

FINANCIAL TECHNOLOGY - OPPORTUNITIES AND RISKS OF SELECTED KEY SOLUTIONS

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ABSTRACT

The dynamics of the changes in financial technology (fintech) in the previous decade have surpassed the most optimistic predictions. While investments in technological innovation in financial institutions are not new, the pace of innovation significantly increased in recent years. The pace of digitalization that we are witnessing and the potential of fintech on reducing costs and speed of payments, lowering interest rates for loans through peer-to-peer(P2P) platforms and maximizing interest paid to depositors through business-to-consumers (B2C) channels are the main drivers of technological innovations in the field of financial products and services. But cooperation and networking between incumbent and new fintech companies are the basic prerequisites for future success.

KEY WORDS: FinTech, digitalization, opportunities, risks

INTRODUCTION

The process of digitization is experiencing its rise, fuelled by the growth of e-commerce - starting in the field B2C and continuing further to "win" business-to-business (B2B) model. It is of utmost importance to note that this process is simultaneously being developed with an impressive increase in the number of smart devices. Financial services, thanks to the development of this innovative market, can reach consumers using modern distribution channels. Among other things, technological innovation is driving social networks, artificial intelligence, machine learning, mobile applications, Distributed Ledger Technology (DLT), cloud computing and big data analytics. They give rise to new services and business models by established financial institutions, technology companies and new market entrants. Fintech involves the entire financial sector, including front, middle and back-office activities, as well as services for both retail and wholesale markets. They offer their services to the financial sector, consisting of the following subsectors: banking, insurance, management assets on the capital market, raising capital and personal finances, payment market, data analysis and cyber security.

Financial institutions initially did not notice fintech companies, or did not want to cooperate with them and even did not support the development of this market, but in recent period they are noticing ever more positive aspects that can have a significant impact on the efficiency of their activities. Changing customer preferences, e.g., in terms of payments, regulations including the revised Payment Service Directive (PSD II) of European Union which sets regulatory requirements for firms that provide payment services, forces banks to perceive companies in this sector in a different way.

It is obvious that the use of new technologies has prompted wide discussions on the merits (or lack thereof) of decentralization, disintermediation, anonymity and censorship resistance in this setting. It is obviously unreasonable to dispute their potential to disrupt areas such as the global remittance industry, by facilitating near-instantaneous global remittance with very low transaction fees.

Fintech holds promise for being the latest disruptive technology, but we should also know the aspects that must be considered when developing such technologies for banking applications with regard to loss reporting, recording and provisioning in order to be consistent with modern regulations such as Basel Committee on Banking supervision recommendations on

capital requirements (Basel III/IV), Solvency II directive that codifies and harmonise European Union insurance regulation and International Financial Reporting Standards (IFRS 9). The dynamic development of the fintech market is not a challenge only for financial institutions, but also for market supervisors and institutions forming a financial security network. The fintech market creates the chances of dynamic development of the entire financial market, but also numerous barriers that can significantly affect its development.

The topic of this paper is to examine the use of fintech in modern banking regarding the opportunities, challenges and risks, but also to present selected user cases. This goal is achieved by theoretical analysis of relevant literature, but also by analysis of selected solutions providing modern Fintech solutions to customer in different parts of Europe. While financial innovation holds promise, it is crucial that banks, customers, regulators, and other involved parties understand and alleviate risks that arise. All these risks are represented as threats to the dynamic development and potential benefits from new technologies. This topic is relevant because financial technologies change the environment in which the banks do their business and offer possibilities for new and improvement of existing product and services.

The rest of this article is organized in a following manner. In Section 2, we present what is actually fintech and why it matters. In Section 3 examine what are the challenges and risks for the Fintech. Section 4 presents studies of selected key Fintech solutions. The main conclusions are presented in Section 5.

WHAT IS ACTUALLY FINTECH AND WHY IT MATTERS?

At the beginning, let us clarify what the definition of fintech actually is. One definition is given by Chen (2015). He states that “Fintech refers to innovative financial services or products delivered via technology”. Vasiljeva and Lukanova (2016) summarize that fintech can be described as a technologically driven process in the financial industry with new working methods and approaches to standard processes with purpose of enhancement of customer experience and increase process efficiency at traditional financial institutions. Previously, the main motivation for development of Fintech was its promise to bring access to the financial system and financial services to unserved or underserved populations. But on other hand, the faster, cheaper and better business models offered by fintech startups are

disrupting the incumbents, specially the traditional banks. Financial services and products that previously have been the exclusive to traditional financial institutions are now offered by fintech firms. These smaller and flexible companies offer more diversified products and services that are now digitized. Mention (2019) argues that all these platforms are built on hybrid and cross-industry business models that allow them to access markets often closed to traditional banks and that they offer greater transparency and improved risk management, partly enabled by their ability to get instant customer feedback and use it to power real-time adjustments in the services they offer.

