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Securing FX Trading Customer Base against Disruptive Fintech in Business Banking Environment

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Thesis for case company. Never read.



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<p>In recent years, foreign exchange and cross-currency payments domain has been intensively disrupted by fintech. The study is relevant since, according to the Accenture digital report, nearly one-third of Nordic banking revenues are at risk due to fintech. This study is aimed to establish a data-driven strategy for the online trading platform to secure its existing corporate customer base within the current more competitive landscape enabled by new European regulations of the financial markets.</p> <p>In this study, the action research was selected as the research methodology due to applied nature of the issue addressed and its direct applicability to the business organization. The thesis project leverages the internal data structures of the case company to conduct behavioural analysis of the corporate customer base. Current state analysis of the case company highlighted the negative year-on-year erosion (attrition) rate of the active customer base at the online trading platform. This insight should be a clear call to action to the case company top management.</p> <p>The thesis project proposes the comprehensive data-driven strategy for the online trading platform of the case company which includes continuous monitoring of the health of the business banking segment, curation of the new sales funnel, and the new customer segmentation model to tailor current products and distribution channels across the customer base. The purpose of the so-called "4-Boxes" model is to be able to provide a data-driven segmentation of customer / currency pairs in order to efficiently upsell FX products and offer superior service on an individual basis by providing optimal combination of distribution channel and product. The proposed segmentation model was validated through the pilot sales campaign.</p> <p>Innovative data-driven "4-Boxes" approach has been developed in response to the Second Payment Service Directive, Open Banking and flexible API platforms. Those customers from Box 1 are assessed to have the highest potential towards disruption due to usage of only basic payment services; their erosion rate is higher than in other boxes. "4-Boxes" model relies on (behavioural) data analytics to leverage the complex product offering and bring the existing business banking customer base closer to the case company, i.e. enhance customer "stickiness" and make it harder to disrupt.</p>	
Keywords	foreign exchange, fintech, banking, data-driven, strategy

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1 Introduction

Historically, since the genesis of banking in medieval Italy the industry has been generating enormous profits to the stakeholders, and the tendency has not slowed down. Given the exponential rise in a number of customers, i.e. human population, the number of firms is still limited. This is due to high entry barriers, mainly in the form of starting capital that is required to provide banking services. For this reason, banks grew and grew over time, servicing more and more customers and had quite poor development in the quality of services. For the entire banking history, pricing was the main competitive attribute. Once a customer has signed a contract or agreement, the exit barrier is quite high... used to be high.

What is interesting about the future, about money and technology, which altogether are so-called by the fancy word 'fintech'? They are the things that control our lives, while the most these days belongs to money and technology. There is no order of priority that comes in these days based on how mobile devices have drastically changed our lives. Technology has redefined the world and particularly the speed at which that is happening. This is simply amazing and the world is now completely connected digitally and this is the theme of digital human which is about the fact that every single human on earth can talk, create relationships, trades, transactions, and invest, and save through the network; and every single human on earth can do that right now, whereas just few years ago only a third of humans could, because we couldn't serve the other two-thirds of humanity because they were too remote. Innovative technologies are creating a transformation of planet earth, which is not evolution of what we have always done, but a revolution of everything on earth.

Digitalization is challenging industries across the world and changes the way customers and firms interact with each other. Banking is no exception to this trend. While the industry has been following the way of digitalization, it is the mass spread of mobile technology that dramatically increased the pace of change. Instead of paper cheques and invoices, millions of people use mobile apps to handle most of their transactions. This has changed the way people bank and the ways banks interact with their customers.

At the same time, fuelled by technology innovation, customer expectations are increasing significantly that enables new firms to enter the value chain and disrupt the old way of doing things. Digital disruptors address customer needs in completely new way and very

rapidly. They build, execute, deploy, fail and learn fast, which is their biggest competitive advantage compared to big players, where innovation lifecycle can take years. According to Accenture's digital disruption study conducted within Nordic retail banking sector, 78 percent of banking professionals see the new entrants as one of the top three challenges they are facing today (Ruotsila, Ekdahl and Vitali, 2015). Yet less than 40 percent have a clear strategy and roadmap in place to address the challenge.

1.1 Industry Context

Throughout the years of development of financial sector, a great number of financial instruments and services has appeared, which gives a fruitful ground to the seed of disruption. Empowered by innovative technology and approach, majority new entrants aim to niche markets by offering one seamless service at a time. Just to name a few examples, Avanza, Nordnet, and Invesdor provide top class investment services, while TransferWise, Klarna, iZettle and Paypal transformed the payments industry through their intuitive payment platforms. Lending business is under pressure by innovative approach from companies like Ferratum, Lendo, GF Finance and other peer-to-peer platforms.

However, disruption does not happen piece by piece only, there are also outstanding examples such as Saxo Bank and Revolut that pursued an approach to be a digital one-stop-shop offering the complete range of banking services and being 100 percent digital at the same time. Just in four years Revolut grew to 8 million users in Europe and is planning to extend the business worldwide (Revolut, 2019). Taking into account their innovative and user-friendly platforms, short innovation lifecycle, aggressive marketing, the ambitious plan to outperform conventional banks can come true in a foreseeable future.

1.2 Case Company of This Study

Case company is one of the largest corporations in the corresponding region and one of the top 10 financial service companies in Europe based on market capitalization. It serves millions of private individuals as well as hundreds of thousands of corporate customers. Although the company possesses leading positions in Scandinavian countries, it also operates through a number of branches, subsidiaries and representative offices in the rest of Europe, America and Asia. Case company offers both

individual and corporate customers a variety of financial products, such as mortgages, loans, credits, payments, online banking, foreign exchange, derivatives, etc.

The current study is focused on the foreign exchange products and services of the case company, while applied to the business banking area, i.e. small and medium corporate customer base.

1.3 Business Challenge and Objective

In recent years, foreign exchange and cross-currency payments domain has been intensively disrupted by fintech. New firms are entering the foreign exchange (FX) domain offering advanced user experience, intuitive interface along with lower margins. According to the 2018 annual report, Danske Bank is down 48% in the total income in Fixed Income & Currencies domain for the year compared to 2017 (Danske Bank Group, 2019). Case company is no exception to the game change. Banks are obviously struggling to secure its corporate customer base by simply not keeping up to the speed of digital and mobile banking development.

In the case company, currently there has been no structured approach to complex FX product / service offering towards customers in the business banking environment.

Accordingly, this study is aimed to establish a data-driven strategy for the case company to secure its existing corporate customer base within the current more competitive landscape enabled by new European regulations of the financial markets. Such a strategy should include a data-driven approach to monitor health of the business banking segment and a new customer segmentation model to tailor current products and distribution channels across the customer base.

The study is relevant since, according to the Accenture digital report, nearly one-third of Nordic banking revenues are at risk if banks do not take an action (Ruotsila, Ekdahl and Vitali, 2015). There is no more time for hesitation, disruption is already the fact in the Nordics as well as worldwide. Competition is going to be even more intense in the future as fintech but also global technology giants such as Google, Amazon, Tencent continue to penetrate the financial industry with more diverse offerings towards their existing large customer base.

2 Method and Material

In this section, research approach chosen for the current study is described. In addition, research design, data collection and analysis methods used in this thesis are outlined along with corresponding visual materials.

2.1 Research Approach

Research approach defines a certain collection of methods that are utilized for examining an empirical subject. Choosing a right research approach is a critical foundation of any research work. In research, various distinctive research approaches exist, e.g. fundamental or basic research, case study, etc., while each is characterized with its advantages and shortcomings. When choosing the research approach, it is ideal to pick a methodology that works for the current issue and takes into account the context of a given issue.

In this study, the action research was selected as the research methodology due to applied nature of the issue addressed and its direct applicability to the business organization (case company). According to two research specialists in organizational development and action research, David Coghlan and Teresa Brannick (2014), starting point of an action research is always a real issue. In the current study, erosion of the current customer base towards new entrants of the foreign currency exchange market was addressed; the preventive strategy and actions were suggested and analyzed.

Regarding action research as methodology, Kurt Lewin (1946) is generally credited as the person who first published the term 'action research', describing it as a spiral process including three main phases: planning, taking first action step, fact-finding upon action results. However, there is much more down-to-earth definition of this type of research given by Stephen Kemmis and Robin McTaggart. "Action research is a form of collective, self-reflective inquiry that participants in social situations undertake to improve the rationality and justice of their own social and educational practices and their understanding of these practices and the situations in which they carry out these practices." (Kemmis and McTaggart, 1988)

The main goal of action research is not to gain new knowledge, confirm hypotheses, collect empirical facts, but to solve a practical problem related to improving the situation in a particular organization – school, business organization, family, etc. This is very

reminiscent of those methods that are widely used in anthropology or heuristics, since the main link is a group decision-making process. Action research expands possibilities of science as in general, since participants do not require high qualifications, knowledge of mathematical statistics, field experience, etc. Such type of research can be considered as a soft-methodology. In addition, it is a very democratic, affordable way for anyone to participate in solving important social or organizational problems, including business organizations (Kemmis and McTaggart, 1988).

Action research is a program (plan, system) used mainly by practitioners for collecting and analyzing data that allows them to improve their own actions, decisions, innovations, and reforms. It can be used as a preliminary, or pilot, study when contours of a problem are unclear. Probably, the main or brand feature of action research can be found in the denial of the principle of scientific neutrality of a researcher, which is the fundamental principle of all academic studies. In action research, a scientist must intervene in observations, change and transform reality, participate in the development and implementation of practical solutions.

Action research is also known by other names: participatory research, collaborative inquiry, emancipatory research, action learning, contextual action research. However, all these are variations of the same topic. Whatever name action research is called, learning along with practical intervention (action), complicity (participation) and research are its most important components.

2.2 Research Design

This sub-section suggests the research design used to structure the thesis. According to the chosen action research methodology, the business issue was formulated in the very beginning of the work. Going further, this gave the ground to formulate the objective and actual outcome of the thesis. All consecutive stages served the purpose to reach the defined objective. Figure 1 shows the five-stage research design of the thesis along with three stages of data collection and analysis.

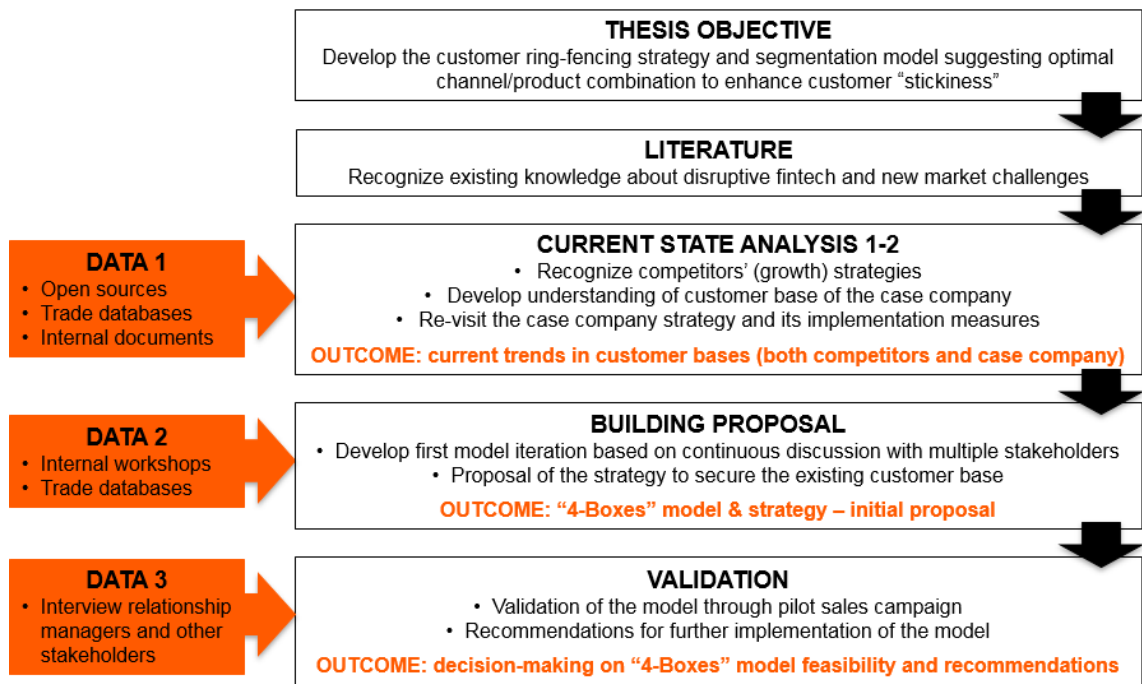


Figure 1. Research design of the study.

As seen in Figure 1, the design started with formulating clear objective to pursue in the current work. In the second stage, relevant literature was studied to recognize existing hands-on experience in the field of disruptive fintech and, what is more important, to prove the urgency of the defined objective.

In the third stage, the current state analysis was conducted for both competitors and the case company. As to analysis of fintech competitors, data (collection) round #1 was carried out from open sources, primarily from competitors’ own websites and blogposts, to recognize their growth strategies. For the case company, internal databases were used to develop understanding of the existing customer base, while internal documents were studied to summarize the current strategy and its implementation measures.

Due to aggressive growth of competitors, the case company needs to take preventive actions to ring-fence the existing customer base. In the fourth stage, the new customer segmentation model suggesting optimal channel/product combination to enhance customer satisfaction was proposed. The first iteration of the model was developed in close collaboration with colleagues from different case company departments. Data and knowledge collection round #2 was done through a number of internal workshops.

In the final stage of the research design, the proposed customer segmentation model was validated via two pilot sales campaigns involving customer-facing sales personnel. Their feedback was collected in the data round #3 consisting of face-to-face interviews. Based on the sales campaign results and corresponding colleagues' feedback, the decision-making on the model feasibility in the current organizational setup was done and recommendations for further model implementation were discussed.

2.3 Data Collection and Analysis

This study draws from a variety of data sources, namely competitors' websites and blogposts, internal databases and communications documents, workshops and interviews with colleagues. Table 1 provides overview of data rounds #1-3 and shows the important variables for describing the data.

Table 1. Description of data collection rounds #1-3.

