studied in the light of Covid-19 since this pandemic has affected the entire world like no other event has in the recent history. The primary data has been collected through interviews, whereas the quantitative data has been sourced by the stock exchange and the banks' annual reports.

## 2. LITERATURE REVIEW

Vasiljeva and Lukanova (2016) state that “*FinTech is an industry-oriented toward arranging financial services for private individuals and industries with the aim of providing customer-oriented solutions in the most efficient way and at the lowest cost possible, ensuring this via innovation and technology*” (p. 25). Some of the definitions include e-commerce and cybersecurity as distinct components of FinTech environment. Vasiljeva and Lukanova (2016) underscore FinTech environment as service-oriented, data-oriented and process-oriented. Service-oriented activities refer to the development of technologies related to services traditionally provided by financial institutions, e.g., fund transfers or card payments, lending and investment, peer-to-peer lending, crowdfunding, or foreign exchange. Data-oriented activities include solutions and technologies devoted to collecting, processing and analysing information. Process-oriented activities include

cost caps and processes that are aimed at increasing efficiency and process automation, which have started to develop after the financial crisis of 2007 when the banking industry all over the world was forced to re-define its operating models (Borio et al., 2010).

In the banking industry, FinTech primarily focuses on the advancement of banking services and products, which contribute to the enhancement of customer satisfaction. The key priorities of the customers of commercial banks are convenience, personalisation, accessibility, user-friendliness, transparency, safety, speed, and affordability. Modern-day customers expect their banking service providers to integrate with their daily life. Moreover, their demands also include easy access to their financial partner, which means a convenient interface having all the necessary features ranging from the handy design of online and mobile banking apps to the digitalization of documentation. The customers want real-time advice based on transactions and behaviour, enhanced custody and protection of their personal data and responsible data sharing (Chishti & Barberis, 2016).

Within the banking industry, the competitive edge is created by the delivery of superior services that meet the needs and expectations of both private and corporate customers. The creation and maintenance of good customer relationships are largely dependent on banks' ability to make quality service available to their customers. A high level of product quality leads to a high level of customer satisfaction and therefore results in the form of increased customer loyalty (Ennew, Waite, & Waite, 2017). However, it has been a challenge for the banks to adapt themselves to the growing customers' demand and successfully implement innovative technology in large organizations based on information technology since the 1970s. FinTech has an outstanding potential to transform banking businesses and meet the unprecedentedly growing demands of modern-day customers successfully.

The successful partnerships and co-operation between banks and FinTech companies, especially the start-ups, have been showing a win-win situation for both parties by capitalizing each other's strengths. For example, start-ups can focus on product design and development, while banks can help agile players with distribution and infrastructure capabilities. Since FinTech development is still at the infant stage, therefore, on the one hand, banking institutions can play an important role by providing financial resources to FinTech firms, especially start-ups, which in turn can motivate FinTech firms to upscale and improve their products, services and business strategies. On the other hand, banks are important clients of products and services FinTech firms, therefore, the success of FinTech firms can be beneficial to the banks. The collaboration with FinTech firms can help banks to reduce structural costs, enable enhanced regulatory compliance and better service quality.

The most applied technologies within the commercial banking sector include digital technology, electronic banking, alternative payment methods (APMs), distributed ledger technology (DLT), blockchain and cryptocurrencies, artificial intelligence (AI) and machine learning (ML), internet of things (IoT), open banking application programming interface (APIs), etc.

### *1. Alternative payment methods*

Alternative payment methods refer to cashless payment methods. These include payments made using a credit or debit card, loyalty program points, bank transfers, direct debits, e-wallets, mobile, local card schemes, pre-pay, post-pay, e-invoices or cryptocurrencies. In some of the cases, such as credit or debit card usage, banks serve as financial intermediaries, and in some cases, such as payments via e-wallet or in cryptocurrencies, there is no need for a third party between payer and receiver. The transactions are usually conducted in real-time. APMs offer customers a more streamlined, user-friendly, and cost-effective experience, making the payment execution better, faster, and cheaper. The emergence of the APMs is affecting the behaviour of consumers because the payment mechanism has been shifting from physical locations to digital channels.

### *2. Digital technology*

In the modern world, the biggest channel of reaching customers is online and mobile banking. Online banking refers to any banking transaction that can be managed through the internet, generally via a bank's website under a private profile, using a desktop or laptop computer; while mobile banking allows a user to carry out nearly the same activities using a mobile app on a smartphone or tablet, instead of using a desktop computer. As a rule, the transactions which can be performed through the internet or mobile banking are the ones that include services traditionally offered at local branches. These financial transactions include paying bills or transferring money from one account to another, viewing account balances, viewing, or printing statements, viewing images of invoices, and applying for loans or credit cards.