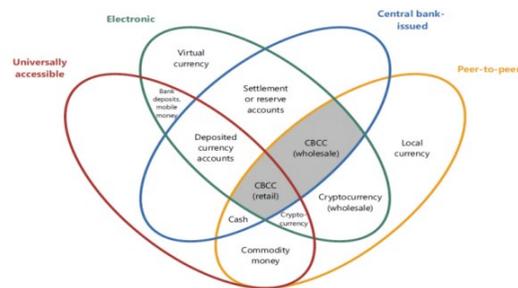


Figure 1: The money flower: taxonomy of the money (Bech and Garratt, 2017)

As shown in figure 1, Bech and Garratt (2017) establish new taxonomy of money properties: *issuer* (central bank or other); *form* (electronic or physical); *accessibility* (universal or limited); and *transfer mechanism* (centralized or decentralized, i.e., peer-to-peer).

Recent study published by Novantas (2019) found three major shifts in consumer behaviour that will impact bank distribution and sales strategies in the future period: i) significant shift from branch dependence to digital preference; ii) redefinition of the drivers of bank consideration and purchase; iii) increase in demand for digital account opening. Moreover, according with the findings in the research performed by International Integrated Reporting Council (2019), banks almost unanimously believe that innovation is a material matter that is critical to their strategy and long-term sustainability. Increased number of requirements and expectations from the customers cannot be fully met by incumbents, including the traditional commercial banks.

Positive evidence of these modern technologies can be observed in World Bank (2019) analysis of remittance prices worldwide. As can be observed in Figure 2, the cost for sending 200 USD since 2008 year has fallen from almost 10 % to less than 7 % in Q1 2019.

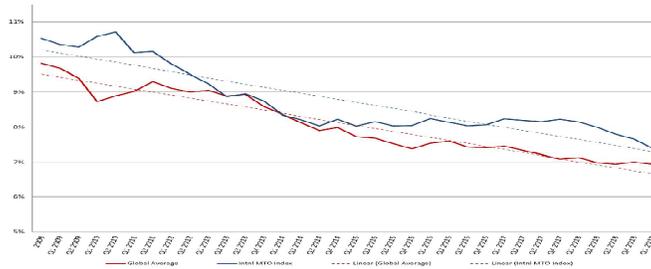


Figure 2: Global Average Total Cost for sending 200 USD (World Bank, 2019)

According to data provided by KPMG International (2019), as shown in Figure 3, in 2018 fintech investment hit multiple record highs.

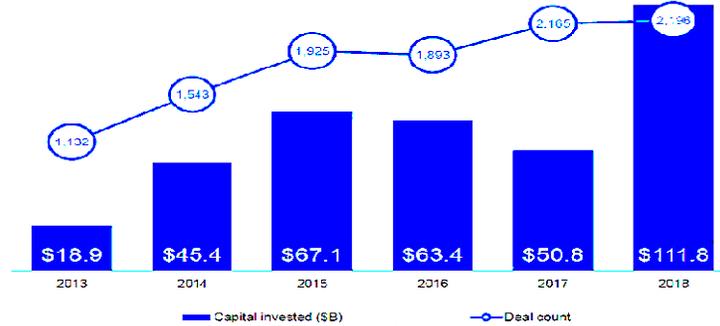


Figure 2: Total investment activity in Fintech (KPMG International, 2019)

Doderlein (2018) argue that banks made little changes last 50 years and in contrast the customers' preferences progressed significantly, but due to regulatory changes such as the revised PSD2, banks are now facing threats far beyond growing consumer expectations. Moreover he emphasize that PSD2 paves the way for customers to have more choice when it comes to financial services. He point out that PSD2 allows open account access for third-party providers and that this will challenge the banks' current market position and allow many new competitors to emerge. Neyer (2017) fully support Doderlein's statements in his article claiming that under PSD2, banks are required to open up access to account data to third parties at the

request of customers and additionally, the related General Data Protection Regulation requires banks to ensure the portability of their customer data. Furthermore he argues that banks and fintechs should leverage PSD2 opportunities and amend their operating, business and revenue models. Finally, he concludes that new alliances between banks with fintechs to benefit and respond to changing customer demands in a unified European market.

To sum up, in wider context Fintech refers to use of modern technologies delivering financial services and that investments in Fintech are experiencing unprecedented levels. Moreover, we can conclude that changing customer preferences and changes concerning the regulations (specially the PSD II directive), forces banks to perceive companies in this sector in a different way, but cooperation and networking between financial incumbents and new Fintech companies are the basic prerequisites for future success. However, fintech companies are presenting themselves as serious business opportunity for banks and other financial institutions. There could be a combination between a classical bank and a new fintech solution, their cooperation, in order to deliver the best to the client.