	FOCUS	DATA TYPE	SOURCE	RECORD	OUTCOME
DATA #1 Current State Analysis 1 & 2	Competitor growth strategies Current state of customer base	Trades and payments metadata PowerPoint slides	Online open sources Relational databases Internal company docs	.csv/.xls data dumps .ppt files	Current trends in competitors' growth Rolling 90-days statistics in case company
DATA #2 Building Initial Proposal	Netting need Hedging need Various thresholds	Trades and payments metadata Internal workshops	Relational databases Data analyst 1 Data analyst 2 Sales expert Products owner Business driver	.csv/.xls data dumps Meeting notes Email threads	Initial proposal of "4-Boxes" model and strategy
DATA #3 Validation	Pilot sales campaigns	Customer feedback Interviews with sales	Customer meetings Relationship managers	Meeting notes	Decision-making on "4-Boxes" model feasibility Further steps

As seen from Table 1, data for this project was collected in three consecutive rounds. The first round, Data #1, was conducted for the current state analysis (CSA) for both competitors and the case company. In CSA 1, data on two competitors' growth strategies was gathered from online open sources such as CrunchBase and TechCrunch. Information about development of their customer bases was acquired from competitors' own websites and blogposts. On the other hand, for CSA 2 of the case company, internal strategy communications documents were used. Internal relational databases were queried to develop understanding of the current state of the customer base and corresponding trends, while there was no previous analysis done in this area. A simplified example of a standard entry of the trade database used can be found in Appendix 1.

In the next round, Data #2, internal relational databases were used to analyze both current product and service setup of each customer individually and its needs based on current behavior. Collected data was studied during multiple internal workshops with participants representing different business units of the case company, where the initial proposal of the new customer segmentation model was developed. Information from meeting notes and email threads served as basis to formulate initial model logic and calculate input parameters.

The final round, interviews made the primary method of data collection. Data #3 was carried out when receiving feedback for the proposed model from the customer relationship managers, who had been contacting a number of customers during two pilot sales campaigns in order to validate the proposed customer segmentation model. The interviews were conducted as semi-structured, face-to-face interviews, held on the company premises, in a form of open dialogue with questions created in advance. The questions for interviewing customer relationship managers can be found in Appendix 2. The interviews were not recorded but the field notes taken.

Although the input from workshops and interviews was widely utilized in this project, no direct citations were used in the text from the respondents due to confidentiality of the discussed topic.

All the data was analyzed using thematic/content analysis. In CSA 1, trend line approximation was done in Excel. In CSA 2, numerical calculations of rolling 90-days statistics were run in Python. The biggest part of data analysis was done for Data collection round #2, where the model logic was developed and two main concepts,

netting need and hedging need, were derived along with corresponding numerical thresholds. These concepts were further translated into model input parameters and were calculated for each customer individually. Netting and hedging concepts are discussed in Section 3 below.

3 Existing Knowledge about Disruptive Fintech and Banking Strategies to Address It

This section discusses the current situation in the competitive environment and the influence of disruptive fintech on traditional industry players, banks, focusing on the product and services, as well as competitive strategies, that result in fierce competition within the industry.

3.1 The Nature of Competitive Environment in Banking Industry

According to IBM Marketing Cloud report (2017), every day people create 2.5 quintillion bytes of data online. To give it some perspective, 90% of all data has been created since 2016 – and with all new devices manufactured, internet of things (IoT), the data growth rate is likely to accelerate even more (IBM Marketing Cloud, 2017). It takes so much bandwidth because bandwidth is unlimited now, storage capacity is unlimited now, technology is unlimited and that is the transformation, that is a revolution, nor evolution, and this is happening within last two decades. As roughly 30 terabytes of data every second go up onto the internet, it is easy to grasp the effect it has on companies: in terms of companies, that were industrial era institutions of value, are disappearing and being replaced by the digital institutions of value as shown in Table 2.

Table 2. Top 5 publicly traded companies by market capitalization (Wikipedia, 2019).

	#1	#2	#3	#4	#5
2001	General Electric, \$372B	Microsoft, \$327B	Exxon Mobil, \$300B	Wal-Mart, \$273B	Citigroup, \$255B
2007	PetroChina, \$724B	Exxon Mobil, \$512B	General Electric, \$375B	China Mobile, \$354B	ICBC, \$339B
2013	Apple Inc., \$505B	Exxon Mobil, \$442B	Microsoft, \$312B	Google, \$310B	Berkshire Hathaway, \$292B
2019	Microsoft, \$1,028B	Amazon.com, \$929B	Apple Inc., \$911B	Alphabet, \$751B	Facebook, \$552B

The industrial era institutions of value manufacture and process and distribute everything, while the digital era companies manufacture and distribute nothing. However, they play much more important role: they connect everything. The platform revolution is all about providing platforms which connect everyone who needs something with everyone who has something. That is what banks have always done in industrial era at numerous branches with buildings with humans inside: they connected people who have money with people who need money.

Today, they are being replaced with companies that do it through software and service. Table 3 shows if the third-largest bank in the world is compared against 8-year-old fintech Stripe providing online payment services, the software firm is generating 15 times more value per employee than a 200-year-old bank.

Table 3. Comparison of JPMorgan Chase and Stripe (Wikipedia, 2019).

FIRM	ESTABLISHED	EMPLOYEES	MARKET CAP	EMPLOYEE VALUATION
JPMorgan Chase	1799	256,100	\$380B	\$1.5M/employee
Stripe	2011	1,500	\$35B	\$23M/employee

This comparison shown in Table 3 suggests that digital transformation actually means making a radical change to a bank, not just incremental change. In revolutionary times, banks can't do incremental revolution, radical changes are vital. While software is eating the world, banks need to automate everything that can be automated. Banks need to take all the things they can in their cumbersome financial processes and see how technology can transform or automate that service. It is a part of a change that the world is going through right now and it is bigger change in business, finance and trade than Victorians went through during industrial revolution. This one is taking place far quicker and industrial era companies that manufacture, distribute and process everything will die if they continue to do that; they have to connect people that have things with people who need those things.

3.2 Current Developments in Foreign Exchange Products and Services

The exchange of one currency for another is carried out in the process of buying one and selling another currency in the foreign exchange (FX) markets. The foreign exchange market is a system of socio-economic and organizational relations for purchasing and selling of foreign currency which determines the exchange rate for currencies around the world (Investopedia, 2019).

Foreign exchange markets are competitive markets characterized by a large number of buyers and sellers selling such standard “goods” as euro, dollar, ruble, etc. The participants in the foreign exchange market are primarily importers and exporters of physical goods or services. Exporters demand for national currency and offer foreign one, while importers of goods, on the contrary, offer national currency and make demand for foreign one. For example, a Russian exporter who sold a million barrels of oil to China for CHN wants to exchange them for RUB, thereby creating demand for RUB and supply of CHN. At the same time, a Russian importer who wants to buy a batch of equipment in USA will offer RUB and demand for USD.

The demand and supply of currency arise not only in connection with foreign trade, but also in connection with other international operations (transactions, capital flows, insurance, etc.). Along with the "primary" market entities – exporters and importers, which form the basic supply and demand of the currency, other participants of the foreign exchange market are identified for whom the currency is a product that they sell and buy for profit. About 90% of all foreign exchange transactions in the foreign exchange market are not related to foreign trading operations; this is an ordinary exchange game on the difference in exchange rates in order to make a profit. The current study is focused solely on FX participants (customers of the case company) who buy and sell foreign currency due to their export and import activities.

3.2.1 Foreign Payments and Autodealing

As discussed earlier, importers/exporters often need to make a payment in foreign currency, e.g. a Russian importer needs to pay in USD for equipment purchased in USA but he has all his bank accounts denominated in his home currency, RUB. Financial service providers offer a possibility for their customers to pay directly from a customer home currency account while making a conversion from RUB into USD in the back-office automatically, which is not visible to a customer. Such an automated transaction in a

different currency than customer's account will be later referred as 'autodealing' in the text. Since an autodealing transaction requires certain currency manipulation in the back-office, it costs a customer an additional margin to a cost of transaction itself. It is the most expensive way to exchange currencies, although it eliminates few additional actions on a customer side.

Autodealing is by far the most disrupted foreign exchange product as banks can charge as high as 8% from a sum transacted (Revolut, 2019) and it has the least customer involvement into an active relationship with a bank. Fintechs, such as Revolut and TransferWise, provide modern UX design, better customer experience and, what is the most critical here, charge much less than conventional banks (see Figure 6). A private individual might have a rare need of transferring money into a foreign currency, but speaking about corporate customer area, where a necessity to transact to international partners, pay invoices and salaries, is in the nature of such a customer, for a bank this customer base becomes too costly to lose. In the sight of competition with fintechs, it might be too hard to fight for a new corporate customer, but it is absolutely necessary to secure the existing FX customer base of a corporate nature.

3.2.2 Foreign Currency Account and Trading Platform

On the one hand, a customer may choose to pay directly from his home currency account and pay extra margin for doing that. On the other hand, a customer has a possibility to open a foreign currency account (FCA) in the same bank and pay directly from this account to his foreign counterparts. In this case, a customer enters into a closer relationship with his original bank as there one more contact point is created between a bank and its customer. The latter now needs to exchange home currency into foreign one or vice versa and automatically enters into engagement with a bank's FX online trading platform.

After registration (for a corporate customer, an agreement needs to be signed), a private user can login into a trading platform and trade on behalf of a corporate customer. Normally, an FX trade happens between two customer's currency accounts and bank puts a smaller margin on top of intermediate FX rate due to less workload onto bank's payment infrastructure and higher customer involvement into his financial management and relationship with a home bank. Starting from this point, it becomes harder for competitors to win such a client.

3.2.3 Netting

Foreign currency accounts are highly relevant especially for customers with two-way payment flows, both incoming and outgoing foreign payments, because the possibility of netting appears.

According to Investopedia, netting entails offsetting the value of multiple positions or payments due to be exchanged between two or more parties. Netting used in trading, where an investor can offset a position in one security or currency with another position either in the same security or another one. The goal in netting is to offset losses in one position with gains in another. For example, if an investor is short 40 shares of a security and long 100 shares of the same security, he is net long 60 shares (Investopedia, 2019).

Applied to the business banking environment, instrument of netting allows to save on fees and FX margins originating from multiple, both incoming and outgoing, transactions in the same currency cross. For example, a European-based firm normally sells goods around Europe, while production facilities are located in China. It has its expenses in USD, as it is a common practice within Chinese subcontractors to pay not in CHN but in USD, and at the same time revenues come in EUR due to domestic market distribution. This firm frequently exchanges EUR into USD, but still avoids opening a currency account denominated in USD for sake of simplicity and tax declaration as all assets should be reported in home currency. At some point, the firm decides to pursue opportunities outside its domestic markets. It finds new customers to sell to overseas, while it is more convenient for them to transact in USD. This new market value is still not big enough to open USD account as a few USD incoming payments can be easily converted into EUR in the back-office and settle on current EUR account. However, newly generated USD income can be utilized to partially cover already existing regular USD expenses, i.e. two-way USD cash flow can be accumulated at an account and be netted in a way that incoming USD flow will partially cover the existing need of EUR conversion into USD. In order to net these flows a foreign currency account, USD in this case, should be opened and all USD transactions should be routed to a new FCA. Depending on amounts being transacted, netting practice allows to save on paying double margins to a bank.

From a bank's perspective, netting practice is much less profitable compared to a scenario when a customer pays FX margins, firstly, to exchange EUR into USD, secondly, USD into EUR. Basically, when a customer starts netting, a bank has no FX income from a sum that is netted. The bigger net sum is, the more income bank loses.

With a brief glance, such a situation may seem catastrophic to bank's top management as foreign exchange revenues can be intentionally diminished. In such circumstances, taking a broader overview onto a customer portfolio is necessary. For some customers, it might appear that their profit generated within FX domain is a few times smaller than across other parts of the business. For example, existing credit history or investment portfolio with the customer in question have generated much more profit for a bank than FX domain. In such circumstances, offering this customer to decrease his foreign exchange expenses by opening a foreign currency account and netting some of payment flows can only enhance customer's satisfaction with his financial service provider and increase his 'stickiness' to a bank. The latter is crucial in ongoing battle with fintechs for a customer.

3.2.4 Hedging

Historically happened that a standard FX trade takes two business days to be cleared and settle within bank's infrastructure. It means that money will be frozen on one account immediately and be credited to a specified account in two business days according to a current FX rate. This type of transaction is referred as a spot. As demonstrated, this type of transaction allows almost no flexibility neither in FX rate applied nor in cash flow planning. For future cash flow management, a group of financial instruments has been derived based on spot, so they are called derivatives. FX forwards, swaps, options allow a customer to plan foreign exchange for any time ahead by fixing FX rate for a future transaction at the moment of entering into financial agreement with a bank. These financial instruments cost a bit more compared to conventional spots, although allow for more sophisticated future cash management within volatile capital markets. These financial instruments are traditionally referred as hedging.

3.3 Challenges Brought by the Competitive Environment and Current Strategies to Address Them

For a bank, this radical change in the competitive environment means a big change to the way it constructs itself.

3.3.1 Challenges Brought by the Competitive Environment

Banks historically have been manufacturing products and services in the back-offices that provide administration and processing connected through infrastructure in the middle office, which is the main infrastructure that processing every transaction right first-

time every time by connecting the front and back offices. The front office is all about customer focus, customer experience and customer relationship. Many banks have tried to do all these things all over the lines of business, all over the world. This universal banking model, the idea that banks could serve everybody everywhere with everything and do it well, is completely stupid. It is not going to happen. What is happening is that these thousands of fintech companies with young ambitious people, who visionary saying: 'I can just do one thing across that map of products and services well and let banks do a thousand things when a couple of things well but the rest badly. I am just going to do one thing.' It is a critical point because in the industrial era companies could manufacture, process and distribute everything averagely, but it is not enough today in order to stay competitive.

Chris Skinner (2014) defines business process re-engineering as all about looking at products in the back-office, processes in the middle office and people in the front office and trying to see how a bank can get them to be the best they could be. According to his experience, many firms would end up saying that they want to do incremental improvement because transformation is rather difficult. It is a challenge to many causes of silos that banks still have today, and banks have to break through that silos, barons and empires, and look at an enterprise structure that connects people who have money with people who need money, and stop having these silos structures. For example, Amazon doesn't have silos structures. If Amazon was a bank then the 'book' people wouldn't talk to 'blue-ray' people and that would be stupid, because all these people are developing one platform.