### *3. Automation*

Automation is defined as the conversion of a work process, a procedure, or equipment to the automatic operation or control. Automation does not simply transfer human functions to machines, but also involves a deep reorganization of the work process, redefining both the human and the machine functions. AI is an important aspect of the automation and it is comprised of adaptive and/or autonomous machines, particularly computer systems, which simulate the human intelligence processes, such as learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. AI is important because it automates repetitive learning and discovery through the data. It can implement frequent, high-volume, computerized tasks consistently

and without fatigue. However, still, this type of automation requires a human inquiry to set up the system and ask the right questions.

#### *4. Internet of Things*

The Internet of Things represents a network comprised of physical objects, which gather and share electronic information. This network includes a wide range of *smart* devices, which often use internet protocol (IP), which identifies computers over the world wide web and allows them to intercommunicate. The main idea behind the IoT is to have devices that self-report in real time to improve efficiency and bring important information to the surface more quickly than a system, which depends on human intervention. The IoT can bring value to the banking organizations in the form of innovation of business operations, retaining the customers base and increasing customer loyalty. The IoT helps the banking sector to provide rewards, easy-to-access services to both credit and debit card customers. The banks can alter the number of automated teller machines (ATMs) installations depending on the usage volumes in specific areas. The IoT also allows banks to bring on-demand services and increase their accessibility to customers by providing kiosks at convenient and easy-to-access locations.

#### *5. Open banking API*

Application programming interface is a code that allows two software programs to communicate with each other, defining the correct way for a developer to write a program that requests services from an operating system (OS) or other applications. To put it simply, an API is a way for two computer applications to talk to each other over a network using a common language that they both understand. Open APIs are a critical component in boosting the speed of innovation because payment companies can publish APIs to expose source code and allow the online ecosystem of developers and FinTech companies externally to enhance products and services or create net new ones.

Internal use of API integrates diverse systems and allows for the exchange of data across different departments of a firm by performing API *calls* or sending queries to an API server. It provides internal teams with better collaboration and allows them to access information when and how they need it, thus helping to interconnect services and business processes across the organisation, improving employee productivity and creating better omnichannel experiences for customers. External APIs can also be used to expose business assets such as information, a service, or a product to external audiences, hence, reaching beyond the boundaries of the firm, providing further integration with company partners and allowing third parties to consume organisational data and lead to cross-selling and upselling opportunities down the line.

#### *6. Distributed ledger technology*

Distributed ledger technology is identified as an asset database that can be allocated across a network of multiple sites, geographies, or

institutions. The technology allows all participants within a network to have their own identical copy of the ledger. Any changes to the ledger are rejected in all copies within a short period, limited to minutes or, in some cases, seconds. The maintenance of security and accuracy of the assets stored in the ledger is organised cryptographically using „keys‘ and signatures to control the authority of participants within the shared ledger. The right to update the entries by one, some or all the participants, is affirmed in the rules agreed by the network.

### 3. METHODOLOGY

The qualitative data has been obtained through semi-structured interviews. Before the interviews were conducted, the authors had a list of questions to the respondents. As many as six semi-structured interviews of middle and top-level executives have been conducted between April-August 2020.

The respondents included a middle-level executive of the Nordea Bank and the Handelsbanken, two CEOs of FinTech start-ups and two COOs/CEOs of FinTech consultancy firms. The respondents representing both banks are working in the field of business development and corporate banking. All respondents are based in Finland-four in Helsinki capital region and two in Jyväskylä (Central Finland).

### 4. KEY FINDINGS

Regarding the beginning of the phase of FinTech adoption in Finland, some respondents hold the view that FinTech dates to the late 1970s and the beginning of the 1980s. However, these *baby steps* were in the form of very basic improvements in the functioning of banks and customer experience.

One of the respondents highlights the recession of the 1990s‘ forced the banks to seek new measures of survival amidst the significant restructuring of the banking sector in Finland and other Nordic countries. The next stage of FinTech adoption in Finland started with effect from the year 2008-2009. A phase of small-sized start-ups appearing in large numbers on the financial services field was witnessed first time, albeit only a few could succeed due to financial, technical, and regulatory constraints. However, some respondents are holding unanimously that the FinTech start-ups already made their mark in the financial sector by 2015. Several interesting developments included venture capital investments, and European Payment Service Directive (PSD2). In particular, the PSD2 aims to 1) to contribute to a more integrated and efficient European payments market; 2) to further level the playing field for payment service providers by involving new players; 3) to make payments safer and more secure; and 4) to improve protection for European consumers and businesses (European Central Bank, 2018).



