

TALLINN UNIVERSITY OF TECHNOLOGY

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**ESTONIA'S CONSUMER BEHAVIOURAL SHIFT IN DIGITAL  
BANKING**

Bachelor's thesis

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## **ABSTRACT**

The study aims to investigate the factors and aspects affecting digitalization towards banking. The study finds out what are the target customer needs and wants towards digitalized products and services, and if they are willing to make a shift from financial branches to fully digital. Understanding why and how customer's buy is beneficial for all marketers.

The primary outcome of this thesis is to understand where the financial institutions should invest their money and what are consumer expectations towards digital products. The study will know if additional sales and marketing could still stay in the branches, or it should move from physical to online since the branch's clients might have different wants and needs toward the financial institution. The analysis of the questionnaire revealed that the consumers are moving towards digital products and services.

Keywords: digitalization; banking, new devices, internet

# INTRODUCTION

In 2021, nearly 3 billion people in the world will have access to retail banking services throughout tablets, smartphones, and PCs (Smith S. , 2017). It means that retail banking must adapt to the new cultural shift and meet customers new rapid expectations toward banking. There is a clear trend in Estonia, where people are seeking more information from online than offline and therefore, spending most of their time in on-the-go devices such as smartphones and tablets (Milos, 2018). It is related to the behaviour of consumers, and that trend should be followed by industries to sustain and maintain their position in the marketplace.

All of this has already had an impact on sectors such as banking. In Estonia, for the past two decades, the leading commercial banks have been closing physical branches (Eesti Pank, 2014). That is a clear indication of a highly competitive marketplace, where every institution seeks how to manage and allocate their funding most efficiently. At the same time, when physical branches are closing, there has been a definite shift toward mobile devices such as smartphones and tablets. Estonia's most prominent commercial bank is Swedbank, and their statistics reveal that more than 290 000 users have already shifted towards mobile, at the end of 2018, and the number is growing year-over-year (Raagmets, 2018).

This thesis aims to find out what are the leading products and services that people are willing to get online and what shall remain in the physical branch. This research also studies the technology acceptance in digital banking in Estonia. By understanding how the digital revolution has changed the perceptions amongst people within banks and how they would expect to be in touch with their preferred financial institute. The main questions raised regarding the digital revolution is to understand how people interact and what are their expectations inside the digital world (Elstad, 2019).

RQ1: What are the products and services people are willing to get digitally?

RQ2: Do people trust bank employees, if they are not physically there?

RQ3: Is there a difference with technology acceptance in different age groups?

The thesis is structured as follows. This thesis is a combination of theoretical and quantitative sections. The first chapter shall aim to give insight and describe the background for the research, such as information seeking behaviours in the 21st century, internet usage among Estonian people and how it is combined. The second chapter gives a theoretical foundation and introduces the theory of reasoned action, technology acceptance model. It will also present how informational seeking has gone better through technological changes over the years and whether the methods are aligned with statistical data. The third chapter reveals the findings of the questionnaire, explains it thoroughly, and describes the limitations of the research were. At the end of the study, there is also a conclusion that sums up everything, whether the additional sales and marketing could still stay in the branches or everything should be moved from physical to online.

The knowledge from this study could be useful for bank managers to gain awareness and deeper conversance, what products and service people are willing to do in the digital channels, and what shall remain in the branches. Financial institutions could develop and aggregate appropriate strategies to seek out where people would need extra help. The digital revolution has disrupted financial institutions. Therefore, to maintain their customer relevance, they shall enhance and improve customer experience in all channels. However, it seems that the digital channels for some products and services have been overlooked and not communicated to the audience well enough. Therefore, people are not yet ready to go fully digital within the banks.

To the author knowledge, there has not been such an extensive questionnaire that genuinely seeks the product and service are and how they co-operate in the digital world.

The Author gives best regards to his advisor.

# **1. THEORETICAL FRAMEWORK & BACKGROUND**

This chapter is about understanding the context of the possibilities of financial, technological background, and at the same time giving a more comprehensive foundation of concept, what this study is built upon. To get a better understanding of the motivation and need for this research, there are presented several figures and statistical numbers, how people have changed over the past few years. Also, in this chapter, the key aspects and the conceptual foundation is laid down to understand more about the theory of reasoned action and technology acceptance model to understand the background. It will also introduce how informational seeking has gone better through technological changes over the years and whether the theories align with statistical data.

The study has gathered extensive literature from the theoretical part, and in terms of the research and procedure, this study will mainly use Google scholar for searching the relevant literature and trustworthy articles. The main keywords using in the literature search are “digitalization,” “banking,” “history of banks and informational technology,” “traditional model of banks”. In this research, there will also be included in the literature what is provided by the field experts as an essential source. The study will use trusted internet sources inside the theoretical part since there is not so much information about this topic in the books.

## **1.1. Informational seeking on the 21st century**

In the 21<sup>st</sup> century, there is a new trend coming up what is called the “informational age,” where informational technology plays a vital role. The business landscape has changed in the past decade due to the evolution of Information and Communication Technologies (Gardner, 2007). Information and Communication Technologies (ICT) has reduced and improved operations in the businesses (Brako, Awuah, & Adzimah, 2015). There is a clear indication of improvements in efficiency and effectiveness in businesses when using ICT (Greenberg, 2001). It seems that the information and data, what came together through ICT could be an authoritative source to intellectuals. The data and actions from the ICT could capture at once, and when all the data points would put together, then it could be a useful source for companies to improve their services. (Yamin Firooz M, 2005)

There are many different platforms, where content and communication placed, which makes it difficult for regular people, specialists, and companies to keep an eye on. (Douglas, 2018) There are many sources, where the company could find legal information from, but the data

volume is growing endlessly. It makes it difficult to understand what the correct information is and what is not legitimate. (Calkins & Kelley, 2007) Another interfering factor could be that the data is defined and interpreted differently, which could lead up to wrong business decisions. All of this could be difficult to validate for the specialist or person. (Austin & Sutton, 2015) There a lot of data online; therefore, to understand what is the correct and incorrect data takes time. The study conducted by Halls and Walton shows that there is a clear indication of informational overload since the person could not analyse through that vast amount of available data. Informational overload occurs when information becomes incumbrance when the information could be potentially useful. (Amanda Hall, Graham Walton, 2004) It is an indication that the data presented should be concentrated and not scattered through different website.

According to Foltz, information seeking involves problem-solving process, which would require decision-making and information recognition (Foltz, 1996). There could draw a relationship between problem-solving style and the person information-seeking behaviour (Kim, 1999). There is seen a clear behavioural pattern with psychology and sociology when people are seeking information. There is not a critical difference between age groups nor genders. The studies have shown that risk-taking, self-confident, and dominant people lack new information. These people are keen on their idea and do not mind search up new knowledge. At the same time, people, who have low self-esteem and confidence persuade to search for more information and are fascinated with the unique experience. (Kernan and Mojena 1973) That means that people who have lower self-esteem and confidence in themselves would like to seek information on their own. Probability of finding the information would be higher than the people who are risk-taking and self-confident. That group of people would most probably need extra help from other people.

Though the people who are seeking information online, should validate the news, with more sources becoming available, it could be more difficult. Finding valid information what is up to date is essential for companies, and they should understand to not to overload the person with knowledge since it could be harmful to the overall business. All actions should be taken a closer look before turning every offline feature online and what is contextual in the 21<sup>st</sup> century and what should be left out. (Laurence Alpay, John Verhoef, Bo Xie, Dov Te'eni, J.H.M. Zwetsloot-Schonk, 2009)



## 1.2. Internet usage in Estonia

The people used the internet heavily and therefore spent quite a bit of time inside the informational field as well. According to Kantar Emor TNS Media Day survey what showed the Estonian internet usage per day between the ages of 16 to 74 years old. The study showed that on average, one person browsed the web for 4 hours and 1 minute per day in all platforms combined. That makes an average of 28 hours and 7 minutes per week. (Milos, 2018) Though it should be mentioned that all of the time, the people spent on the device is not just informational seeking purposes, rather entertainment reason (Google/TNS, 2017).