Today, everything is about platforms and experiences rather than processes. When one speaks about platforms and experiences, he knows which apps he loves, because they give him the least friction and the best experience. If one need to go on holiday and get a room, finding an Airbnb place is simple to do and experience is far better than him going to a hotel, because he can look after a place himself, have the whole place for himself. Airbnb just connects people who need to sleep with people who have beds. It is a really basic concept. Applied to finance, one can serve an indeed basic principle of connecting someone who needs to buy things like a vehicle or a piece of furniture with people who have money through software and service, now algorithms, on a platform.

As early as March 2005, Zopa was launched in the UK, a peer-to-peer lending financial company, which kind of set the model for a lot of peer-to-peer lending companies now

around the globe. They had this idea of an e-Bay for money where the marketplace is controlled through the algorithms and based on borrowers' performances; borrowers' performances are rated and risk-analysed to give a higher rate of interest return to investors if they take higher rates of risk and lower rates of return if they take lower rates of risk.

Either way, one gets far lower cost of borrowing and far better return on investment compared if he goes through a bank or a financial firm, because linking people through software and service without buildings and humans collapses the basis points differential between credits and debits. That is what fintech is doing, what Zopa is doing. Since its launch, Zopa has enabled nearly £ 4 billion of lending for almost half a million British personal consumers. However, is still small fry compared to the financial sector's major players (Vizard, 2019). Nevertheless, banks have hard times to compete because they have buildings and humans and can't do the same interest rates on savings and loans while having that overhead costs. There is so many new disruptors doing one thing like loans brilliantly well. How can banks compete?

3.3.2 Response Strategies to the Challenges of Competitive Environment

Chris Skinner (2014) calls to 'apps-APIs-analytics' revolution; apps in the front-office, APIs in the middle-office and analytics in the back-office. Majority of banks thinks that their front-office mobile app is a sign of digital transformation. However, it is not doing digital but trying to make it better for a customer; that is not where the action should take place. The biggest battle will happen in the back-office. Not to get it wrong as customers do like those apps.

For example, mobile wallet is a big deal and the reason for it being a big deal, is that mobile wallet actually changes people's behaviour, giving people new ways of doing things and giving that virality of an app. Imagine someone is saying: 'You've got five euro. Download this app!'. One has no other way but downloading an app. The virality originates from the front-office where customer experience is based and where behaviour can change quickly, almost overnight.

A few years ago, none used such words as 'grab/lift uber', 'mobile-pay me', but those apps took over the world so quickly because of the virality effect. However, no-one could build those apps without APIs in the middle-office. Uber and Airbnb would not exist without mobile payments, without PayPal, without Google Maps, and APIs of those

companies who provide Uber and Airbnb with simplicity of integration into people's everyday life. The API marketplace, the application program interface, the 'plug-and-play' code marketplace is where actual transformation is happening.

Research and Market is the world's largest market research store; according to their 'Carrier B2B Data Revenue: Big Data, Analytics, Telecom APIs, and Data as a Service (DaaS) 2018-2023' report, total global Telecom API related revenue will reach \$319.6B by 2023, while global IoT platform and authentication API revenue reaches \$5.3B and \$9.2B respectively by 2019 (Research and Market, 2018). API marketplace means that other people take your piece of code and do the work, while you earn money from that work.

Speaking about financial area, other people integrate your lines of code into their systems, but one gets all the transactions and earns from every transaction by taking a tiny bit of it. Getting back to Stripe case, the company kicked-off with the idea that it is possible to make online merchant checkout as a really simple 'plug-and-play' code marketplace. A few lines of code turned into multi-billion startup (Vance, 2017). Figure 2 groups various financial APIs being launched around the world by area of applicability (MEDICI, 2016). All of them are doing one or couple of things brilliantly well, focused very specifically on one area such as finance, trading, payments, lending, etc.



Figure 2. '71 APIs Fueling the FinTech Innovation Engine' (MEDICI, 2016).

Moreover, Open Banking and PSD2 regulations are already here, so banks have to implement those APIs anyway. These regulations can't be ignored, so banks better lead them, follow them (Khurjekar and Goel, 2018). In case a bank is not at the forefront of Open Banking, on leading edge and driving it through the marketplace, then it is going to miss an opportunity which others will pursue for sure. If to give a good example from banking, Saxo Bank, quite a young bank established in 1992, is the strongest advocate of open-API marketplace to finance and financial services and is marketing that worldwide, particularly for trading and investing (Saxo Group, 2019).

Recently, also multiple developments have happened with data in the back-office. There were lots of talks about big data and cloud in the last decade. Nowadays there are lots of talks about machine learning and artificial intelligence and all the things that go on with data analytics. This is the where the biggest battleground will be for large traditional financial firms, because this where they currently have the biggest opportunity but also the biggest weakness. The biggest opportunity is to have data insights leverage, while the biggest weakness is to have current data structured in a fragmented organizational history of legacy. This is exactly why banks need to redevelop core systems and modernize them into an enterprise data architecture where one has a single overview of a customer.

Summing up, no single overview of a customer means dumb data. No intelligence to a customer means that a bank will never take a smart action towards a customer if it operates on dumb data. Artificial intelligence is where that battleground will take place and winners and losers will be revealed quickly, as soon as in the next decade.

3.3.3 Specific Challenges That are Difficult to Address: Loss of Trust and Change of Customer Generations

As the official corporate vision statement of many banks is based on very broad terms such as "being the most trustful, transparent and reliable" partner in doing business, this is a hardly achievable goal. In the news, there are a lot of examples when banks fail miserably on their post-financial-crisis promises on better banking practices. Let's mention a few with corresponding amounts laundered: in 2012 Standard Chartered – estimated \$438 billion (Makortoff, 2019), in 2016 Panama Papers – sums seem to be unmeasurable (Obermaier and Obermayer, 2017), in 2018 Danske Bank - €200 billion (Milne and Winter, 2018), and many more.

Due to multiple scandals and enormous money at stake, banks are perceived as necessary evil, which is needed to the world economy to operate. However, in his best-selling book “The Ascent of Money”, Niall Ferguson reveals finance to be the foundation of human progress, the engine that human civilization runs on in the modern history. Suddenly, a lot of historical landmarks gain a new perspective if approached from the financial point of view. Adoption of Arabic mathematics by Italian banks in XIII century enabled the growth in the market of architecture and art in the Renaissance. Long lasting British-French conflict facilitated the European bond market that relied on the only wide accepted currency, i.e. gold, while the French Revolution can be traced back to a stock market bubble in the end of the XVIII century (Ferguson, 2008).

Despite of being foundation of human progress, one of the modern most important drivers of progress, customer experience, has been measured to be positive at least among 50% of respondents only in Canada, US and Czeck Republic, with Australia and South Africa closely following up. In the meantime, only one-third or less of customers in a few European countries, such as France, Norway and Spain, ranked their conventional banking experience as positive (Ruotsila, Ekdahl and Vitali, 2015). Complete country breakdown from the Accenture digital disruption report is shown in Figure 3. Nevertheless, according to the same study which conducted within Nordic retail banking sector, Nordic customers adopt digital tools strongly and very conservative in their financial planning, so they still trust banks more than other financial services, that provides a solid foundation for conventional banks to enhance customer digital experience and become relevant again.

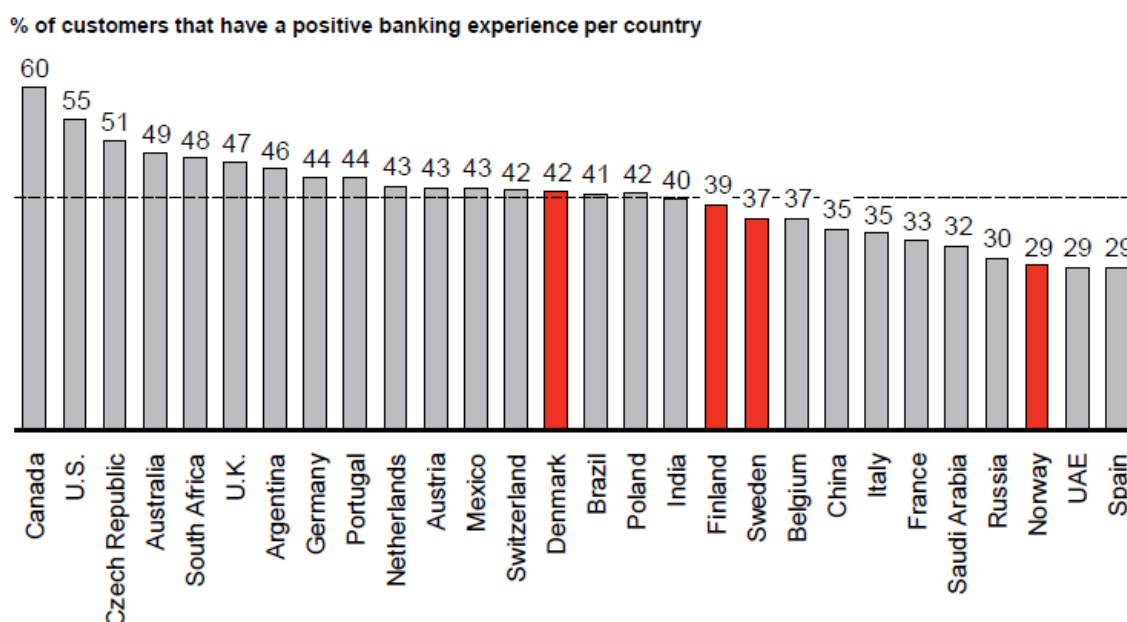


Figure 3. Percentage of customers that have a positive banking experience per country (Ruotsila, Ekdahl and Vitali, 2015).

2008 marks a major turning point in the evolution of fintech. The global financial crisis of 2008 started in the subprime real estate markets of the United States and spread throughout the global financial system to major developed markets around the world, as well as, impacting developing and emerging market countries through the economic slowdown that from the standpoint of trade.

From the standpoint of fintech, the global financial crisis had a number of very important features. The first, was that it resulted in large numbers of job losses in the financial sector, particularly amongst younger people. This drove many of those people who had been looking forward to very good careers in the context of financial sector to seek to pursue other opportunities. And it's certainly the case today that if one meets someone who has just left a large financial institution, it is very frequently the case that they have gone to start a new fintech startup company.

Thus, first impact of the global financial crisis, job losses forcing people in the financial sector to look for new opportunities. The second was that a reaction to the global financial crisis involved large numbers of regulatory changes designed to prohibit or prevent the sorts of problems that emerged in 2008 from happening again. These massive amounts of regulatory changes resulted in a dramatic decrease in profitability of financial institutions as well as massive increases in compliance and regulatory cost for those

institutions. In many ways, the only way that these new requirements could be addressed was via technology. The third impact of the global financial crisis really was to speed up something, which was already happening, which was a loss or a drop in trust in traditional financial institutions.

Since 2008, certainly amongst people under 35, it is now generally recognized that they would be more comfortable doing financial transactions with a technology company, whether Facebook or Alibaba or Tencent or Google than with a traditional financial institution like HSBC, Barclays or Bank of America. Now, if we think about this combination, the combination has led to an explosion in startups.

4 Current State Analysis-1 of Two Significant Competitors and Their Strategies from Disruptive Fintech

This section analyses two prominent competitors from disruptive fintech, focusing on their strategies to compete that are important to understand for the case company.

One very high-profile startup is perhaps one of the most unique, well-known as Bitcoin and other forms of cryptocurrency based on blockchain or distributed ledger technologies. Others have involved various forms of alternative finance like P2P lending, peer-to-peer lending, or forms of crowdfunding, a range of different payments. But in fact, startups in the context of fintech are even not new. If we think back to 1999, one of those internet bubble startups was a company called PayPal. PayPal today is one of the world's most significant payment services providers along with traditional firms like Visa or MasterCard. The explosion in startups since the global financial crisis is new in terms of numbers, volume, and transformative potential.

4.1 Analysis of the Competitor Company: Revolut

Revolut is a mobile application that integrates with a multi-currency debit card. It allows you to convert funds from one currency to another at an interbank rate, which means low spreads, exchange cryptocurrencies, make free money transfers anywhere in the world, as well as buy insurance and arrange loans. In the latter case, the application works as a P2P platform: users borrow funds to each other. Now this project is rapidly transforming into a modern mobile bank: Revolut has already acquired banking licenses in the UK and the eurozone and has plans to obtain one in USA (West, 2018).

The launch of Revolut took place on July 1, 2015 (Revolut, 2019). The revolution of the product was that its users got access to free conversion and currency transfer at the rates of the interbank Forex market. By the end of 2015, Revolut was already serving more than 55,000 active users, processing their transactions for more than \$ 140 million. Further journey is shown in the Figure 4.



Figure 4. Growth of Revolut since its launch until March 2018 (Lorain, 2018).

In order to pursue rapid growth, the startup began to attract investment. According to Crunchbase, the first round of seed investment took place at the end of July 2015. Two funds invested \$ 2.3 million in Revolut – Balderton Capital and SeedCamp. Side in December 2015 told Forbes that in total by that time the company had received \$ 3.5 million from investors named above, as well as from Venrex and Point9. The second round of seed investments was closed in February 2016 - Revolut received \$ 4.8 million from Balderton Capital, Seedcamp, Point Nine, Venrex and Index Ventures (Crunchbase, 2019). After this, Revolut raised money several more times - from venture funds, angels and private investors through crowdfunding. So, during the last crowdfunding in July 2017, the titled British tennis player Andy Murray was among the investors of Revolut (Barber, 2017). This campaign was very successful – 40,000 participants from 55 countries were ready to invest \$ 22 million in Revolut, although the startup needed \$ 5.3 million to close the round (Browne, 2017). Revolut closed the last, Series C, round of financing in April 2018. A consortium of investors led by the DST Global fund, which is based in Hong Kong and founded in 2009 by renowned Russian venture investor Yuri Milner, invested \$ 250 million in the company.