WHAT ARE THE CHALLENGES AND RISKS?

On other hand, there are also challenges and risks arising from fintech lack of regulation, big competition, risk arising from disruptive technologies, cyber-criminal etc.

The question on how to regulate innovation is very sensitive issue. Namely, Werbach (2017), identifies three points regarding the regulations of new technologies: i) there is no difference between on-line, digital world and off-line world and that therefore we don't need a totally new set of rules; ii) innovations needs also an regulated environment; iii) the conscious choice by regulators of not imposing the full set of rules on a nascent technology can lead, as the technology gains pace, to a more mature and productive dialogue among innovative firms and regulators.

Aaron et al. (2017) conclude that fintech might bring more change by creating new financial intermediation applications than by changing the ones that exist today because, according to their point of view, potential benefits of fintech for society seem large compared with the historical cost of financial intermediation what by some measures is close to 2 per cent of

GDP in some of advanced economies. Bott and Milkau (2017) conclude that the applicability of central bank money will be a key success factor for the breakthrough of DLT. However they also argue that the new process and business logic may cause uncertainties compared with traditional setups. They also conclude that central banks and supervisory authorities are aware of several of these challenges.

Bott and Milkau (2017) also argue that new technology of DLT must not come as entirely permission-less open systems but within 'hybrid' permissioned systems, where certain functions could be kept centralized and under the control of central banks. They conclude that the digitization of central bank money via DLT can open new perspectives on a digital economy with efficient and secure market infrastructures, linking new technological concepts with existing benefits.

Furthermore, Daj (2018) concludes that, based on their core philosophy of distributed consensus, open source, transparency, and community, blockchain and Distributed Ledger Technologies have the potential to be profoundly disruptive and represent a substantial challenge to existing business and governance models, spurring ground-breaking mutations in business structures, and even generating far reaching transformations in the way in which the economy and society itself is organized and governed.

Negative side of the new financial technologies is emphasized in Foley et al. (2019) where they estimate that around \$76 billion of illegal activities per year are with bitcoin, which represent close to the scale of the US and European markets for illegal drugs. But they argue that the illegal share of bitcoin activity declines with mainstream interest in bitcoin and with the emergence of more opaque crypto currencies.

We can conclude that there is ongoing tension between the pace of development of new products and services by firms that are new or have not historically specialized in consumer finance and therefore lack knowledge and experience to ensure that important risks around financial services and payments are addressed. Furthermore, as a general rule, the introduction of new products or services typically involves heightened risks as a financial institution enters into new areas with which it may not have experience or that may not be consistent with its overall business strategy and risk tolerance. But at the same time financial and non-financial institution also must control the risks that have always been present in finance industry. Finally involved parties need to ensure that they are appropriately controlling

and mitigating both risks that are unique to fintech as well as risks that exist independently of new technologies.

FINTECH – STUDIES OF SELECTED KEY SOLUTIONS

Denecker et al. (2014) argues that payments and checking balances are the two most repeated interactions a customer has with the bank. According to reports from the Dab et al. (2016), 34% of overall banking revenues derive from payments and the amount of global payment is 5.5 times the global GDP. Bech et al. (2017) argue that a feature of a fast payment system is the ability to complete a payment almost immediately and at any given time.

In the field of credit activities, according to Basel Committee on Banking Supervision (2017) FinTech credit is facilitated by electronic platforms such as peer-to-peer lenders. They also make taxonomy of new technologies used in lending: Traditional P2P lending model; Notary model; Guaranteed return model; Balance sheet model and Invoice trading mode. Milne and Parboteeah (2016) argue that there are several reasons for continued rapid growth of P2P lending like exploitation of new technology, and also the number of competitive advantages of P2P lending platforms over the banks.

Regarding the topic of deposit, according to Lee (2018) PSD2 brings bright new age of open banking with new possibilities for deposit solutions and customers of the client banks in a way that they can now diversify their savings into insured deposits of third-party banks with lightly better terms, without opening new bank accounts.

First we will show an example of a Fintech platform for mobile payments in Sweden called Swish Getswish AB (2018a). We continue with an example of a credit P2P solution Zopa Bank Limited (2019a.) Finally we present Deposit Solutions GmbH (2017) B2C platform for depositing.

Swish

According to Getswish AB (2018a), Swish is a Swedish mobile payment solution introduced and launched in 2012 by cooperation among six of the largest banks in Sweden - Danske Bank, Handelsbanken, Länsförsäkringar, Nordea, SEB and Swedbank and Sparbankerna owns Getswish AB (2018a). This collaboration resulted in launching Swish app for P2P transfers. Swish allows individual users to transfer money to other Swish users using the recipient's mobile number. The payments are approved using Mobile

BankID. The solution also allows C2B transfers, by enabling customers to transfer money to offline merchants using their Swish number. Users can also make payments by scanning QR codes. In addition to P2P and in-store payments, Swish allows online payments for purchases on webstores and merchant apps and users can just select Swish as a payment method.