Smartphones and tablets are connected wireless internet or mobile internet, from where they could access a lot of available data. From 2017 till the end of 2018, the share of internet users among people between the ages of 16-74 has exponentially grown and gained more users than compared to the state where the Internet was in 2013 to 2015. In 2007 the level of internet access by household overcame half of the population and a bit more with only 52%. This number has steadily grown, so in 2018, the entrance is already around 90% in the selected segment. (Eurostat, 2018) Though there is internet access to 90% of Estonians, there are still people who have not used the internet. The number has been slowly decreasing, but according to Estonian Statistics, it was 11% in 2018. (Vabariigi Valitsus, 2018)

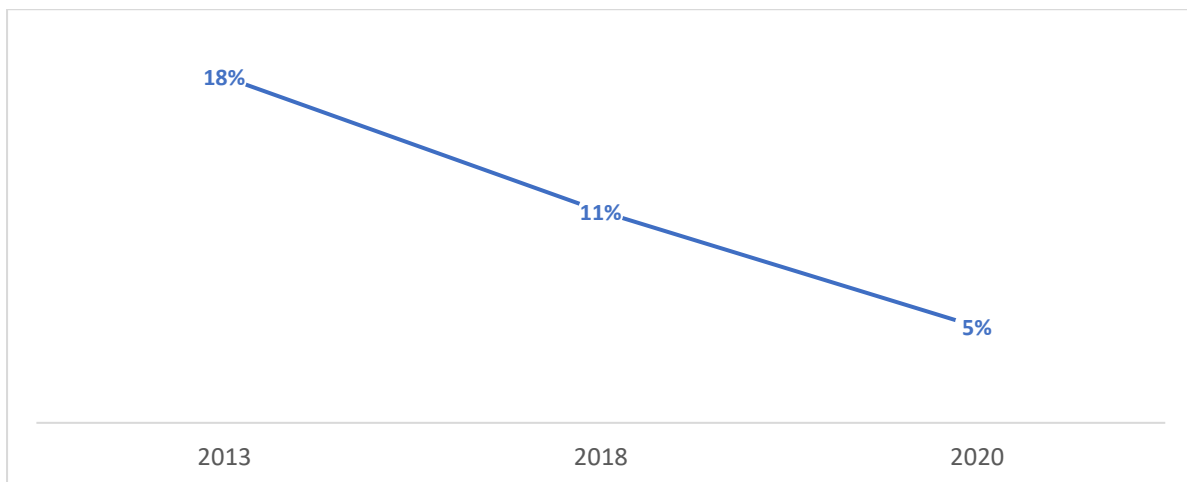


Figure 1. Non-internet users in Estonia aged 16-74 (percent)

Source: Statistics Estonia

The rise of the internet has increased from 2 percent to 4 percent over the years, which makes it around 25,000 to 50,000 people who have gained access to the internet. This figure is remarkable since in a population of 1,323,820 as 1 January 2019, it gives more access and freedom for the people who have never had it before (Tammur, 2019). Because of the internet, they have no access to more information and services than they had back (Sanger, 2010).

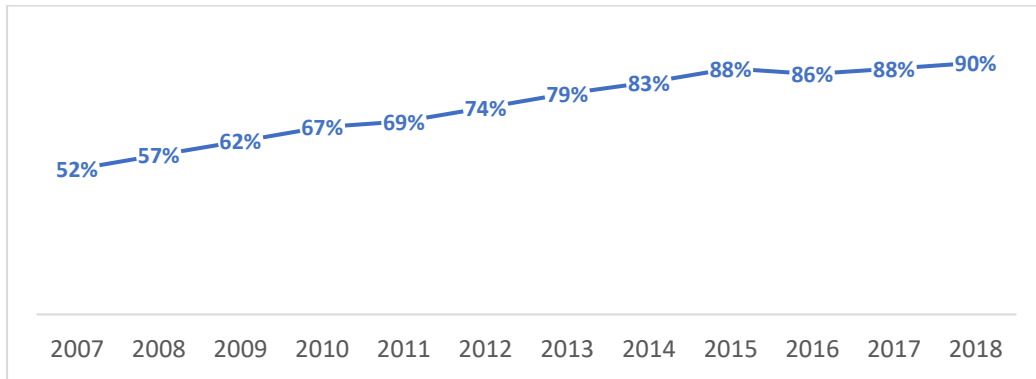


Figure 2. Level of internet access - households ages 16-74 (percent)

Source: Eurostat

It is essential to look inside different age groups since they may behave differently. According to the reports by Statistics Estonia they have informed that 98% of the people aged 16-54 years old have used the internet in the last three months. It is a staggering number since there is a clear digital divide between the ages of 16-54 to 55-74 years old. However, from 2017 to 2017 there is a 6% increase in internet whiting the ages of 65 to 74 years old and the gap is slowly closing. (Tammur, 2019)

Taking Estonia into comparison with other countries, then there are only a few countries who have higher usage of internet users. There could be seen that in Sweden, Norway, Croatia, the Netherlands, and Spain has over 90% of the share of internet users between the ages of 16-74 years old. (Eurostat, 2018) That means that Estonia and its people are technologically advanced and are ready to use services that are provided through the internet, though in this case there is just information regarding internet availability and usage and no mention regarding digital literacy, what will be discussed later.

### **1.3. Intentions to use online banking**

In the late 1960s, there was the first development of The Theory of Reasoned Action (TRA). It was then revised and expanded by Martin Fishbein together with Icek Ajzen in the years what followed. Fishbein and Ajzen proposed that TRA is linked together with the person's attitude, beliefs, norms, and intentions. The individual is acting and behaving in a certain way due to its subjective standards and their attitude. The theory also describes more about people's determined behaviour in subject with the society they surround. (Fishbein & Ajzen , 1980)

Three things that are affecting TRA, which are the attitude towards the specific behaviour, their perceived behavioural control, and subjective norms. The stronger the position and individual criteria are the more significant and stronger intention is for the person to do that specific behaviour. The person is predicting that this intention or belief if leading to the intended outcome. (Fishbein & Ajzen , 1980)

This theory could be used in this study to evaluate, whether there is a confident attitude towards some technology, what is new and has not been on the market for so long, such as video meetings and online banks. It could tell the companies whether the people would follow with the new and trendy technological advancements, or they shall change the overall cultural norm and educated people from that end. Therefore, after it is not necessary to spend resources in a specific product or service, what people are not using. To conclude, there might be some cultural norms in Estonia to speak to a computer screen or phone in some other age or region group.

In this study, two key constructs are used to evaluate the TRA, which are trust and past behavioural manners with technology, to evaluate the online banking presence in different age groups and regions. Trust has been the key factor when dealing with financial institutions. Trust in the banking system is the crucial element for the whole society. (Pauline & van Raaij, 2017) There is a strong linkage with trust between the client and seller relationship for a long-term business. (Doney & Cannon, 1997) Both factors change the behavioural intentions of online bank users considerably, and the subjective norm can affect in a prediction model to boost

intentions of online banking users. Therefore, in Figure 1. is the proposed conceptual framework.

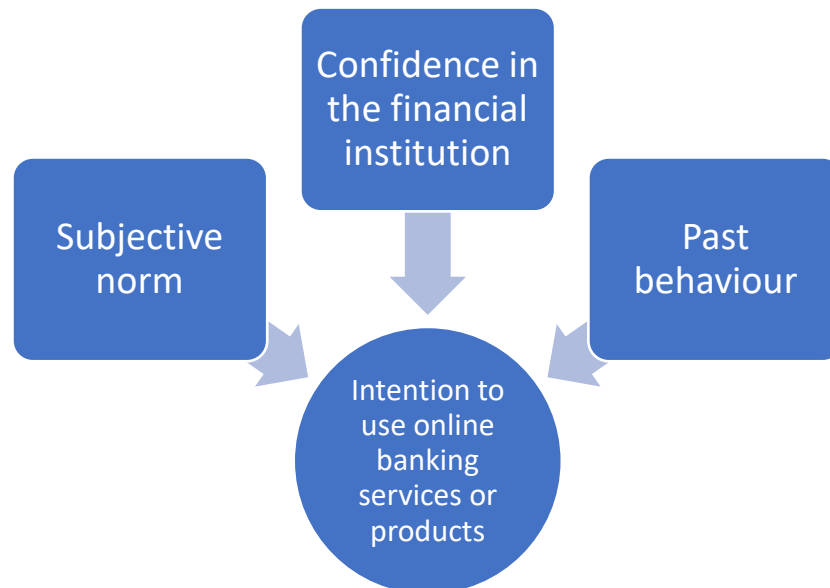


Figure 3. Conceptual Framework

Source: (Pauline & van Raaij, 2017); prepared by the author

Based on Ajzen and Fishbein theory about consumer behaviour and psychological ideas, the intention to use online bank's services and products was raised. This study intends to define people's expectations and intention regarding future online banking needs and want.