According to its strategy, DST Global invests in the most vibrant and fastest growing Internet companies in the world. At one time, the fund was an investor in such well-known startups as Facebook, Twitter, WhatsApp, Snapchat, Airbnb, Spotify, Alibaba, etc. Thus, Revolut received not only international recognition, but also a valuation of \$ 1.7 billion, which automatically made the company into the honorary league of unicorns – startups, which are worth more than \$ 1 billion (O'Hear, 2018).

According to The Electronic Money Regulations 2011, Revolut is an electronic money institution (EMI), which is a special form of non-banking settlement and credit organization in the UK (The Electronic Money Regulations, 2011). In fact, Revolut is a financial intermediary between the user and a number of financial institutions, such as stock exchanges, banks, insurance companies, financial marketplaces and others. The funds that the user transfers to Revolut are not deposits, and they are not covered by

state insurance. However, the law requires that EMI ensure the safety of electronic money, either by placing equal amounts of funds in reliable financial instruments, or by acquiring insurance coverage in reliable insurance organizations.

It is totally clear that the company's valuation is rapidly growing, but for most professional observers it remains unclear where Revolut makes most of its revenue from. Perhaps, the company takes a small commission for "connecting" users with end financial service providers. Given the simplified regulation compared to banks and the absence of large fixed costs due to the presence of only online, such a business model can give a small profit. Revolut is also likely to sell user data to interested parties (including social network and address book data, photographs, geolocation, camera data and microphones of users' devices), as this is possible under their user agreement.

4.1.1 Analysis of the Competitor Business Model

Using Revolut open pages, it is possible to map revenue sources which originate solely from its customers. The application works according to the freemium model – basic services for customers are free but you need to pay for additional ones, \$ 8.99 or \$ 15.99 per month (Revolut, 2019). The basic package includes access to 150 currencies for payments, 25 for storage in wallets and zero-commission transfers, including 5 cryptocurrencies: bitcoin, ether, lithium, ripple, bitcoin cache. The \$ 8.99 plus package comes with a premium bank card, international health insurance, and cancellation / loss of baggage insurance. And for \$ 15.99, the client receives an additional metal card, concierge service and cashback for all payments in the amount of 0.1-1%.

According to their website, Revolut customer base has more than 8 million private customers, while corporate customer base remains undisclosed. However, at the end of 2017 startup claimed to get 16,000 business accounts signed up to their service in just 3 months with no marketing at all, which sounds totally impressive (Braileanu, 2017). At one point, information about 70,000 business accounts appeared in press (Gryniuk, 2019).

At the moment other forms of income include:

- Interchange fee from commercial stores
- Freemium model for corporates – free with a turnover of up to € 5000 per month, and 0.5% once over the threshold.

- Interest on client money remaining balance
- Additional services – loans, insurance, cryptocurrency, investments, robo-advising.

Investors like the simple and effective product concept that the team has successfully put into practice, as well as impressive growth rates that do not raise questions about the correctness of the business model. Overall, Revolut business model canvas (see Figure 5) was beautifully outlined by LumosBusiness, strategy consulting agency (based on the business canvas by Osterwalder et al, 2019).

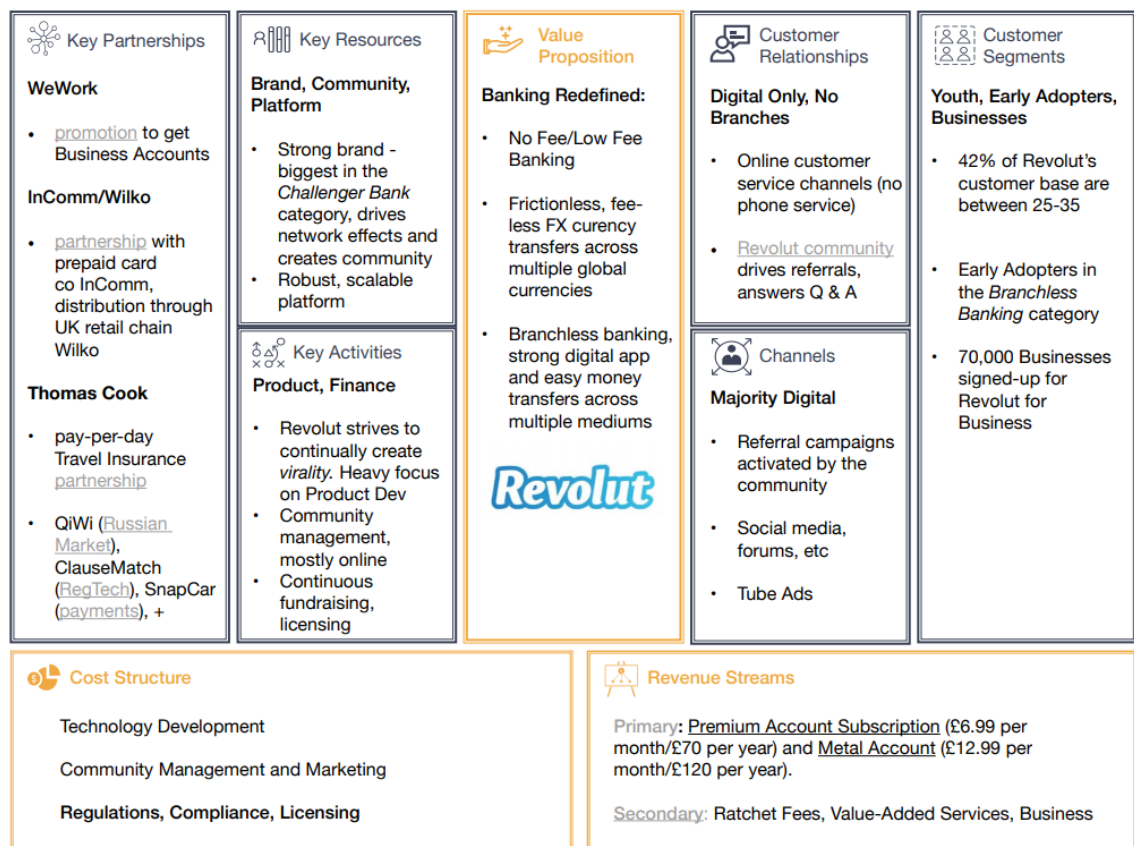


Figure 5. Business model canvas of Revolut (based on the business canvas by Osterwalder et al, 2019).

As seen from Figure 5, the elements of Revolut's business model among others include partnerships to outsource off-target business areas, development of stable target product and growing community around it. However, it is the value proposition that distinguishes Revolut from traditional banks: the startup advocates the idea of branchless banking that allows it to maintain no fee/low fee FX currency transfers due to significantly decreased operational costs.

4.1.2 Existing Customer Base and Further Growth

According to CNBC (Browne, 2019), Revolut partnered up with Mastercard to help it expand into the US market already by the end of this year, where, among other things, it is going to offer a stock market trading service without commissions (the same service already works in European countries). Another unicorn startup, Robinhood, is actively engaged in such a service in the USA, which, in turn, had plans to develop personal online banking but failed (Shevlin, 2019).

Further, Revolut plans to expand into Canada, Asia, Australia, New Zealand, that is explained by company's ambition to maintain rapid accumulation of customer base. Its up-to-date exponential growth (with correlation coefficient $R^2 = 0.999$) is illustrated on Figure 6.

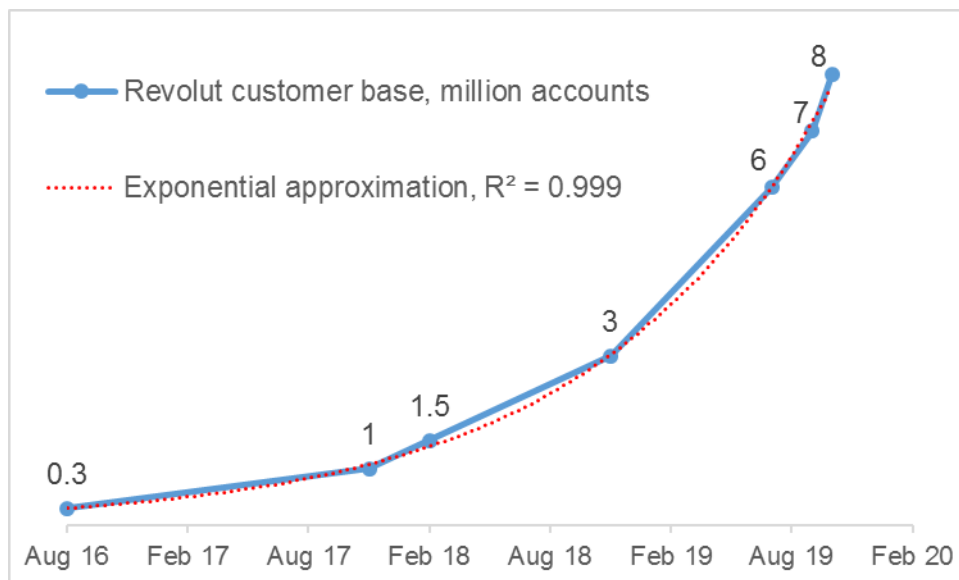


Figure 6. Exponential growth of Revolut customer base based on open source data.

Given the impressive track record, there is no doubt that in the coming years Revolut will keep active disruption of old way of doing banking. As demonstrated in Figure 6, it will continue exponentially “eating” customer bases of conventional banks that are too slow to change in the digital era and ring-fence their current customers with new innovative services.

4.2 Analysis of the Competitor Company: TransferWise

Money transfer service TransferWise announced just in May this year that it had raised additional financing in the amount of \$ 292 million and sees investors value the company at \$ 3.5 billion. This makes it the most expensive fintech startup in Europe. Founded in 2011 by two Estonian entrepreneurs, TransferWise has developed an application and website that allows users to transfer money abroad at close-to-midmarket exchange rates. TransferWise has been able to revolutionize currency exchange and cross-border transfers through transparent pricing and elimination of fees and margins commonly charged by banks. Since the company raised \$ 280 million during financing round E at the end of 2017, its value, according to investors, has doubled. The total amount of investments attracted by the company is \$ 689 million. TransferWise now has 5 million customers worldwide, and it processes transfers of \$ 5 billion monthly. The company, with 1,600 employees in 12 offices, claims to save more than \$ 1 billion in bank commissions annually, while supporting 1,600 currency routes and being available for 49 currencies (O'Hear, 2019).

With a new brilliant \$ 3.5 billion price tag, TransferWise became the most expensive fintech company in Europe, ahead of OakNorth, a British borrower who was valued at \$ 2.8 billion. Lead Edge Capital, Lone Pine Capital were among the company's new investors in the last round and Vitruvian Partners. Former investors are Andreessen Horowitz, a well-known Silicon Valley venture capital firm that invested in companies like Facebook and Airbnb at the dawn of their existence, and management company Baillie Gifford increased their stakes, and BlackRock invested part of the funds under its management. TransferWise, which also competes with startups like CurrencyCloud and Revolut, said it has no plans to put more cash on its balance sheet, claiming that it does not need additional capital now. Instead, it gives employees and early investors the opportunity to sell part of their shares (Shead, 2019).

In the article Forbes is quoting Nimay Mehta's, general partner at Lead Edge Capital, as he made a statement in relation to TransferWise.

The world is moving towards a more transparent way of doing business and we want to be part of that. International money transfers represent a multi-trillion-dollar market, until now dominated by banks keeping prices artificially high and transfer times slow. TransferWise has changed all that. For the first time people can send money all over the world at the real exchange rate for a transparent fee, and it's no wonder five million customers have come onboard so far. The opportunity for

TransferWise is set to grow exponentially now that regulators from Europe to Australia are making transparency the status quo (Forbes, 2019).

What if a private individual wants to convert EUR 1,000 into USD? TransferWise provide immediate mid-market rate from Reuters and compares that to other banks. The end result of this process is self-explanatory and shown below in Figure 7.

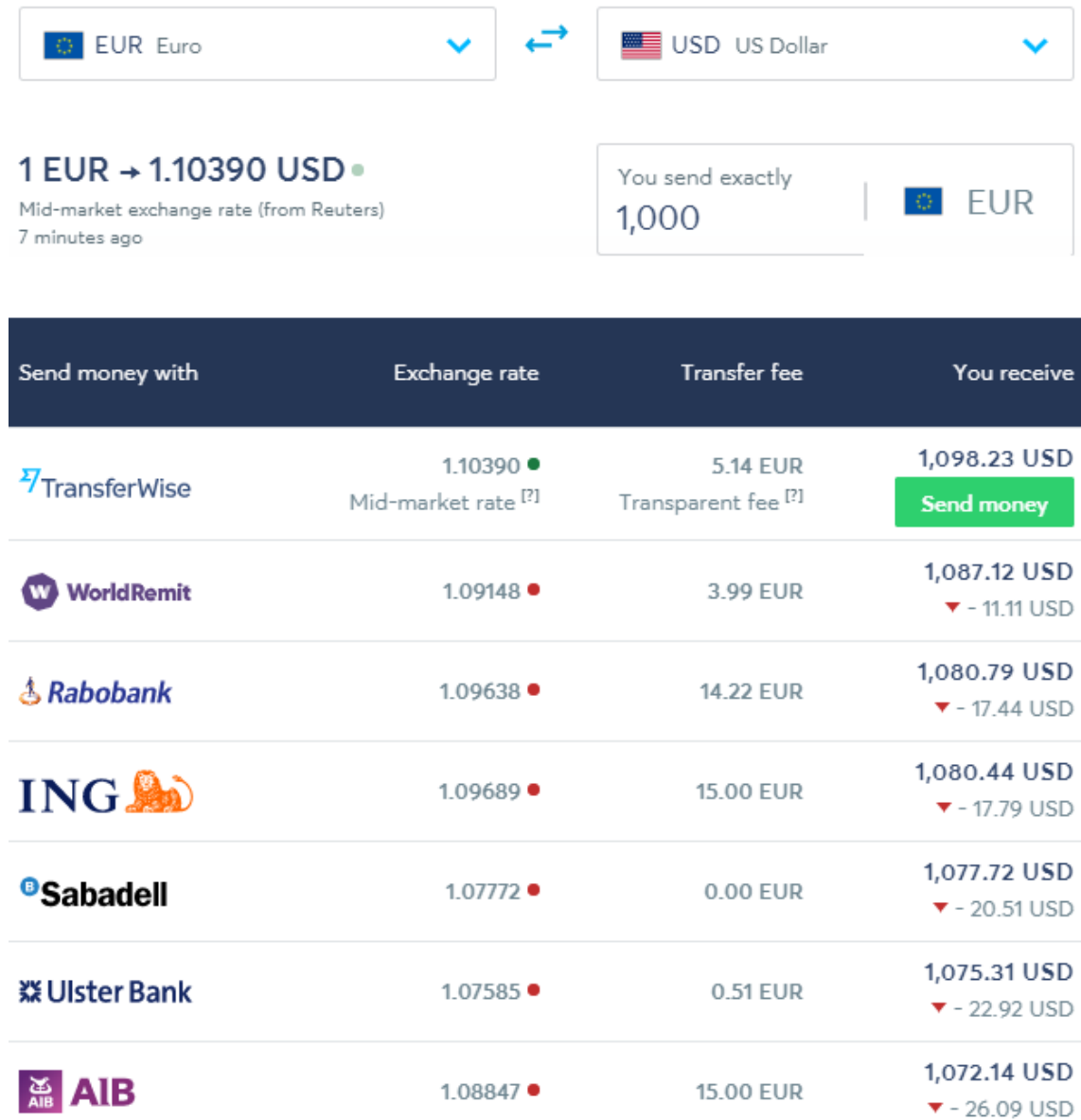


Figure 7. Screenshot from TransferWise website when exchanging EUR 1,000 into USD (TransferWise, 2019).