Swish is one of the leading P2P payment solutions in Europe with almost 7 million users and since the start in 2012 completed one billion payments.

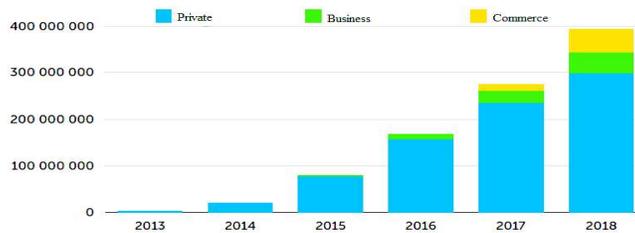


Figure 4: Number of payments 2013-2018 - Swish total (Getswish AB, 2018b)

Figure 4 shows that the number of payments in the last 5 years is continuously rising and at the end of 2018 reached almost 400 million payments annually. Additionally, as can be observed in Figure 5, with the rise of the number of payments, the volume of transactions grew as well, reaching more than 200 billion SEK equivalent to 18,8 billion EUR annually.

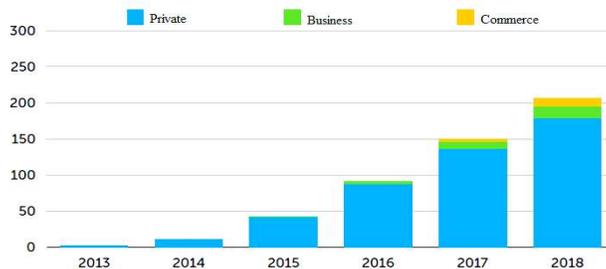


Figure 5: Volume in billion SEK 2013-2018 - Swish total (Getswish AB, 2018b)

Zopa

Zopa Bank Limited (2019a) has been founded 2005 in Great Britain, as the first ever peer-to-peer lending company, with the purpose to create a better financial services experience and providing people access to simpler, better-value loans and investments. The business model was directly matching

people looking for a low rate loan with investors looking for a higher rate of return. The business model is efficient and online, which keeps overheads low and allows passing on the rewards to the customers. Activities of the Zopa Bank Limited (2019b) are Car loans, Debt consolidation loans, Home improvement loans, Wedding loans, Peer-to-peer investments and ISA. Since 2005 the Zopa Bank Limited (2019a) lent out over £4 billion over 4,5 billion EUR to almost half a million borrowers and generated £250 million interest for investors.

Zopa Bank Limited (2019a) became a bank but the P2P model remained the fundamental business model, and the banking licence allows giving even more people a better experience with their finances.

Deposit Solutions

Deposit Solutions GmbH. (2017) has been founded in 2011 as a FinTech company and the Open Banking platform for deposits is headquartered in Germany and has additional offices in London, Zurich and Berlin and employs a team of 250. Since 2011, the company already mediated more than 13 billion Euros in deposits. Its proprietary Open Banking technology provides an infrastructure for the global deposit markets that benefits banks and savers alike. Deposit Solutions GmbH. (2017) is already connecting more than 70 banks from 16 countries and additionally operates proprietary B2C Points-of-Sale (Zinspilot and Savedo) that market selected deposit offers of its partners directly to savers. Deposit Solutions GmbH. (2017) operates Savedo GMBH (2019) through international B2C channel in Germany, Austria and the Netherlands and Zinspilot B2C platform that allows depositors to access attractive third-party deposit products without having to open new accounts.

Based from the analysis of the use cases we can sum up that pace of digitalization that we are witnessing and the potential of fintech on reducing costs and speed of payments, lowering interest rates for loans through P2P platforms and maximizing interest paid to depositors through B2C channels are the main drivers of technological innovations in the field of financial products and services. But the basic prerequisites for future success are cooperation and networking between incumbent and new fintech companies.

CONCLUSION

In wider context Fintech refers to use of modern technologies delivering financial services and that investments in Fintech are experiencing unprecedented levels. Moreover we can conclude that changing customer preferences and changes concerning the regulations (specially the PSD II directive), forces banks to perceive companies in this sector in a different way.

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The pace of digitalization that we are witnessing and the potential of fintech on reducing costs and speed of payments, lowering interest rates for loans through P2P platforms and maximizing interest paid to depositors through B2C channels are the main drivers of technological innovations in the field of financial products and services. Based on the theoretical analysis of relevant literature and from analysis of the use cases we can conclude that cooperation and networking between incumbent and new fintech companies are the basic prerequisites for future success.

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