There is also an implementation of generation marketing theory (GMT) to TRA since it would improve the result overall to have fewer outliers in the model. Fundamental theory, developed by Strauss-Howe in 1991, states that consumers in the same age group shall behave and act similarly since they were born at the same time. Therefore, the milieu was familiar. (Howe & Strauss, 1991) At the same time, the theory has its exclusions, and it is also notably stereotyping. Though the study would be turned down the generation marketing theory if there is no notable difference between the products and services people would be willing to get in different ages.

#### 1.4. Technology acceptance model

Technology Acceptance Model (TAM) was developed by Davis, in 1989, which explains why people would choose to use technology in the work context. The theory states that people would use it due to the ease of use and perceived usefulness. TAM is adjusted through TRA and with several modifications later. Current TAM model would remove and not consider the attitude construct to the model, which remains the active behavioural elements. (Davis, et al., 1989) Though dealing with financial matters might not be related to job context, but it includes a high focus on efficiency, and there is no entertainment level of any sort. Therefore the technology of the acceptance model can fit the study.

Though there are several limitations following the technology acceptance model since it assumes that people are planning their behaviour and are rational in their actions. It also believes that people are thinking first about the ease of use and usefulness of the technology, before starting to use it, but logical thinking has nothing to do with the behaviours. Due to the fact, people are not rational, everything they do is not reasonable. (Venkatesh V. , 2003)

There is also a second limitation regarding TAM since the theory does not tell how to build a technology that is easy to use or useful to its customers. It just briefly says that technology should be helpful and easy to use, but no pieces of advice concerning how to build and design one. Therefore, it is testing and gathering customer feedback before making new technology. (Venkatesh V. , 2003)

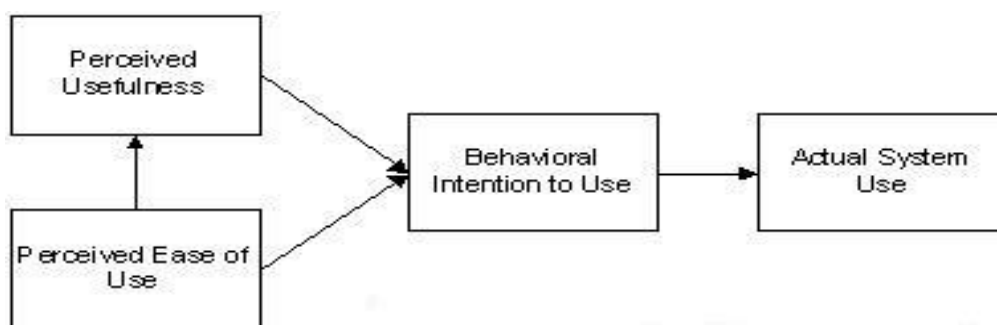


Figure 4. The Technology Acceptance Model

Source: (Venkatesh V. , 2003)

This study will use The Technology Acceptance Model to understand how technology and digital banking services could be easy to use and useful at the same time. The online questionnaire shall use the Venkatesh (2003) and Davis (1989) scale to get a better understanding of the ease of use and usefulness as a base for the study. If the TAM model is logically structured, the limitations of this model should still consider. Due to that fact, the study could not give an answer to the improvement of the system itself, but rather focus more on the construct what is missing before the action even happens.

The TRA theory could also be used to understand whether all the constructs toward online banking are satisfied or some constructs are still missing. This model could help to understand what the missing link is why people are not using the product or service in some channels, and yet some are.

### **1.5. Technology and being online is getting closer to the consumers**

According to TRA and TAM models, there are several steps before the customer uses a specific product or service. However, there is essential to look through the whole customer journey, to seek out where customers are dropping off and what keeps them away from digital services.

Here are several entry points on the digital side, where the consumer could interact with the bank. The most common ones used are smartphones and tablets (Google/TNS, 2017). Smartphone and tablet computer have decreased in size and weight. Therefore, it is much easier and better to carry them on the go. That has had an exponential growth regarding the virality of usage amongst people. In Estonia, 65% of people are using a smartphone, and 78% use the computer, which shows clear indication where people go when they need to use the internet. Computer numbers have stayed stable for some time, but the smartphone usage has been steadily growing, which means that soon it will be the go-to device for Estonians. (Google/TNS, 2017) There could draw a clear correlation, where the businesses and marketers should look at and where people get their knowledge nowadays.

Though being online plays a vital role today, it is essential to look at what and where people are using it. Specially to understand the difference between different age groups and their habits of using different devices. According to Statistics Estonia, 97% of 16-24 years old use mobile to visit the Internet. This fact is essential since 99% of that age group uses the Internet every single day. (Ait, 2017) That means that the company or service should maintain their online presence to communicate with a person the person aged 16-24.

It would be necessary to look at how much time do the people spend on these on-the-go devices to get a better understanding of the customers. According to Kantar Emor TNS Media Day survey, what collected data from 16 to 74 years old Estonian people about their Internet usage, showed that people spend much time in these devices. On average, one person at the age of 16 to 74 browsed the web for 4 hours and 1 minute per day in all platforms combined. That makes an average of 28 hours and 7 minutes per week. (Milos, 2018)

Though it is quite important to point out that internet usage is different in different age groups. There are some parallels as well, what could draw from that data set. Namely, the question arises, what do the people do in these devices. That there is one thing in common in the age group of 16-24 and people at the age of 16-74. Both age groups use these devices to seek news, send out e-mails and search about products, and service from online. (Milos, 2018) Therefore, it is understandable that people use these devices to search for products and services, and if the company is not there, then the consumer could not find anything about their presence.

## 2. Primary competitors in the Estonian banking market

Financial history and banks are usually discussed in the same manner since they operate and depend on one another (Turner, 2014). There is no economic history without the banking system and vice versa. For the purpose to concentrate and stay narrow, it will only take a closer look into Estonian financial sector history. All of this is important to lay the conceptual foundation for the history of banking.

Finantsinspektsioon (FI) shared an extensive overview of the banking market share distribution overall and per product separately. There are so many products what the bank consists of, and people could divide the purchase decision between different banks. It should also be mentioned that people could have several accounts therefore to calculate the overall market share distribution is not possible with the information that could be accessed through the FI site nor other commercial banks publicly available informational database though FI and different journals look at the amount of deposits people hold within one bank.

Importance of the commercial banks is looked after deposit and loan amount. It was seen from Finantsinspektsioon website, that Swedbank holds the most significant amount of deposits, which is 47%. SEB Pank has 23%, Luminor Bank 10% and LHV Pank 9%. (Finantsinspektsioon, 2018)

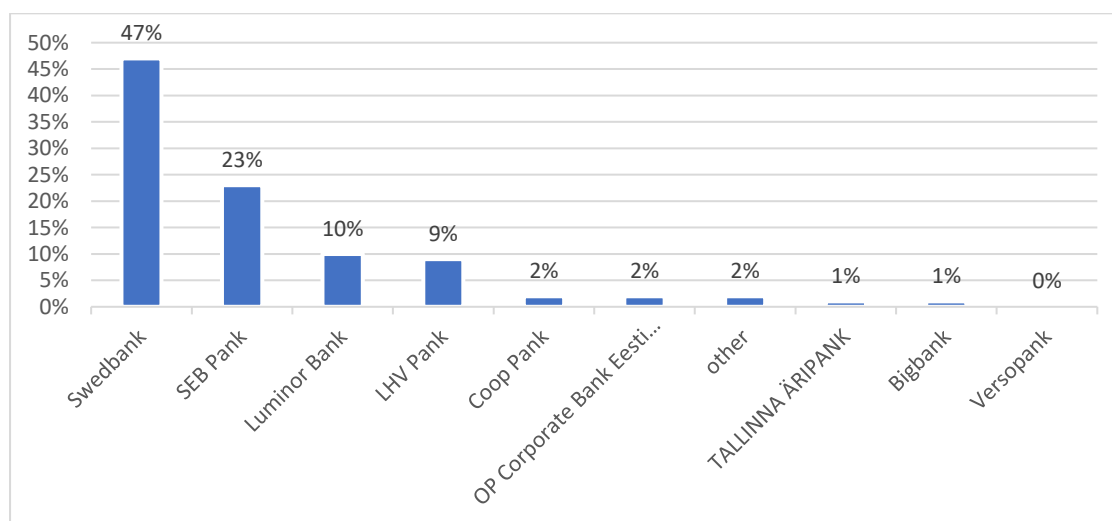


Figure 5. Deposit amount (end of 2018 June)

Source: Finantsinspektsioon



From the chart, it could be conducted that the main competitors in the market are Swedbank, SEB Pank, Luminor Bank, and LHV Pank (Finantsinspektsioon, 2018). The study will exclude Luminor bank because the Luminor Estonian branch was merged with DNB and Nordea on 02.01.2019 (Koppel, 2019). Therefore, the focus is more on the development and digital journey of Swedbank, SEB Pank, and LHV Pank, which are the main competitors in the market when comparing Figure 3. The other financial institutes are excluded since these institutes do not have sufficient deposit amount, which means that the client base is small.