Starting from its launch, TransferWise made low tariffs the cornerstone of its product. The fact is that the fee for international money transfer has two components. The first is directly the commission for sending money. The second, less obvious, is the cost of

converting currencies. If the client sends money in one currency, and the recipient receives it in another currency, then the conversion usually occurs at the rate of the sending organization, which can be very different from the market one. TransferWise has declared “trade war” on this practice. Firstly, the service openly warns customers about the rate at which conversion will take place. Secondly, the company seeks to offer customers the most profitable mid-market rate. In 2018, European Commission has acknowledged TransferWise business model by voting to mandate the outlawing of exchange rate mark-ups on international payments through its Cross-Border Payments Regulations, something that the London fintech company has long been lobbying for (European Commission, 2019).

4.2.1 Analysis of the Competitor Business Model

A favorable exchange rate is achieved through the so-called peer to peer (P2P) model, in which the amount of money sent from one country is balanced by the amount of money that goes in the opposite direction. In this case, TransferWise does not actually need to transfer money from one country to another. The problem is that balancing such flows is not always possible. The P2P model is difficult to use when working with countries such as the Philippines or Mexico, where the volume of incoming transfers significantly exceeds the volume of outgoing ones. Taavet Hinrikus, one of two cofounders, in an interview with Reddit users in April 2015 admitted that in case of such a mismatch TransferWise has to buy a missing currency at the interbank market (Reddit thread, 2015).

TransferWise attracts customers with low tariffs (this applies not only to conversion, but also to commission), as well as various marketing efforts. In particular, the startup is very actively using referral marketing and non-standard promotions. The service was initially positioned as an alternative, primarily to bank transfers. In this regard, the startup organized a series of outrageous activities against the hidden fees that banks charge customers. For example, in honor of its entry into the US market, TransferWise held a “naked march” under hashtag #Nothing2Hide on Wall Street in cold New York on 26th of February 2015 (TransferWise, 2015). Prior to this, a similar event took place in the City of London.

4.2.2 Existing Customer Base and Further Growth

According to the annual report, current customer base of TransferWise counts 5 million customers. Table 4 below shows that and other key figures about TransferWise today (TransferWise annual report, 2019).

Table 4. Basic figures about TransferWise today (TransferWise annual report, 2019).

Customer base	1,600+ currency routes across 49 currencies 5 million customers, with 10,000 businesses signing up every month
Financial facts	Over £4 billion in transactions every month 15 million transactions on borderless debit cards to date £1 billion a year of banking fees saved, that's £3 million a day compared to using a bank for the same transaction
Mission progress	Average price decreased globally, from 0.73% of the transfer amount in 2017, to 0.67% of the transfer amount today Almost 20% of transfers are now instant, meaning they're delivered in 20 seconds or less Borderless debit cards came to Europe and the USA, alongside launching a card for businesses

The sky-rocketing rise of TransferWise will undoubtedly make executives of companies like Western Union, as well as leading banks around the world, worry. For the fiscal year ending March 2019, TransferWise recorded a net profit of £ 10.3 million, and its revenue grew more than 50% year-on-year to £ 179 million (TransferWise, 2019). There is no doubt that TransferWise will continue to grow its customer base and disrupt the global international payment landscape in the coming years.

4.3 Findings & Conclusions about the Strategy, Business Model & Competitive Advantages of the Competitor Companies

Just in four years Revolut grew to 8 million users in Europe and is planning to extend the business worldwide (see Figure 6). Established a bit more than 8 years ago, TransferWise serves another 5 million customers. Taking into account innovative and user-friendly platforms of both startups, short innovation lifecycle, aggressive marketing, the ambitious plan to outperform conventional banks can come true in a foreseeable future. Google Trends can easily showcase people interest in these fintech, e.g.

worldwide trends of Google web searches in last 5 years on Revolut and TransferWise are shown in Figure 8.

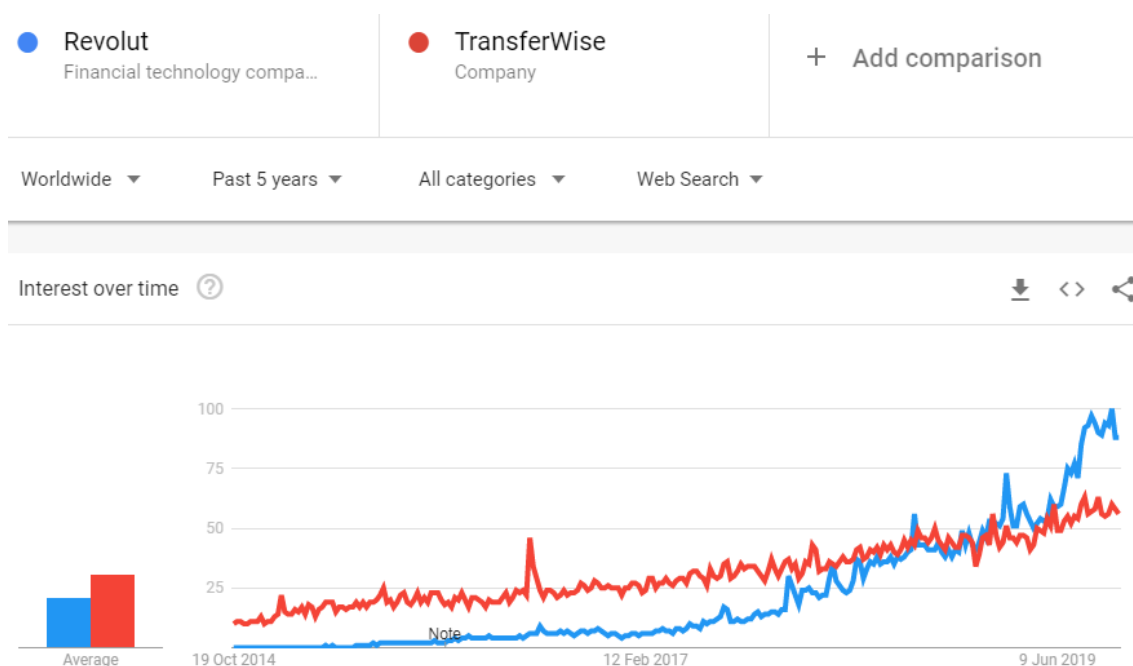


Figure 8. Google worldwide search data on TransferWise and Revolut for 5 past years indicating drastic increase of interest in innovative financial services (Google Trends, 2019).

In Figure 8, interest over time represents search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means that there was not enough data for this term (Google Trends, 2019).

First of all, both startups pursue the same strategy being fully digital. Branchless operational model allows significant operational costs reduction when compared to conventional banks. Once combined with innovative business models and modern legacy systems, it enables lower prices on certain financial products for end users, which, in the end, is the most important competitive advantage of the digital era firms, especially from the customer point of view.

Secondly, new companies tend to have no pre-justice on ways to run the business and innovate. Their decision-making is based solely on facts, i.e. simply data-driven, and it is extremely fast. In fear of losing momentum, the growth rate is the cornerstone of their strategies while less efforts are dedicated to compliance and regulatory area. Although

this is not seen as an issue by mass market, more advanced customers still stick to the conventional financial service providers for sake of stability and customer support. This is one of a few competitive advantages for banks now. However, there is a reasonable debate about how long it is going to last.

Thirdly, fintech competitors have much better image than conventional banks that, after multiple financial crises and numerous money laundering scandals, are considered as necessary evil to capital markets to function. Modern fintechs are built by millennials for millennials, with their common needs in mind. Accelerated by right and aggressive digital marketing, both Revolut and TransferWise growth rates (of their customer bases) are far beyond natural market growth.

Finally, it is worth to mention that disruption does not happen piece by piece only or only for certain products. There are also outstanding examples such as Saxo Bank that pursued an approach to be a digital one-stop-shop offering the complete range of banking services and being 100 percent digital at the same time.

5 Current State Analysis-2 of the Case Company and Its Current Strategy in Presence of Fintech

This section analyses the key element of the case company – its online trading platform – and its strategies in presence of aggressive competitors from disruptive fintech, pointing to some missing elements that can be utilized to improve its competitiveness.

5.1 Analysis of the Case Company's Strategy Cornerstones in Relation to Its Online Trading Platform

5.1.1 Business Area

Online trading customers range from private individuals, small businesses to large corporations who have a need for foreign exchange and/or management of currency risks. Private individuals have a need to exchange to a foreign currency on a very irregular basis, for this reason this segment has the least focus among others. Considering corporate customers, on the one hand, institutional customers such as other banks, investment and wealth management funds normally use other tools such as multi-bank platforms, e.g. Bloomberg. Bloomberg today is the world's most valuable private information provider. It was founded by the former mayor of New York City, Michael Bloomberg, started in 1981. Bloomberg started in technology in an investment bank called Salomon Brothers. The technology that he developed was a secure communication service that still underlies the vast majority of cross border transactions around the world. On Bloomberg, a number of players has a possibility to offer a better price while an institutional customer has an option to choose the lowest. Obviously, such a setup favors competition in banking, although only big players have access to it, which in turn also costs.

Taking into account all aspects mentioned above, the current focus business area of the case company is corporate customers and SMEs, altogether referred as *business banking*. In the very end, it is an individual user who enters a trade on behalf of a business. Individual users range from CEOs/CFOs, accountants, book keepers and one-man-company owners, so the platform has to suit both financial professionals and less experienced people.

5.1.2 Vision

Vision is a necessary inner message that must be incorporated into employee's DNA while being at work. Vision is an easily understandable and clear statement should be formalized in order to maintain healthy business, meet KPIs and keep growing. Recently, the clear vision of the case company was announced: 'to become a fully data-driven organization'.

Already for a decade global business has been operating in a digital era. It means just one simple thing: from that time onwards everything has been digitalized, saved in cache, put on server, can be traced back, etc. Hundred years ago, oil was the most valuable resource. Not anymore. Nowadays, data is the oil of the digital era, which is beautifully illustrated on Figure 8. Five giants – Alphabet, Amazon, Apple, Facebook, Microsoft – are the most valued companies listed on stock exchanges. However, these titans deal with great amount of data every day and only that fact hugely contributes to their overall valuation. In other words, to compete in today's market a firm, its strategy, sales and decision-making must be data-driven. No exclusions.



Figure 9. 'The world's most valuable resource is no longer oil, but data' (The Economist, 2017).

Following the world's trend, the case company has accepted the challenge to be fully data-driven. The strategic roadmap explicitly states the need to be data-driven and

ground all decisions on the solid foundation of data facts and insights. One of the facts is that company's annual revenue has been declining the third year in a row, not drastically but declining. Many factors affect revenue, nevertheless, the drift in the customer base is one of the most important. Another data exercise confirms the customer attrition rate to be negative, i.e. the annual active customer base is decreasing year-on-year. Unfortunately, the case company does not possess any statistics on where a client is going when he or she changes a service provider or simply goes out of business.

5.1.3 Growth Strategy

Given the tight competition coming from both fellow-banks and new entrants and experiencing negative growth, the case company must take actions to advance, at the first place, to the natural market growth. Besides obvious product and platform development, big efforts are dedicated to development of sustainable sales funnels to secure the current size of the customer base.

Given the fact of disruption from the side of fintechs, existing customer base is under disruption, while acquiring new customers is becoming harder and harder in such a competitive environment. For these reasons, the cornerstone of the growth strategy is to provide superior customer experience for the existing business banking customer base.

5.1.4 Source of Critical Competitiveness

According to the competitive matrix presented in Figure 10 below, the online trading platform of the case company obviously belongs to the left part of the matrix, as it puts emphasis on competition with other players of the same size, i.e. being "a bit better" than fellow-banks. New entrants to the market of financial services position themselves as "distinctly different" in order to compete on the market where entrance barriers are known to be high.



Figure 10. Deciding on competitive strategy (Rohweder, 2018).

At the same time, the online trading platform provides a comprehensive set of products and services for thousands of customers ranging from private individuals, small (local) businesses to large (cross-border) corporations, so the case company belongs to the “wide scope” column. Revolut may be placed into the same column, although on the right side of the matrix, due to its multiple-product offering that goes beyond just financial services. TransferWise primarily focuses on the cross-border payments which is naturally more narrow scope.

Finally, the case company positions its online trading platform as multi-purpose and customer-centric product with 24/7 customer support, so “superior customer focus” is the source of critical competitiveness. Both fintech companies aggressively advertise their low fees which undoubtedly makes them as cost leaders on the market.

What still distinguishes a bank from a competitive fintech is an army of advisors and relationship managers who are five days a week at customers’ disposal on distance of a phone call and can actively advise in a customer-specific situation. While banking budget

allows, this competitive advantage is a cornerstone of the competitive strategy and will drive further revenue.