Two important contributors to FinTech adoption, which have been mentioned by several respondents during the interviews, are the growth in the IT sector in general and innovations in the field of financing including crowdsourcing, and peer-to-peer financing in the banking sector. Nonetheless, the unpredictable factors, such as the ongoing Covid-19, can influence the future innovation and adoption of FinTech.

## 5. CONCLUSION

The purpose of this study has been to study the following research objectives-first, to study the role and relevance of FinTech in the commercial banking sector; and second, to study the changing dynamics of stakeholders of the banking industry in the light of Covid-19. The above objectives have also been studied in the light of Covid-19. The primary data has been collected through interviews, whereas the quantitative data has been sourced by the stock exchange and the banks' annual reports.

The study shows that FinTech has an impact on all the main stakeholders and activities in the bank. More impact of FinTech has been on the following aspects of the banking sector: customers, investors, operations, competitiveness, and future growth. The respondents' opinions and data indicate that the FinTech's impact on banks' strategy, risk management, operations, and investors.

FinTech adoption has been contributed by the growth in the IT sector in general and innovations in the field of financing including crowdsourcing, and peer-to-peer financing was also considered to be the triggers of change in the banking sector. Nonetheless, the unpredictable factors, such as the ongoing Covid-19, can influence the future innovation and adoption of FinTech.

Without a doubt, changing customers' demands and behaviours have also facilitated FinTech adoption. Banks have recognized these changes and are trying to integrate financial services to serve their customers so that these services are not only delivered efficiently but also carry the element of resilience and adaptability without undermining the confidence of banking services users. Indeed, some of the banks have already been integrating FinTech into insurance services and this feature has become more profound ever since banks increased their cooperation with the international insurance companies. This factor is even more relevant amidst the current Covid-19 situation. Similarly, there has been a significant increase in collaboration between banks and FinTech start-ups.

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## CONFERENCE FORUM DISCUSSION

**Nadisah Zakaria:** Hi, it is an interesting issue. The author should include scholarly papers related to the topic. The methodology needs to be explained further.

**Shab Hundal:** Dear Nadisah Zakaria, I appreciate your comment, and of course I fully agree with you. Unfortunately, there is an acute paucity of scholarly articles written, in general, and the Nordic context, in particular. Furthermore, we deliberately wanted to bring the practitioners' dimension into the debate. The methodology will be explained more for sure in the post-conference version.

**Alex Kostyuk:** Hello, Shab, you have just picked up several interesting issues in your presentation. One of these issues is about the shareholder value maximization through implementing new, advanced financial technologies in banks in the epoch of uncertainty (the pandemic time). I like this idea very much. So, I know that Scandinavian banks are rather regional, than global with regard to their businesses (I mean bank structures placed abroad). I suppose that the shareholder structure of the banks in Scandinavia is similar – represented rather by Scandinavian shareholders. So, what do you think about the scale of the effect of the implementation of financial

technologies in Finnish banks? Will it be strong and sound enough to attract shareholders from abroad?

**Shab Hundal:** Hello Alex, you have pointed out very correctly. The Nordic corporate sector is very “regional” and its banking sectors are somewhat similar too if not the same. Most of the Nordic origin banks have a scale effect since they are found in all the Scandinavia/Nordic. However, this scale effect is not available to the non-banking firms (since most of them are SMEs and very regional inclined). Similarly, most of the Nordic FinTech companies are small and they do have the challenges to attract foreign equity, particularly in the traditional form.

**Alex Kostyuk:** I see your point of view, Shab. So, I see that Finnish banks have resources to be not so “regional” and go beyond the borders but their strategy does not prescribe such a move. At the same time, Finnish FinTech companies do not have enough resources to go beyond the borders although they have such strategic intentions.

**Shab Hundal:** Absolutely agree. But the problem here is that in the FinTech arrangement, banks buy FinTech tools from these SMSs/Start-ups, and the latter in turn get finance from the former... so in a way, this arrangement of mutual dependence is a win-win proposition for both parties, nonetheless, the downside is that the failure one can inflict financial losses to the other.....

**Hadfi Bilel:** Thus, the development of techniques and the use of new technology such as digitization in the banking sector, on the one hand, to improve its competitiveness and on the other hand to facilitate its relationship with these stakeholders.

**Shab Hundal:** You are right; the “umbilical cord” that ties various stakeholders must not break for the success of FinTech.