To conclude, the market is dominated by two big commercial banks. Majority of deposits is owned by banks called Swedbank and SEB Pank, who are holding more than 70% of client's deposits. As previously mentioned, it is not possible to say how many active clients, they have, but now they are dominating the financial marketplace, which means that they could have the advantage to be in the forefront and role model leaders for digitalized banking, and everything related to new informational technology.

## **2.1. Contact forms of banks**

The Estonian retail banks are represented in many different channels to stay in contact with everyday banking such as physical bank offices, mobile applications, the online bank through a personal computer, and ATMs. All of them should be able to let the customer transfer their money, check balance, and do other bank related topics. The financial sector has developed self-service products for several years, which means that the physical contact form of a bank employee is losing its importance. Therefore, several branches have been closed.

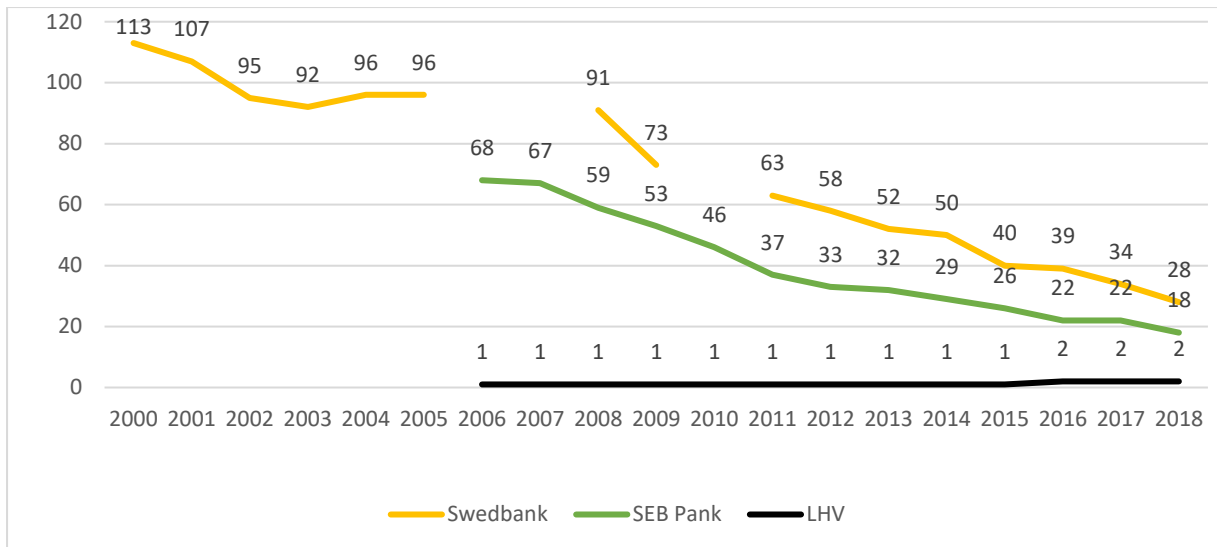


Figure 6. Bank offices in Estonia

Source: Bank’s yearly report

Before indicating to the previous chart, it is essential to mention that all the data was not available to get online, and therefore, there are some missing data entry points. Due to the history of the banks, people are expecting to have bank offices near their workplace or home. Though the year going further, there is a clear pattern of closing branches, since fewer people are visiting the branches and more people are using the internet to do their everyday banking. Majority of the market shareholders are closing the offices due to several constraints. Main press releases are related to the digitalization, and that the access to the internet has increased, therefore, a lot of banking activity could access through the internet.

The most significant drop in office closing was in 2007-2011 when Swedbank closed more than 28 offices (Swedbank, 2018). At the same time, SEB Pank closed 22 branches (SEB Eesti, 2018). All of this was at the same time when internet bank and mobile banking had a revolutionary breakthrough. However, this is not the only reason, why branches were closing. It is vital to point out that at the same time, there was a financial crisis, what hit banking the most (McDowell, 2011).

Looking at the numbers, then there is a clear trend happening over the past few years. 11% of branches are closing each year, which means that the future prognosis would state less than ten years to have physical branches opened for SEB and Swedbank.

However, at the same time, it is vital to indicate that banks have developed other channels to communicate with their customers, which means that the transformation could go from one channel to another. Such as moving from physical bank to form of internet bank, mobile bank or video meeting.

## **2.2. Digital solutions in relation to informational behaviour**

Digital marketing is done through media what is digital such as the internet, search engine marketing, social media, and mobile phones (Kotler and Armstrong, 2009). Companies gather and use data to create awareness so they could build a brand amongst people (Hargittai, 2010).

People expect to consume products and services differently than ever before, and it has created new trends in where everything should be reached quickly, easily, and be one click away (Yannopoulos, 2011). The effects of quick, easy, and one click away mentality have also had an adverse impact because people spend less time on the website and its trustworthiness. Federal Trade Commission (FTC) from the United States of America has reported that there are hundreds of thousands of victims who have lost their money due to fraudulent websites and since they are not spending not enough time to understand the legitimacy of the business. (FTC, 2019) It might be one of the reasons, why people do not trust internet services so much because they have had a bad experience before.

People need to think about whether the websites they are visiting are valid or not since the fraudulent sites and statistics is growing each year (FTC, 2019). Digital solutions are available to use 24/7, and it is available to everyone who has access to the internet (Perlow, 2012). It all shows that digital skills and digital literacy acceptance are essential when being online (Bhattacharjee, 2006).

There is also profound research done in 2017 by Turu-Uuringute AS who conducted research that took a closer look at 964 Estonian households and asked, how the family uses their money and what are their financial behaviours. The statistics revealed that some transactions are still done physically at the office and not online (Mitt, 2017). Though numbers of mobile and internet bank have grown over the years for SEB, Swedbank, Luminor, and LHV, there is still need for physical branches since people preference for some topics is still not that digital, though there are solutions to support going fully digital.

A questionnaire conducted by KPMG states that there is already a shift towards mobile phone banking applications and not personal computer banking, as was in the past. KPMG asked 12 leading bankers, whether they see the trend towards internet bank or there is a new leading platform on the market. The conclusion from the report is that mobile banking is taking a more significant gap from “traditional” internet bank, and it is a significant place where people have their interactions with the bank. (ituudised.ee, 2011) Mobile banking had started the development in early 2000 when Hansapank (former Swedbank) brought new mobile phone banking solutions to the marketplace (Raesaar, 2000). As mentioned, then Estonia’s most significant commercial bank Swedbank has over 290 000 users who have already shifted towards mobile, and they are mostly checking their bank balance and sending out payments (Raagmets, 2018).

There is also an opportunity to have a remote advisory session with SEB, which means that there is no need for the consumer to go to the branch since every financial matter could solve inside the video meeting. SEB was the first commercial bank in Estonia who came to the market with this idea. Now there is also seen that LHV and Swedbank Estonia is trying to open up their remote advisory channel, but there is no precise date revealed from their side yet. (ärileht.ee, 2017)

SEB has also revealed that every fourth meeting with the bank is happening online through the remote advisory channel (Piilmann, 2019). It means that people do not go to branches so many times as they used to since the commercial banks have made it much easier for people to communicate with them.

### **2.3. Digital natives**

Technology has enforced everyone to change and had a significant impact on people's lives. People are seeking information the same way as their ancestors did, but it has shifted from books to more digital form. People are still seeking information that is structured, focused, and done in a specific time and discipline. (Heinström, 2006)

Seeking information is related to a variety of factors, and it is not a singular activity, what is understandable right away through data. It is influenced by consumer motivation, practical need, and available access to that knowledge. Consumer motivation is something that drives the person to buy a product or service to fulfill their unconscious need or desire. One of the critical elements for building up the framework for this questionnaire was strongly related to the theory and concept of informational seeking.