5.2 Existing Customer Base and Further Growth of the Case Company

As describes above, the current focus business area of the case company is corporate customers, SMEs, and entrepreneurs, altogether referred as *business banking*. The absolute number of active customers on the online trading platform of the case company cannot be disclosed due to confidentiality of the discussed topic, so axis values were removed from Figure 11 below.



Figure 11. Annual rolling 90-days overview of online trading platform customer base and its erosion (attrition) rate year-on-year.

The upper (black) line on Figure 11 represents the rolling 90-days overview of the customer base, where each data point is equal to the number of unique customers that made at least one trade on the online platform in last 90 days. The 90-days window was chosen to represent the active customer base (ACB) due to the separate data analysis which is considered to be out of the scope of the current study. The lower (red) line represents the year-on-year erosion rate and compares the current state of the customer base to the same date in the previous year. The red axis features “zero” horizontal line as a benchmark to highlight that the erosion (attrition) rate has been negative throughout the year.

On the one hand, the rolling 90-days number of unique active customers on the platform has a strong upward trend in the first half of the year, from January till July (refer to black line on Figure 11). After peaking in mid-July, the population of the customer base was steadily declining for the next 3 months. This is explained by summer holidays and consequently lower customer activity on markets in general, which causes less demand for foreign currency. As the 90-days window was used in calculations, the seasonal effect lasted for 3 months and the active customer base started to build up again. The end-of-year value closely approached the highest point on the line observed in mid-July. Overall, the ACB size had an upward trend in the observation period that resulted in approximately 10% increase by the end of the calendar year.

On the other hand, the size of the active customer base should be always referred to a benchmark. A competitor with the similar profile, both product- and customer-specific, can be utilized as a benchmark if available. Often such information is kept closed due to competitiveness on a profit-driven market. In such circumstances, it is a healthy practice for a company to refer to its own performance in previous observation periods as a benchmark. As demonstrated on Figure 11, the year-on-year erosion (attrition) rate of the case company ACB remains negative when its current active customer base is compared to the corresponding values on the same dates in the previous year. Overall, the case company has demonstrated negative growth rate during the entire observation period which should be a clear warning to the case company top management.

5.2.1 Customer Attrition

In order to be more specific about the vision statement, it is necessary to introduce the term of customer attrition, also known as customer churn, customer turnover, or customer erosion, which is the loss of clients measured in absolute units, e.g. headcount, monetary value, count of purchases. Irrelevant of industry, banking or retail, if it is customer-centric, client attrition analysis and erosion rate should be one of the key performance indicators along with income per share, turnover, or EBITDA because the cost of retaining a client is far less than winning a new client. On the other hand, a resuscitated customer can be worth much more to a business than a newly onboarded because the former one is already familiar with a company, its product or service and can be approached directly.

When attrition is calculated, there are two different attritions distinguished, gross attrition and net attrition. Gross rate is calculated as a headcount of lost customers and their

associated recurring revenue for purchased products or services during a particular period, often annual basis is considered for ease of understanding. Net attrition is calculated as gross attrition plus recruitment of new customers during the same period of time. Although attrition itself can be very useful metric in assessing health of a business, attrition, or erosion, rate is a more insightful metric. Measured in percentage, it stands for ratio of attrition to the entire customer base expressing how big share of customers or revenue has been lost or gained:

$$\text{Customer (net) erosion rate } ER = \frac{N_{\text{time period 1}} - N_{\text{time period 2}}}{N_{\text{time period 2}}}$$

In times of banking industry experiencing severe disruption from fintechs, customer net erosion rate should be the most important measurement of the health of a business. In any scenario, banks' enormous profits are likely to decrease to meet existing customer demands, who are at the same time offered far better prices by fintech companies.

5.3 Findings & Conclusions about the Strategy for Online Trading Platform of the Case Company

The cornerstone of the current strategy inside the case company is to provide superior customer experience for the existing customer base, both business banking and private individuals.

At the same time, the online trading platform of the case company should serve the needs of customers of very different nature, ranging from private individuals, small (local) businesses to large (cross-border) corporations and financial institution.

While banks compare their own (poor, often negative) performance to each other, they easily forget about upcoming competition towards fintech world which is growing double digits year-on-year. Probably, fintechs are still too small to care about as their absolute profits are incomparable with giant banks. If the negative tendency in annual reports of major banks follows and fintechs keep the same pace of growing, it is just a matter of time when yesterday startup gets its well-deserved place at an adults' table. In other words, the case company is clearly missing the view of new competitors in its strategy roadmaps.

Firstly, while it might be too much of a hassle to re-visit the whole PowerPoint deck on corporate strategy, it is not too late to formulate a clear vision statement that will take into account an up-coming severe competition with fintech players for a new young customer.

Secondly, the current strategy of the online FX trading platform features the need of the case company to be data-driven. However, concrete actions and ways to measure their effect are missing in the existing communication documents of the case company.

Thirdly, what *the online trading platform* is and the benefits it provides seems to be a message that is easily forgotten, misunderstood or overlooked. The newly defined *value proposition* is addressing this problem, although this is an inside-out message that often hardly reaches a client via communication channels of the case company.

Summing up, in this study, it is considered critical that in the case company currently there has been no structured approach to complex FX product / service offering towards customers in the business banking environment. Customer base development has not been monitored properly. The upcoming changes in regulatory landscape will put even more pressure on FX income of the case company, especially in foreign payments.

6 Proposal of the Data-Driven Strategy to Secure the Existing Customer Base for the Case Company

This section pulls together suggestions from existing knowledge (discussed in Section 3) and the results of the competitor analysis (Section 4) into a proposal for the case company for securing its existing customer base against identified aggressive fintech competitors.

6.1 Proposal for Sharpening the Strategy Cornerstones of the Case Company

Given the negative growth rate of the *active customer base* (refer to Section 5.2), securing and curation of existing *ACB* should be a key point in the next 1 to 3 years in the case company strategy. In the face of the Second Payment Service Directive, Open Banking and flexible API platforms, for a customer it has never been so easy to change a current service provider (bank) in favor of a user-friendly and intuitive interface developed by a fintech (competitor). Moreover, in most cases such a scenario also comes along with a much better price for a customer.

The case company communication channels should provide the clear message of “superior customer focus” and put emphasis on it as the critical source of competitiveness as discussed in Section 5.1.3.

In Table 5 below, concrete actions are suggested in the form of a scorecard to establish the data-driven strategy of online FX trading platform. Action details, such as key performance indicator and person/unit responsible, were identified. In order to facilitate the scorecard development, five strategic areas and corresponding targets were formulated prior to action proposition.

Table 5. Action planning scorecard for online FX trading platform.

1 st strategy year			
Strategic Target	Actions	Key Performance Indicator	Responsible unit / person
CUSTOMER RELATIONS Maintain customer base	Resuscitation of existing non-performing clients Onboarding of new customers	No. of leads acted (type1, type2, ...) No. of customers onboarded	Relationship managers
OPERATIVE PROCESSES Enable data-driven strategy	Customer segmentation model development, leads generation Building data infrastructure	Establish metrics to ensure data-driven strategy Model validation via sales campaigns Set up data infrastructure for leads distribution	Data Analytics Business Intelligence Group Data Office
PRODUCTS / SERVICES Improve product / service offering	Building sales funnels Sales campaigns, pilots Development of new products / services	Positive customer feedback Customer attrition rate (> 0, positive)	Product Owner Global Sales Business Development
SKILLS / COMPETENCES Develop skills to carry strategy through	Performance and learning dialogue with a line manager	Done quarterly Annual review in the end of year	Employee Line manager
FINANCIAL Annual revenue	Stop negative growth Enable natural market growth (2 nd strategy year)	Income growth year-on-year (> 0, positive) Increase hedging revenue by 10%	Head of the platform

Table 5 groups the proposed actions to facilitate the existing case company strategy into five target areas: customer relations, operative processes, products & services, skills & competences, and financial area.

Customer relations unit takes full responsibility for onboarding new customer, thus enabling an organic growth of the existing customer base. Its performance should be evaluated on number of leads acted and number of actual new agreements signed. What is more important in the case of existing non-performing (inactive) customer, that there is historical data on his/her purchases already available which needs to be used to be more effective and have a higher hit ratio in the process of resuscitation. Getting a non-performing customer back on board is always cheaper than costs associated with acquisition of a new one.

In the financial area, head of the platform reports to the top-management of the case company on meeting financial targets. These may include but not limited to income growth year-on-year, revenue growth on certain products (e.g. hedging), lower cost/income ratio, etc.

Besides platform development, employees need to grow and constantly develop their competences & skills individually. There is a good practice to review quarterly each employee performance and set the future goals. Such approach provides organic growth of the case company workforce that naturally translates into development of products and services of the case company.

In products & services area, new products and services should be developed by Business Development team in a constant dialogue with a customer and validated via pilots and sales campaigns. Products Owners of the online trading platform should be curating the existing business banking customer base by constantly enhancing customer experience and measuring customer satisfaction. The improvement towards existing sales process is described in Section 6.2 below.

In operative processes, Business Intelligence team holds the responsibility to provide seamless flow of data between applications and end-users, such as Data Analytics (Science) team which ensures the overall execution of data-driven strategy. This team should generate data insights and timely alert to Products Owners and Head of the platform on abnormal data points or diverges from established metrics.

Section 5.3 of the thesis revealed the clear issue in the operative processes of the case company, that currently there has been no structured approach to complex FX product / service offering towards customers in the business banking environment. In Section 6.3 below, the new data-driven approach is suggested to segment business banking customers based on their purchasing behavior and offer the most attractive product / service combination on individual basis.

6.2 Proposal for Complete Sales Funnel for Products & Services

Complete sales funnels are meant to deliver the company's message to right customers in a right time, which is not a trivial task. A number of things should happen across multiple stakeholders within the bank in order to "successfully onboard" a customer to the online trading platform. There can be multiple definitions of "successful onboarding" which depends on a particular stakeholder's need. However, the first trade accomplished on the platform should serve as a fair indicator of the entire sales funnels, i.e. customer actually purchases a product/service.

First of all, sales funnel starts from the definition of prospects, i.e. leads. Based on historical trading data of already existing customers, a common pattern might be derived. This can be done with help of simple human logic following if/else rules or more sophisticated machine learning algorithms. Due to well-established Know-Your-Customer (KYC) process that every customer has to undergo with his/her banking advisor, the firm already possesses substantial knowledge about customer and its business needs. Moreover, need of online trading (or foreign currency exchange) normally arises later in a customer lifecycle, so the case company already can analyze customer behavior, at least to some extent. Often the process of such knowledge sharing is slowed down by compliance issues and data silos between different firm's departments. That is a common problem of almost all big organizations and should be discussed separately from the current study.

Pattern recognition is obviously a task for data science team. In the next step, actionable leads should enter into the data infrastructure of the case company, with the help of Business Intelligence or Data Management teams, in order to be delivered to the internal applications used by customer relation units.

Serving a customer in its best, a relationship manager combines his own personal knowledge about a customer with the leads provided and communicates an offer to a customer. No doubt, it is up to a customer to decide if he/she needs a service or not, but it is crucial to have both positive and negative feedback from a relationship manager considering a lead. This is the only way for the data science team to learn and improve. In other words, a feedback loop established in the data infrastructure is a must.

Once customer decides in favor of a new product or service, the most terrible part begins – paperwork – which is taken care by operations team. A customer receives a contract and needs to print, sign, scan and send it back. Undoubtedly, this is not the most seamless process in the digital era and, probably, the strongest pain point in the whole onboarding process.

After a signed contract is received by the operations team, it is communicated to the sales and a customer is granted access to the platform with a bunch of welcoming e-mails containing basic instructions. Although the entire interface is considered to be intuitive and user-friendly, there is nothing more helpful than a visual example. Recently, a few introductory videos were filmed to help customers to better understand financial markets products and capabilities.

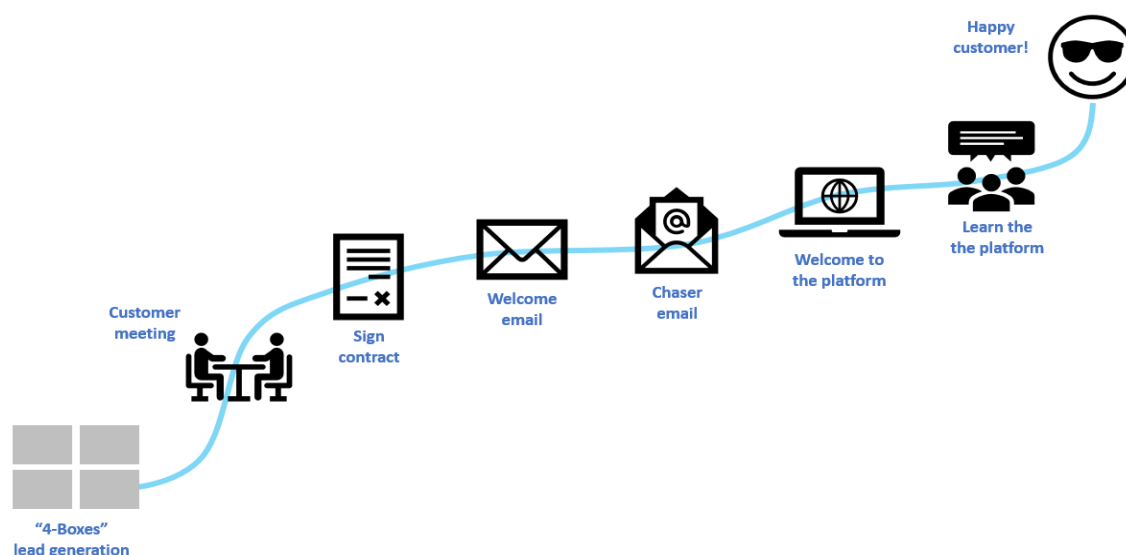


Figure 12. Overview of the proposed new sales funnel.

In the end of the cumbersome process illustrated in Figure 12, involving multiple stakeholders across the bank and substantial client efforts, customer is supposed to be able to make his first trade. However, historically the average success rate has been

around 50 percent which leaves plenty of space for improvement. Thus, the key initiative of building effective sales funnel has the highest priority among others.