Though there is not a clear distinction who seeks more information regarding different ages, there is an understanding of what different aged groups use to find information. Marc Prensky created a concept in 2001, which states that there are people who are "native speakers" of the digital language of computers and the Internet (Prensky, 2001). In 1997, Don Tapscott referred to these "digital natives" as "Net generation" (Tapscott, 1998). Most of the digital natives have surrounded and spent time with digital solutions such as computers, phones, music players, and video games. According to Prensky, digital natives enjoy processing data quickly, enjoy gaming and multi-tasking. (Prensky, 2001)

Prensky states that people, who were born before the 1980s should consider themselves as "digital immigrants" since they are most fearful of using technology. They might be afraid about technology for many reasons, but the critical difference between them and "digital natives" is that they have no contact with technology at an early age. Therefore, they were born differently. According to Prensky, digital immigrants process information much slower than "digital natives" and work only with one thing at a time. (Prensky, 2001)

According to Zur and Walker, all digital immigrants and digital natives are equal, which means that people have different attitude and capacities towards different digital technologies. Therefore, digital immigrants and digital natives can be sorted out into three major groups. Digital immigrants could be segmented as followed:

- Avoiders are a group of people does not see the value, what is coming from digital technology, therefore they live the relatively technology-free lifestyle.
- Reluctant adopters are a group of people who uses digital technology but is somewhat cautious and tentative towards it. They feel as if the technology is unintuitive and does not fit their lifestyle.
- Enthusiastic adopters are a group of people who are interested in keeping up with technology and see actual value from it. They take the best out of the information what is available and are not scared of digital natives.

It is important to note that digital natives and digital immigrants cannot be examined side by side since there is a disparity between them. Digital natives could be segmented as follows:

- Avoiders are a group of people who were born in the digital ages but did not see real value from it. They are a small group of people, who still uses cell phones since their peers at the same age do, and they feel pressured to stay in contact the modern way.
- Minimalists are a group of people, who accept the digital technology but try to interact with it as little as possible. They use these technologies only when it is necessary and instead not use new technology, which is not a necessity.
- Enthusiastic participants are the most digital natives, since they are fluid with all of the technology, and they stay online as much as they can.

There is a clear difference when comparing digital natives and digital immigrants. Paperwork, formalities, and bureaucracy do not make sense to the digital native since everything should be quick and straightforward. (Zur & Walker, 2011) It might also be necessary when creating a new digital product since it is crucial to understand what different segments are expecting from the company.

Heinze conducted a study in Germany, where he took a closer attention to i-literacy and how to develop a reliable infrastructure to support information literacy skills among students. The overall results showed that the students who were internet savvy were not informationally

literate. Which means that they were not able to search for information on their own, although they knew how to use their technology. That means that the people who are “digital natives” are not able and capable to use digital devices for their learning nor practical purposes (Heinze, 2008). It might be an indication that there is help needed when they would need to work and find information on their own.

To conclude then, there is a clear distinction between the digitally literate people and those who are not. Although people spend much time in digital devices, some people still are not capable of learning or finding the questions on their own, as Heinze (2008) study showed. The information could be there, but the person might not find it since they do not know how to read through this information overload (Amanda Hall, Graham Walton, 2004).

#### **2.4. Customer motivation towards banking**

His study has mainly on banking and how people have interacted with its products and services. As seen (from Figure 4.), the branches are closing, and people need to use different channels to stay in touch with the bank. The next location and channel, where people are shifting towards to is the internet, though it would be too primitive to say that people are using personal computers to stay in touch with the financial institutions.

It is also a clear indication, that shows people’s preferences towards moving to the web and not in the branches anymore. Also, there is a trend regarding some products and services that are only done by mobile phone and nothing else. Though several actions were done online, there are still products and services what shall stay in the branches, such as loans and investments.

There is one thing collectively common regarding usage of digital devices, and that is motivation. Motivation is from psychological conscious, something that consumer wisher or satisfies. The result of all this is a drive for the purchase decision of a product or a service from a specific retailer. The goal of a purchase is to satisfy the need. If the motivation has reached a certain level, it shall move to the next phase, what is attention, where there are more stimuli to get that product or service.

Need is also divided into two subsections:

- Utilitarian is a desire where practical benefit or functional benefit is the goal (Engel, Blackwell, & Miniard, 1990).
- Hedonic involves emotional responses or experiential need what means that the experiential benefit could also state that it is as a luxury (Hirschman & Holdbrook, 1982).

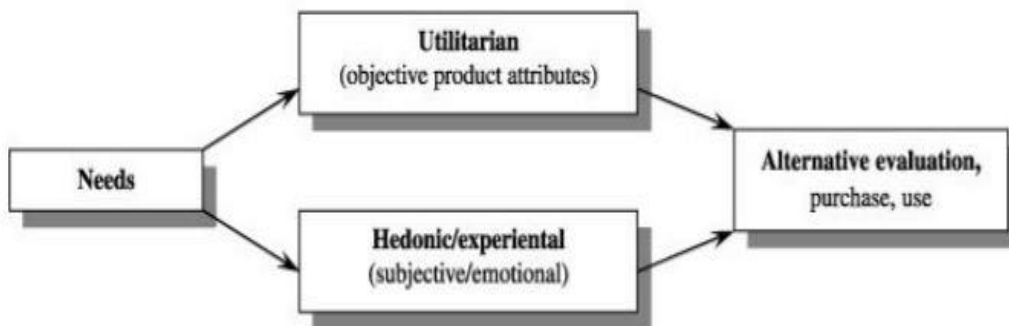


Figure 7. Motivation process of consumers

Source: (Kemp & Gelderen., 1996), adapted from Engel et al. 1990.

For marketers, it is essential to understand what drives people to make the purchasing decision, and therefore, it is vital to understand the customer journey. Kemp and Gelderen (1996) model could link with Fishbein and Ajzen (1980), and from that, it could be understood, that cultural norms have a significant impact toward the usage of the product or service. Which means that if Estonia's cultural space people accept mobile banking and internet banking, then the people would use the products and services.



### **3. METHODOLOGY**

By integrating the above-mentioned theories, research streams, and studies, there was a questionnaire that was distributed to the people. The survey was based on theoretical objectives and customer purchase decision models to get a deeper understanding of regarding financial institutions. To get a deeper understanding, this questionnaire will use all of the theories previously mentioned discussed, which were TAM, GMT, and TRA. All of this is used to get the idea of why people prefer one channel over another and what people are expecting from different channels. The study in two languages, which were Estonian and Russian, and it was distributed in an online questionnaire.

#### **3.1. Research methodology**

The study has been conducted using Google Form as a research tool. The questionnaire questions are rather trivial, direct, and use recognizable vocabulary to get a clear understanding of the customers. The questionnaire is designed in a shared workspace, where many polls are done. Therefore there should not be a learning curve to new technologies for people (Manfreda, Batagelj, & Vehova, 2002). Also, it has been taken into account the attention span of a person when answering the survey. Therefore it is not too long. It should assure that the respondents do not misinterpret the questions and are motivated to answer all of the issues. (Revilla, 2017)

Structure of the questionnaire is based on TAM, where the author also accepts the theory limitations. The framework is divided into four sections to let the respondent focus on one topic at a time, which should make them less anxious and more willing to answer all of the questions. Accordance with Manfreda et al. the subjects and wording was designed to conduct this research. The online questionnaire is divided into the following topics:

1. Greeting. This section gives the respondent an introduction to this survey, and why is it research conducted. There is also information regarding the average time limit, how much the answering should take so the respondents could see that the attention span for explaining this, should not be too long. The last part of the section shows gratitude toward the respondents and gives out email address if there is any question regarding the questions.

2. General and simple questions. The second section of the study is going to give an overview of the respondents digital usage of the financial sector. There are a majority of the financial sector products brought out and asked, what is the preferred form of contact for them. It indicates whether the customer preferred digital services or traditional physical services.
3. Focused questions. In the concentrated part, the respondents give more insight towards the usefulness and experience toward digital and physical branches. The respondents will indicate what the positive and negative feelings towards these forms of contacts are.
4. Demographic question. The last stage, the questionnaire will understand the County they live in, the age, sex, and education level. There was not included wage since the respondents might not respond honestly and feel undermined.

### **3.2. Data collection**

The questionnaire takes into account age, gender, education to profile the buyer persona and get a deeper understanding of who they are. The study was conducted in Estonia, which means that majority of the respondents have Estonian bank. Therefore it might not include foreign banks, which may limit the research in some sort. The questionnaire for the quantitative study was gathered through Google Form, which was distributed through targeted Facebook advertisements. The ads were targeted throughout Estonia to a specific County or region. It is also important to mention that the questionnaire was distributed in Estonian and Russian to get a more profound insight.

The scope of this thesis cannot enable a full in-depth understanding of consumers expectations since then the questionnaire is quantitative, not qualitative. Therefore the sample size to use this will represent the Estonian demographical population. That is the reason, why the survey was also translated to Russian, to not exclude anyone due to language barriers.

## 4. Findings

The fourth chapter focuses on the findings of the research, and the primary data what is presented was collected through an online questionnaire. The data collection took place from 26<sup>th</sup> April to 05<sup>th</sup> May. The survey was shared on different social media platforms, such as Twitter, Facebook, and LinkedIn. It is important to mention also that the questionnaire had four different ads on Facebook, and it was also shared in various Facebook groups.

### 4.1. Sample characteristics

The study consists of 265 individuals who are segmented through age, gender, and education. The sample was collected through convenience sampling and then summarised in the form of table 1.1. The surveys were distributed digitally through Google Form in Estonian and Russian language. Out of the 265 respondents, there is no exclusion since all of them reasonable respondent to fulfill the full model.

Table 1. Overview of respondents for questionnaire

Characteristics		Number of respondents	Proportion in percent (%)
Gender, n=265	Female	179	64%
	Male	95	36%
Age, n=265	Under 20	15	6%
	20-29	123	46%
	30-39	46	17%
	40-49	33	12%
	50-59	32	12%
	60-69	13	5%
	70 and older	3	1%
Education n=265	Primary school	13	5%
	High school	68	26%
	Vocational school	47	18%
	Higher education	137	52%

Source: Questionnaire made by the author

This questionnaire was distributed amongst people of different aged, sex, education, and region groups all over Estonia to get a better sampling quality of respondents. According to Prensky (2001), there are 30% who could be considered as “digital immigrants,” which means that they are the most fearful towards digital technology. 70% of the respondents are “digital natives” since they are the ones who were born after the 1980s. The last ones are people, who were exposed to technology in their early stages, and according to Prensky (2001), they are more willing to use digital technology. However, keep in mind that digital immigrants and digital natives are divided into different segments, which means there could be disparity inside the group.

The respondents consisted of 64% of females and 36% of male. The age of respondents was between 20-29 (46%), followed by 30-39 (17%), 40-49 and 50-59 shared the same portion, which was 12% and the same was with respondents aged under 20, and 60-69 (6%) and the 1% was 70 and older. In terms of education most of the respondents have finished higher education (52%), and it was followed high school (26%), vocational school (18%) and primary school (5%). 90% of the respondents answered the questionnaire in Estonian, while 10% answered it in Russian, which gives a good model of the Estonian demographics.

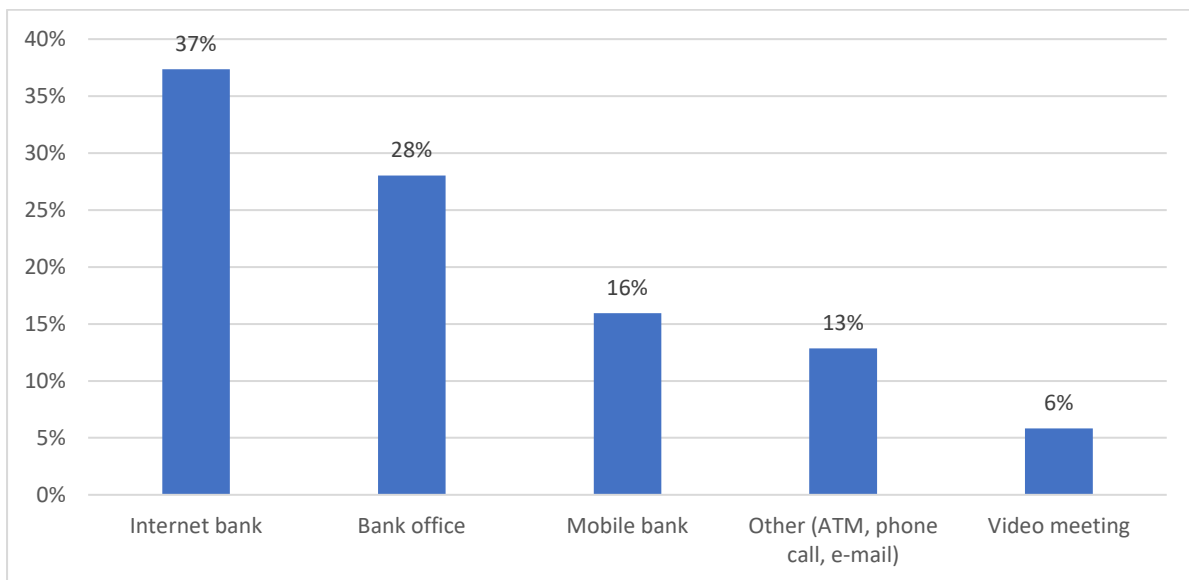


Figure 8.1. The extent of the preference contact form of financial institution. 100% n=265

Source: Questionnaire made by the author

It is vital to understand that most of the respondents from the questionnaire would prefer that the financial institution would contact them through online, rather than physical meet up in the branch. People are accepting the online form of communication from the financial institutions since they trust that bank security is reliant and trustworthy. So, the main touch points where customers would like to contact the bank is through internet bank (37%) or bank office (28%).

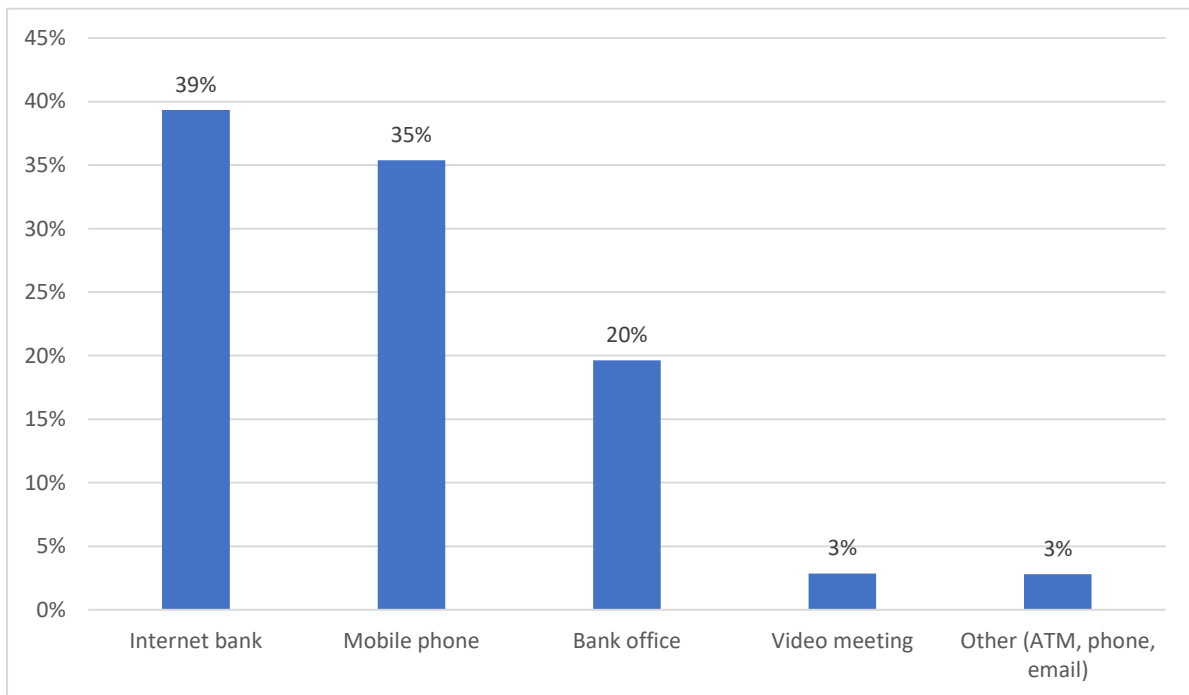


Figure 8.2. The extent of using different banking activities 100% n=265

Source: Questionnaire made by the author

The respondents were asked, where they would prefer to pay the bills, check account balance, open a new account, do bank transfers, start and read about investing, insurance, loans and get more information about pensions. Majority of the people answered internet bank, and mobile phones and several people chose over bank office visits.