6.3 Proposal for the Customer Segmentation Model for the Case Company

To meet this competitive future, the case company needs to make sure to provide the most attractive offering to all the customer base individually, which is hard given the large number of customers that are being served in the business banking segment. The purpose of the new customer segmentation model is to be able to provide a data-driven segmentation of foreign exchange customers in order to upsell FX products and offer superior service on an individual basis by providing:

- **Correct FX channel** based on customer behavior
- **Correct FX product** based on customer behavior

For **each [customer & currency pair]**, the model identifies customer's both current and optimal setup according to two inputs: an existing foreign currency account, i.e. netting, and usage of hedging products, i.e. hedging. Thus, the model establishes four potential combinations (**boxes**) according to an existing or non-existing flag: 0/0, 1/0, 0/1, 1/1, where 0 – non-existing flag, 1 – existing flag. Then the model places [customer & currency pairs] in four different boxes **by their current setup in terms of netting and hedging**. Finally, for each of the [customer & currency pair] the model matches their current setup with optimal channel and product offering calculated in the first step. If both netting and hedging flags of an individual [customer & currency pair] match to the current box features, a customer is considered to be successfully placed on the channel / product map. If any of two variables is not equal to calculated / optimal one, then a customer is considered to be approached by the front-office to ensure his / her satisfaction with the current offering. In other words, a customer is entering a lead list, where it is placed from top to bottom in accordance either with its size, importance to a bank, urgency of action, etc. Overall, the segmentation model works according to the following logic rules:

Stages 1: Is there a netting need?

- I. If there is a netting need for a specific currency pair and flow is above a certain threshold, then a customer needs a foreign currency account (FCA).

- II. If FCA is already in place, can FX conversions be handled by a customer itself, i.e. manually via trading platform, or does it need automation service?

Stage 2: Is customer willing to hedge?

- I. Turnover threshold determines if a customer will “care enough” to hedge a specific cash flow or it is “not worth a hassle”.
- II. All given answers, in conjunction, determine the best product / channel combination for each currency pair a customer has an exposure to.

Figure 13 below illustrates the two-stage logic to determine an optimal FX product / service combination towards customer / currency pair in the business banking environment.

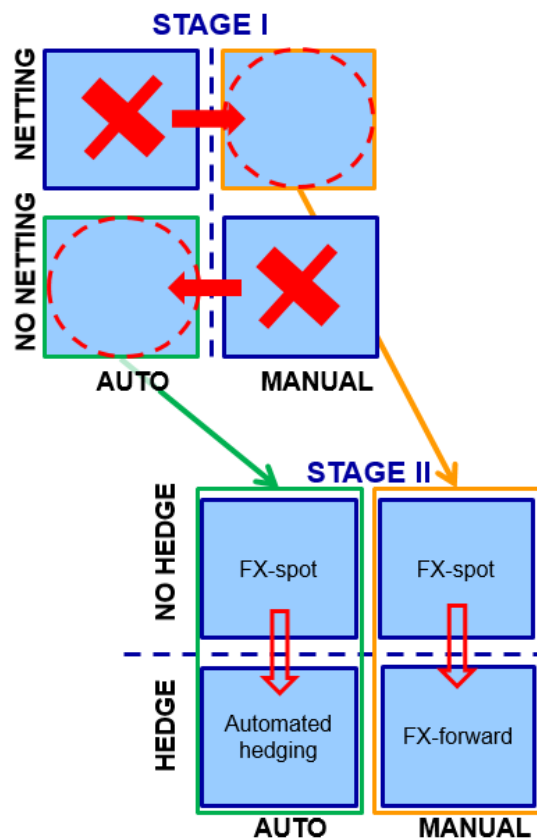


Figure 13. Graphical illustration of the two-stage logic in “4-Boxes” model.

As shown in Figure 13, stage 1 investigates the customer’s current trading channel, autodealing or manual (online platform), and puts it into alignment with client’s netting

need. In case a customer has only one-way currency flow, he/she does not need to trade (either itself via online trading platform or by calling a sales person), so normally there is no foreign currency account and autodealing is used. However, if customer uses autodealing to process payments both ways, he/she should be advised to open FCA and handle FX manually in order to avoid paying conversion fees on both transactions. Such customer moves from auto/netting (top-left) to manual/netting (top-right) box. On the contrary, existing users of the online trading platform with just one-way payments are advised either to automate the entire process or consider closing FCA in favour of autodealing. Such customer moves from manual/no netting (bottom-right) to auto/no netting (bottom-left) box.

Stage 2, on the one hand, is simpler to understand as the only one direction of moving a client is allowed – from top to bottom. In case an annual turnover of a currency pair is greater than a set of certain thresholds, both absolute and relative, he/she is advised to reduce currency volatility risk by purchasing FX-forwards (hedging product) instead of FX-spots (non-hedging product). FX-forward is more complex and subsequently more expensive financial product than FX-spot which allows better financial planning. Generally, bigger and experienced clients with high transactional volumes and subsidiaries in multiple currency zones successfully use hedging to manage their currency risks. For this reason, an already hedging customer is considered to be correctly placed in the frame of “4-Boxes”, so no one is pushed towards greater currency risk exposure.

On the other hand, in case of sufficiently large transactional volume, Stage 2 may trigger transition of “autodealing” customers or those who have just one-payment flows into auto / hedging (bottom-left) box. Up to the recent time no hedging has been integrated into payment systems of the case company, so the new service has been developed in-house. It allows to fix the exchange rate on a certain currency pair for pre-defined volume or time period and to automatically settle incoming/outgoing transactions in a foreign currency. Such a service may become an additional competitive advantage for the case company.

The existing product / service map, so-called “4-Boxes” representation, of the proposed customer segmentation model in the case company is illustrated on Figure 14.

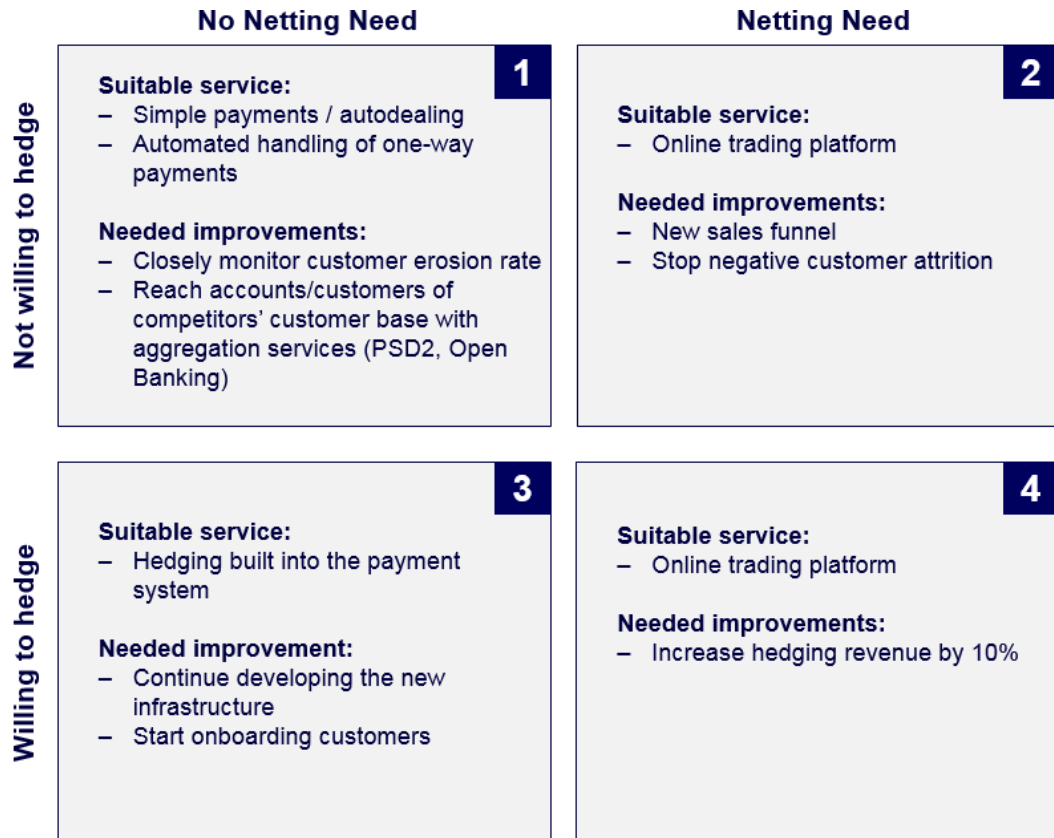


Figure 14. “4-Boxes” representation of the existing product/service map in the case company.

To sum up, the proposed “4-Boxes” customer segmentation model brings the existing channel and product combination into alignment with customer behavior. Historical transactional and payments data for unique currency pair are evaluated on an individual basis to tailor the existing customer setup. To reflect real customer behavior, several thresholds were implemented to assess whether a customer would consider making a “switch” between products and channels or not. Both relative thresholds and absolute thresholds were used in “4-Boxes” model.

Innovative “4-Boxes” approach has been developed in response to competitive foreign payments landscape disrupted by fintech. Those customers from Box 1 are assessed to have the highest potential towards disruption due to usage of only basic payment services; their erosion rate is higher than in other boxes. “4-Boxes” model relies on (behavioural) data analytics to leverage the complex product offering of and bring the existing business banking customer base closer to the case company, i.e. enhance customer “stickiness” and make it harder to disrupt.

7 Pilots, Results and Conclusions

Thus, section discusses the results of the pilots that tried the proposed model for customer segmentation in action with the goal to secure the customer base for that case company in action.

7.1 Overview of the Pilot Campaigns

Evaluating if the model is successful or not needs to be done both short term and long term. First, the short-term evaluation was done by answering the following question: *how good is the case company at converting customers according to the proposed model?* This can be linked to the action planning scorecard and the key performance indicator, e.g.: number of customers onboarded onto the trading platform followed-up monthly.

Second, the long-term evaluation could be done by answering another question: *what is the effect for the case company using the proposed segmentation model?*

Both short- and long-term evaluations need to be conducted according to the pre-defined key performance indicators. Such KPIs have been specifically outlined in the 1st strategy year in the Action planning scorecard proposed for the case company. Table 6 suggests KPIs to be used for both evaluations.

Table 6. Established KPIs to evaluate short- and long-term effects of the new customer segmentation model.

	Short-term (one year)	Long-term
KPI 1	No. of customers onboarded onto the trading platform	Customer erosion rate (> 0, positive)
KPI 2	Increase hedging revenue by 10%	Income growth year-on-year (> 0, positive)

As short-term evaluation can be done rather quickly, long-term evaluation requires half or one-year at minimum to effect to take place. Short-term evaluation has been enabled by running two pilot campaigns.

In Pilot campaign 1, 100 corporate customers were randomly chosen from Box 1 to be moved to Box 4 according to the model. In Pilot campaign 2, 100 customers suggested by the model in Box 2 were offered to automate FX trading.

Pilot 1 became a part of implementation in the Change project, thus the results of only this campaign are discussed in the following sections.

7.2 Content of Pilot Campaign 1 for Short-Term Evaluation

In Pilot 1, a number of employees were involved in the analysis stage of the change project from the case company, including a number of competence areas to ensure views from multiple angles: business drivers to highlight the urgency of change, FX sales specialists to provide actual business understanding, compliance specialists to ensure legal usage of customer data, and data analysts to ensure data availability and actual model development.

Within the model development cycle, the proposal was presented to the leadership team. The rationale was that, on the one hand, the case company is decreasing profit when moving a customer from autodealing into online self-service trading platform. On the other, customer is becoming closer, stickier to the case company, in other words, for a competitor it is harder to attract such kind of customer.

The end result suggested a reasonable negative effect on annual income, which was advocated by increased customer satisfaction that should result in increased customer stickiness. The latter, characteristic of future, is a much harder metric to evaluate mathematically, especially when compared to loss of real profit today. However, there was a common sense in the leadership team of the department that this kind of change is necessary in order to stay competitive in future.

On the other hand, the leadership team of the customer facing unit, the one which will be most affected by the change, has not been involved into the discussion. Basically, in-advance management of the change has been failed already in early stages.

Additionally, the company's and employee's resistance has not been seriously taken into account. It was perceived that the new segmentation model will sell itself in front of people, who will be hit most by the change and that was a clear mistake of

underestimation of the risk. Customer relationship managers were not ready to the fact that they are going to actively advise customers to transfer to digital platforms that generate less money for the company. Why the practical company-wide implementation did fail?

7.3 Results of Pilot Campaign 1 as Short-Term Evaluation

Upon completion, Pilot Campaign 1 demonstrated 35% hit ratio in terms of client interest in the online trading platform which was significantly higher compared to the historical value. Without any prior knowledge, in a few cases the proposed approach highlighted “box 1” customers with already ongoing discussion about benefits of the online trading platform. In several other cases it triggered such dialogue. However, in the majority of the cases “4-Boxes” data-driven segmentation approach met the criticism from customer relationship managers due to significantly lower profitability regardless of enhanced customer “stickiness” to the case company.

Historically, customer facing units were driven by win-win logic, where a new service should benefit both customer and the company, either financially or just by making life easier. An instantly proposed model was calling completely different behavior, to go down on the company’s profit while increasing customer satisfaction by offering customer a cheaper self-service alternative. Long-term benefits of such approach were incomparable to short-term losses which could be measured right away. The change process hit the wall of culture resistance due to absence of any involvement of customer facing people into the model development phase. Culture change is one of the most difficult areas to change, especially in industries with a long history.

One of the most renowned researchers in change management and a faculty member of the Harvard Business School, Michael Beer, came up with a detailed systematic approach to change (Beer, 1980). Ten years later, a six-step change management model arose and was described in the article ‘Why Change Programs Don’t Produce Change’ (Eisenstat, Spector and Beer, 1990). In this article the researchers provided six consecutive steps that need to be followed to run a successful change throughout an organization:

1. Mobilize commitment to change through joint diagnosis of business problems
2. Develop a shared vision of how to organize and manage for competitiveness

3. Foster consensus for the new vision, competence to enact it, and cohesion to move it along
4. Spread revitalization to all departments without pushing it from the top
5. Institutionalize revitalization through formal policies, systems, and structures
6. Monitor and adjust strategies in response to problems in the revitalization process

If not going into details of each step in Beer's approach to change management, one may say that the proposed customer segmentation attempt failed in the early beginning of its development due to *the lack of commitment to change*. Actually, that is not entirely correct, because there was full commitment to the new initiative from the entire team, but the critical failure of the project was in not involving all stakeholders from the very first step. Obviously, the people, who are actually going to implement the change, should be one of the main stakeholders in the discussion. Only their commitment to pilot the final result will ensure the actual try-out of the model. A small initiative group of customer relationship managers could have saved the entire project from falling into pieces after the first pilot, because these people could have been ambassadors inside their own organization, rather than an instrument in the pilot campaign.