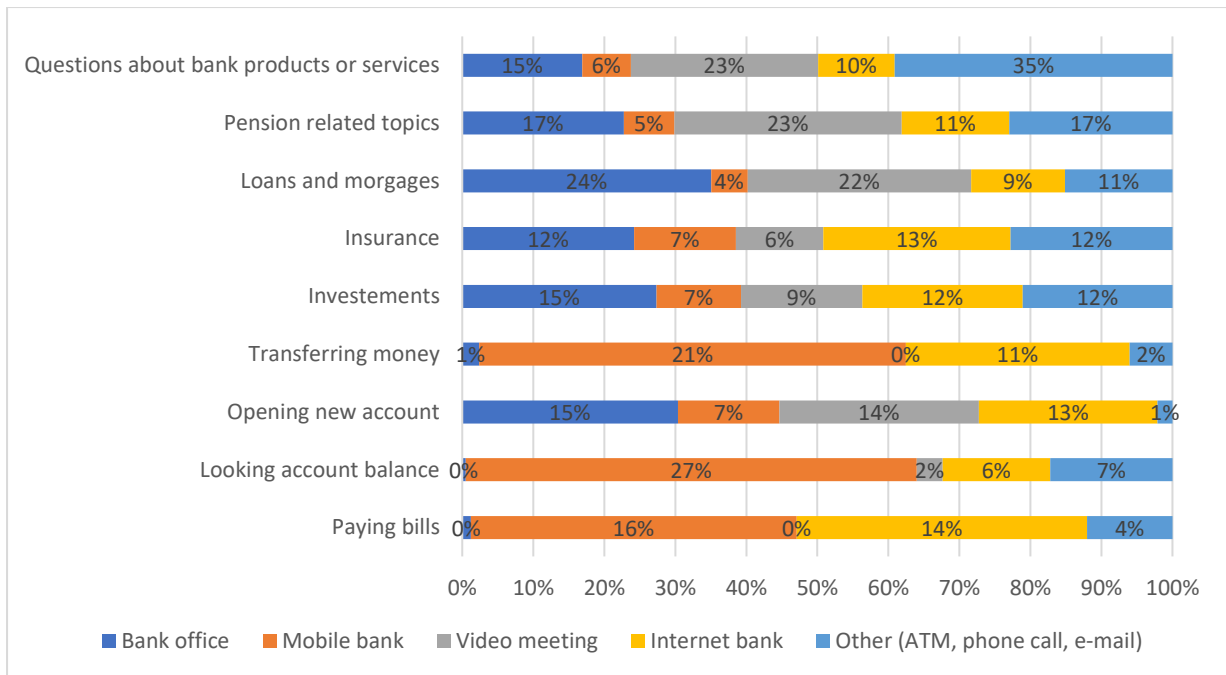


Figure 8.3. The extent of the preference contact form for different products. 100% n=265

Source: Questionnaire made by the author

Generally looking at the respondents, then most of the people prefer to look up an account balance, transfer the money and pay the bills with the mobile device, though the close second is to use internet bank. This chart indicates directly what are the products and services what people are willing to do online and what shall remain in the bank office. One of the most striking products is loans and mortgages, where 24% of the respondents would like to do it in a bank office, while there is a clear trend of video meeting coming a close second.

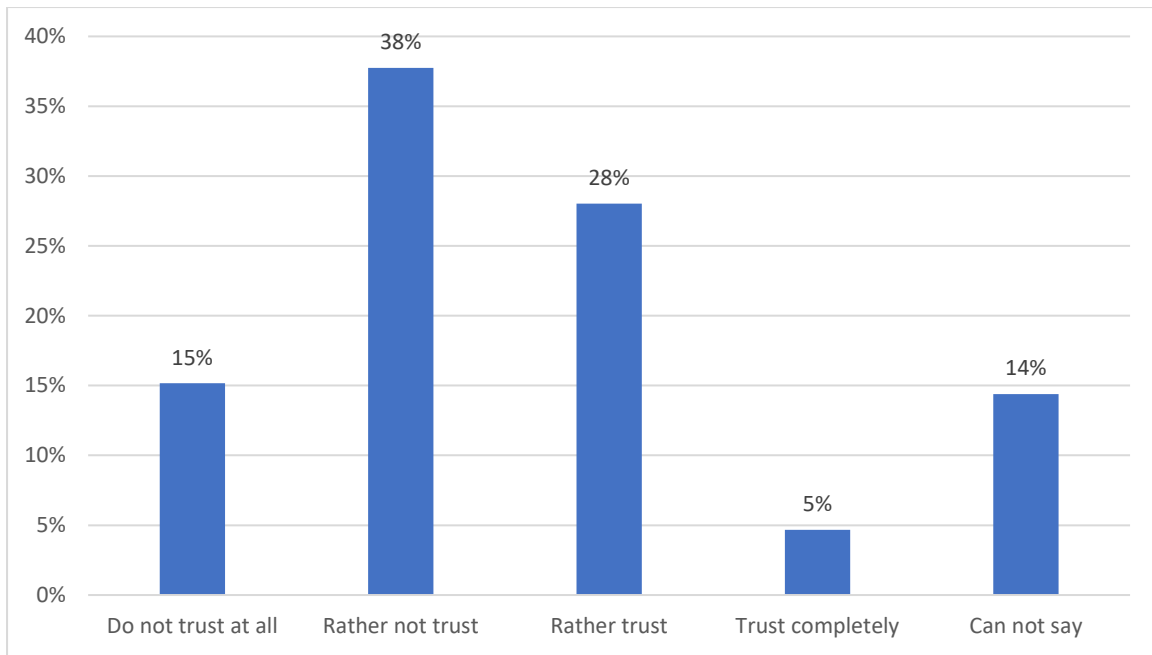


Figure 8.4. The extent of trust towards internet bank 100% n=265

Source: Questionnaire made by the author

Though it should be mentioned that out of the respondents, five people do not seek trust towards the internet bank. It should be mentioned that 3 out of 5 people would like to meet in the branch office as well, which means that they do not accept internet form of communication at all.

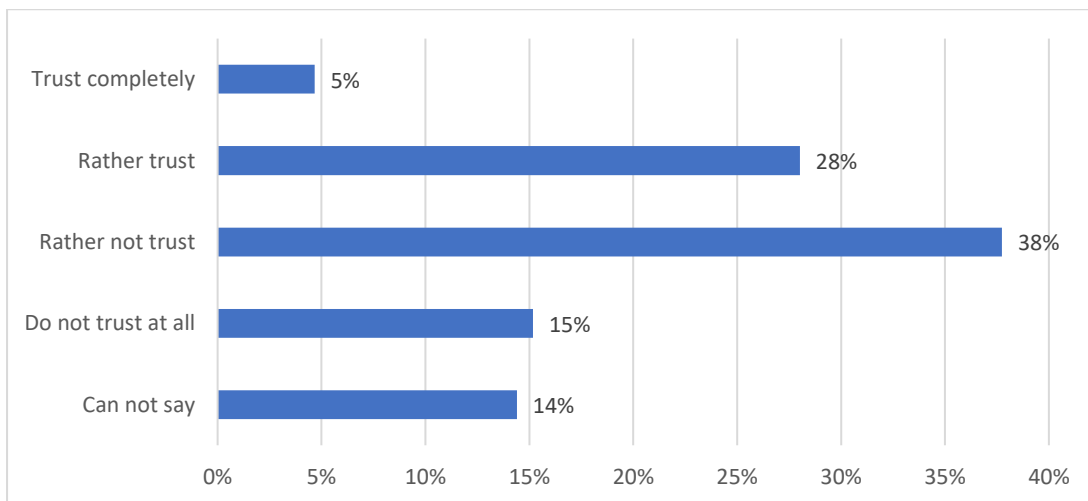


Figure 8.5. The extent of trust towards financial institutions toward the bank, what is only online 100% n=265

Source: Questionnaire made by the author

According to Doney and Cannon (1997), there is perceived credibility towards the seller or the salesperson. Therefore, they shall be “the merit of trust” shall be at the base. With financial institutions who are not operating physically, it is more difficult to create trust within the “seller” and end user. If the financial institutions would only work online, then the people would not trust the institute as much, if they had an office. From the responses it is to see that 53% of people would not trust a financial institute what would only operate online, 33% of the respondents would believe it, and 14% do not know how whether they would accept it or not. From the responses, it is seen that the physical branches shall remain since the people mainly trust bank employees if they are in the office.