Speaking about the fifth step in Beer's list, *the proposed customer segmentation model* could have been institutionalized by assignment of new KPIs to customer facing teams, e.g. a number of corporate customers transferring from conventional trading channel to a proposed one.

Moreover, a set of simple, understandable and easily measurable KPIs could have boost culture change even further, much better than any internal culture changing campaign or CEO's quote. Clearly, a firm can't force a culture change but enhance spreading globally once it has been initiated locally. As most of strategic planning for change has not been taken into account, further implementation of a practical change project appeared to be too painful, thus considered not worth efforts to continue. One may consider the outcome a failure which it clearly is, although it has been a steep learning curve.

The ability to adapt to changing surroundings is the basis for evolution not only in biological domain, but in harsh business environment as well. Continuously advancing technology, a changing workforce, competitive business landscape are a few among other forces that urge global companies and their leaders to engage and plan for

changes (By, 2005). In that sense, the new customer segmentation model was developed in response to a changing competitive landscape, to protect existing corporate customer base from disruptive fintech firms that market themselves aggressively against traditional banks. Besides the new logical structure of serving customers, the new approach was calling to a change inside the organization. However, multi-department organizations often struggle to create meaningful, sustainable, successful changes (Stouten, Rousseau and Cremer, 2018), and, unfortunately, the current case was not an exclusion. The proposed analytical model to segment the corporate customer base entered the pilot phase but failed to scale up across customer relationship management teams.

7.4 Lessons Learnt: Improving the Ways for Communication in the Change Project

Looking backwards, what could have been done clearly better is the ways that a change project had been communicated. In a large-scale organization, especially with geographically distributed units, there cannot be too much time spent on communication. Communication process should be planned as thoroughly as a core change itself, they should be integrated into each other, otherwise there is too high risk of failure of both. If applied to the organization-wide implementation of the new corporate customer segmentation model and consecutively new ways of advising corporate customers, the following four common stages of a change project can be derived: *analysis stage*, *target setting stage*, *capability preparation stage*, *implementation stage*.

At the *analysis stage*, after a few ideation sessions within a core team that is going to drive a change project, a short notice about an idea should be released, probably distributed via email. In this notice, a clear call for early adopters from customer-facing teams should be set. Later these people should be invited to brainstorming sessions to further strengthen the idea. In later stages these people will be ambassadors and fervent advocates of a change because they will feel and value their own efforts which they have put into a project.

In the *target setting stage*, early adopters from the leaders of front-line teams should be invited into face-to-face meetings in order to ensure right KPIs being set for teams that they are responsible. In the end, it is people leaders who are going to be responsible for monitoring progress of a change project and will be evaluated based on key performance indicators. Setting such KPIs is impossible without active involvement of leaders from

customer-facing units. If applied to the model proposed in the chapter 4 of the thesis, conventional KPIs, such as monetary value, of corporate customer relationship managers will be severely affected by the new strategy, so new KPIs must be derived by consensus of team leaders and clearly communicated to front-line employees in the capability preparation stage.

In the *capability preparation stage*, beside new performance indicators, the core team driving a change project has to ensure the infrastructure in place to deliver necessary information to actual adopters of the new segmentation strategy. Information delivery can't work in a form of Excel spreadsheet factory with emails and attachments flying all over the place. It is extremely important that in a data-driven change project, there has to be information delivery infrastructure in place. It will ensure convenient regular flow of necessary data that front-line employees can get in a matter of a mouse click. Only simpler and more stable data foundation may enable smooth transition from old to new way of doing business.

Once the infrastructure has been tested with early adopters and clear set of key performance indicators has been agreed among the stakeholders, the company-wide *implementation stage* may begin. It may start with a success story featuring a real business case which can be found within one of the early adopters. This may tell an inspiring story of a happy customer who was approached to learn how his or her financial expenses can be significantly decreased due to the new customer segmentation strategy implemented within the case organization. The emphasis ought to be put on a data-driven approach that has been developed in-house, utilizing organizational innovation potential and career-long experience of its early adopters. Such simple stories can inspire both other customers and customer relationship managers to adopt similar changes naturally, so others will follow. In order to find such success stories, the feedback loop must be developed within the data infrastructure described above. In the modern business landscape, which has never been as competitive as nowadays, customer feedback is one of the most powerful tools to drive any kind of business in the right direction.

Table 7 summarizes possible ways of communication, both digital and face-to-face, which could have helped a change project to succeed in the case organization.

Table 7. Recommended ways of communication in consecutive stages of a change project

	Analysis stage	Target setting stage	Capability preparation stage	Implementation stage
Digital	Invitation to info session (email) Look for early adopters to pilot a change project with	Share the progress regularly among everyone concerned	Communicate clear instructions to everyone affected by a change	Find and share a success story Collecting personal / anonymous feedback (emails)
Face-to-face	Brainstorming sessions to raise awareness Involve early adopters from the beginning	Face-to-face with front-line team leaders only KPIs setting	Leaders meet employees in customer-facing teams to ensure common understanding of changes	Front-line employees meet leaders Leaders aggregate feedback to the core team

Recommended ways of communication of a practical change project could have significantly increased chances of the new customer segmentation model to spread inside the case company, so it could propagate from early development stage into analysis stage and so on.

7.5 Recommendations for Further Implementation of the Model

After a failure to adopt the new strategy of customer segmentation across the entire organization, “4-Boxes” model should not just vanish. Its logic and rules can be distributed to smaller business units separately and implemented not globally but locally.

It is recommended that core team participants should take the model logic and learnings back home, to their original business units and implemented those locally in attempt to serve customers in a better way. As the global Change project failed, it did not mean that the initial idea had been wrong and could not be implemented in a different way, not globally, but incrementally.

Given the structure of the case company, customer-facing teams do not work independently with customers but seek help in understanding of the existing quite complex product offering. They seek an advice from global foreign exchange sales teams, whose members were a part of the core team developed the new approach to advise customers. Global FX sales analysts are being called into customer meetings to provide more comprehensive understanding of financial instruments or services, of course, if asked by a customer relationship manager. Moreover, global sales team is responsible for generation and distribution of sales leads, where a lead being a specific customer with high probability to be interested in purchasing a financial product or service. Such lists land in customer relationship managers' inbox with an idea that customers from these lists would be contacted at some point and corresponding discussion would take place. Lead lists are being formed based on customer attributes or metrics that are spotted and calculated from current customer behavior. For example, a customer with only one-way payments in a foreign currency should benefit from automation of foreign exchange trades, or a customer with high outgoing payments flows to another country but missing an account of a corresponding currency, should be offered to open one. Thus, the model logic should serve as the basis to formulate such metrics and later to form leads based on those metrics.

One may argue that such an implementation is not much different from the initially proposed model, but indeed it differs quite a lot. Once a leads list is formed and divided between relationship managers, it becomes more up to a specific employee to decide if his or her customer is suitable for a product / service, what are the consequences of customer switching to another service or start using a new product, how it will affect customer profitability, etc. In other words, a decision is highly influenced by individual perception which, in turn, causes unpredictable outcome of an initiative. Such a setup becomes absolutely unreliable in terms of reaching and educating customers on new or already existing possibilities, because there is absolutely no control over such schema of distribution of leads. If there is no systematic approach in place, the entire process becomes chaotic and a culture change is simply impossible. Imagine tens of Excel spreadsheets flying around, everyone making his or her own modifications and formatting, etc.

First of all, stable data infrastructure should be developed in-house to facilitate access to customer data. If such an infrastructure serves everyday needs of customer relationship managers, it will quickly become no. 1 application, the first point of entry

once an employee is in a dialogue with a customer about its financial situation and business needs. Here, the data quality and availability have the highest priority. If an error is spotted once, it will almost impossible to win back the loyalty from both customer and employee of the case company.

As the second step, leads should be slowly introduced into the application but not in the originally proposed form of lists stating which product and service are the most suitable to a client from the data model's perspective. The leads should be rather encoded into interactive tables and charts where relationship manager together with a customer can adjust parameters and observe an immediate effect onto client's exposure and associated costs. The original "4-Boxes" principles still can be re-used in a foundation of a new Change project. Interactivity and direct involvement of both parties into the decision-making process significantly increases the chances of another Change to be adopted.

As the third step, introduction of a feedback loop has the critical importance. At some point, relationship managers will demand a possibility to leave feedback to the data received to feel the influence onto the case company further sales initiatives. Original model metrics/filters will keep improving to provide enhanced lead lists, which obviously should not remain static but develop in time as customer behavior and demands keep changing. Thus, customer-facing units will be directly involved into a Change project but not to resist it.

Overall, no new model can fly and sell itself in a complex organization with multiple-department structure and various internal approaches, key performance indicators and opinions. This seems to be very logical outcome from the attempt taken in the case organization, but it has not been obvious in the beginning and has been left out of scope of the Change project with higher emphasis on the data model itself. Hopefully, the lesson will be learned before another innovative approach is born. New strategy needs to stand on a common ground, not for everyone from the very beginning but with representatives from all the stakeholders concerned.

8 Executive Summary

In recent years, foreign exchange and cross-currency payments domain has been intensively disrupted by fintech. New firms are entering the foreign exchange (FX) domain offering advanced user experience, intuitive interface along with lower margins. The study is relevant since, according to the Accenture digital report, nearly one-third of Nordic banking revenues are at risk if banks don't take an action. In the case company, currently there has been no structured approach to complex FX product / service offering towards corporate customers in the business banking environment. Accordingly, this study is aimed to establish a data-driven strategy for the online FX trading platform to secure its existing corporate customer base within the current more competitive landscape enabled by new European regulations of the financial markets.

In this study, the action research was selected as the research methodology due to applied nature of the issue addressed and its direct applicability to the business organization. The thesis project leverages the internal data structures of the case company to conduct behavioral analysis of the corporate customer base.

Current state analysis on two fintech competitors was based on online open sources. Branchless operational model allows significant operational costs reduction when compared to conventional banks. Once combined with innovative business models and modern legacy systems, it enables lower prices on certain financial products for end users, which, in the end, is the most important competitive advantage of the digital era firms, especially from the client's point of view. Given the exponential growth rate of the competitor's customer base during 5-year period, there is no doubt that it will continue to grow and disrupt the global international payment landscape in the coming years.

Current state analysis of the case company highlighted the negative year-on-year erosion (attrition) rate of the active customer base at the online trading platform. This insight should be a clear call to action to the case company top management.

The thesis project proposes the comprehensive data-driven strategy for the online trading platform of the case company which includes continuous monitoring of the health of the business banking segment, curation of the new sales funnel, and the new customer segmentation model to tailor current products and distribution channels across the customer base. The purpose of the so-called "4-Boxes" model is to be able to provide

a data-driven segmentation of customer / currency pairs in order to efficiently upsell FX products and offer superior service on an individual basis by providing optimal combination of distribution channel and product. Historical transactional and trading data for unique currency pair are evaluated on an individual basis to tailor the existing customer setup. To reflect real customer behavior, both absolute and relative thresholds were implemented to assess whether a customer would consider making a “switch” between products and channels or not. The model resulted in both negative and positive effects. On the one hand, the case company is decreasing profit once moving a customer from simple payment service (corporate netbank) into online self-service trading platform. On the other, a client is becoming closer, stickier to the case company, in other words, for a competitor it is harder to attract such kind of customer.

The proposed segmentation model was validated through the pilot sales campaign lead by customer relationship managers. Upon completion, the pilot sales campaign demonstrated 35% hit ratio in terms of client interest in the online trading platform which was significantly higher compared to the historical value. Without any prior knowledge, in a few cases the proposed approach highlighted “box 1” customers with already ongoing discussion about benefits of the online trading platform. In several other cases it triggered such dialogue. However, in the majority of the cases “4-Boxes” data-driven segmentation approach met the criticism from customer relationship managers due to significantly lower profitability regardless of enhanced customer “stickiness” to the case company. The change project hit the wall of culture resistance due to no involvement of customer relationship employees into the model development phase.

In the face of the Second Payment Service Directive, Open Banking and flexible API platforms, for a customer it has never been so easy to change a current service provider. Innovative data-driven “4-Boxes” approach has been developed in response to competitive foreign payments landscape disrupted by fintech. Those customers from Box 1 are assessed to have the highest potential towards disruption due to usage of only basic payment services; their erosion rate is higher than in other boxes. “4-Boxes” model relies on (behavioural) data analytics to leverage the complex product offering and bring the existing business banking customer base closer to the case company, i.e. enhance customer “stickiness” and make it harder to disrupt.

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Simplified view of a standard entry in the trade database used in Data #1-2

INDEX	ATTRIBUTE	DATA TYPE	EXAMPLE
123456	Trade_ID	String	00123456789
123456	Trade_date	Date	01.01.2019
123456	Company_ID	Integer	1234
123456	User_ID	Integer	4321
123456	Base_currency	String	EUR
123456	Sell_currency	String	DKK
123456	Quote_pair	String	EUR_DKK
123456	Turnover_EUR	Float	1000000.00
123456	Income_EUR	Float	123.40
123456	...	String	...
123456	...	Integer	...

Relationship managers interview questions for Data #3

1. Did a customer expressed interest in switching from doing foreign payments (via corporate netbank) to the online self-service trading platform?
 - Was there already ongoing discussion about it before “4-Boxes” pilot campaign?

2. [1 - yes] What is the next step in the discussion?
 - Another phone call (pause to think, another person concerned)
 - Showcase the platform
 - Physical meeting booked
 - Contract sent
 - Other (please specify)

3. [1 – no] What was the reason for declining the offer?
 - Too small volumes
 - Too small benefit
 - Too complex to understand
 - Didn't like the platform
 - Too much hassle (not interested in automation)
 - Other (please specify)