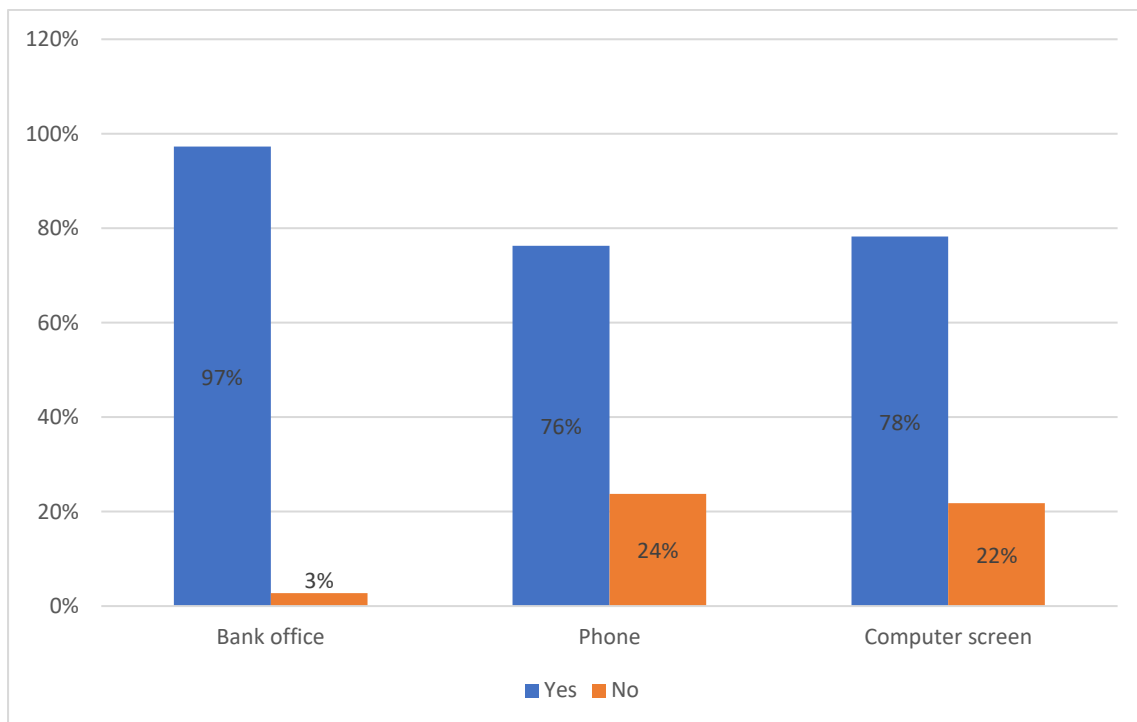


Figure 8.6. The extent of trust in different channels 100% n=265

Source: Questionnaire made by the author

There is a clear indication from the chart that people would trust bank employees if they are in the physical bank office, rather than behind a computer screen or phone. Though it must be mentioned that the people who do not trust online and digital conversations are instead older people (see on figure 8.6.).



Digital revolution has been trending in traditional banking, and the financial institutions shall see the opportunities and new ways to be more trustworthy and closer to their customers than ever before. Going all digital and not maintaining physical branches now is not acceptable for the customers of today since they are not yet ready for this shift to happen though there is a clear potential in the upcoming years to educate the customer even more and make it more user-friendly.

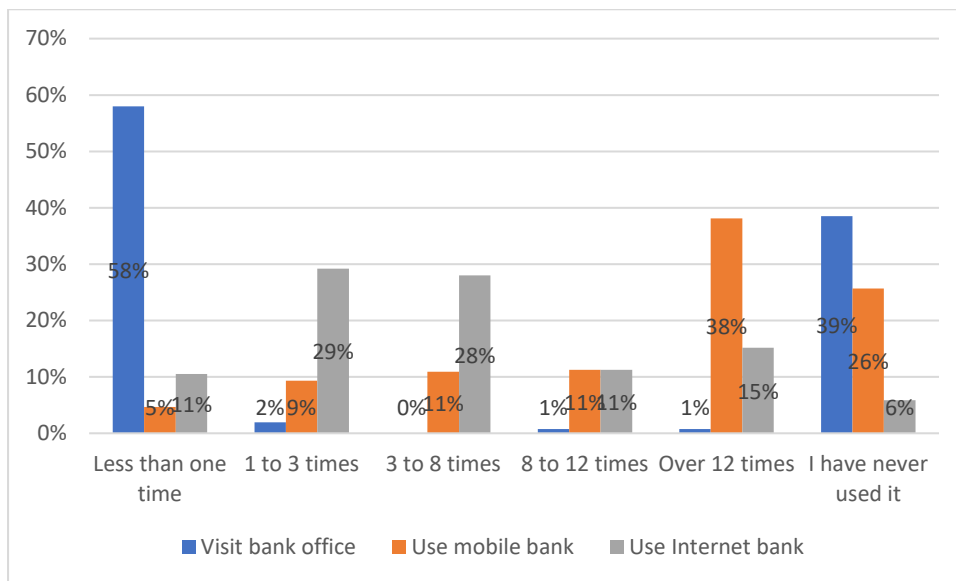


Figure 8.7. The extent of service usage for one month 100% n=265

Source: Questionnaire made by the author

People tend to visit mobile bank application and internet bank more than a branch office. There is seen that 64% of the respondent use mobile apps over eight times, which means that they check their institutional financial application every 3 to 4 days. At the same time, 65% of people use branch office less than three times, which means that some people might only appear in the branch one or fewer times per month. Therefore, it could be easily noticed that several people from the respondents do not use branch office at all, and they do all of their financial transactions online.

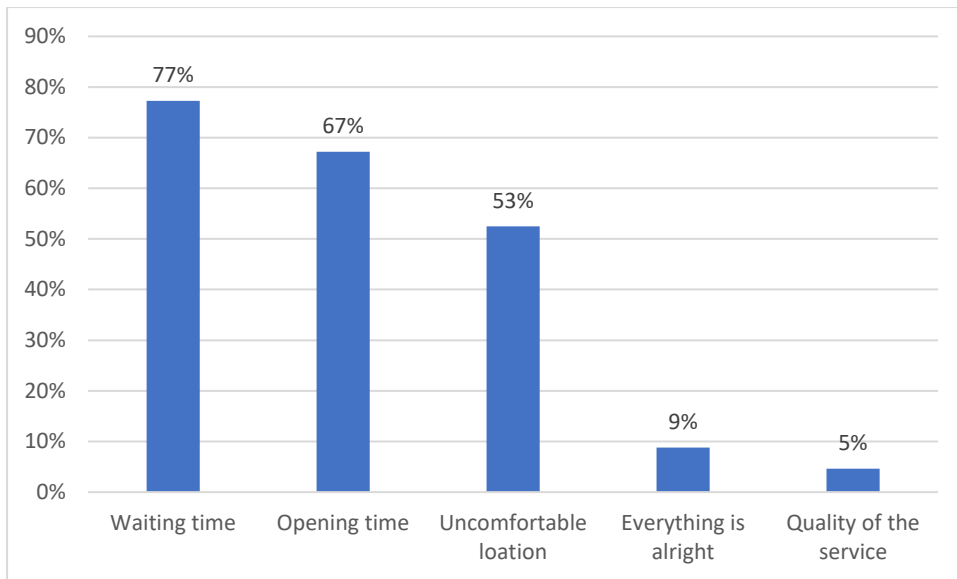


Figure 8.8. Main disadvantages regarding branches 100% n=265

Source: Questionnaire made by the author

There are positive and negative sides for physical branches and negative sides. The survey mainly focused on the negatives, to understand whether digital solutions could solve it. The primary outcome of the survey was that 77% of people do not enjoy waiting for lines in the offices. Also, 67% of respondents did not enjoy the opening time of the bank as well. 52% of respondents considered the location to be a negative side of the branch though it is vital to understand that 9% of people saw no negative sides on the physical branches

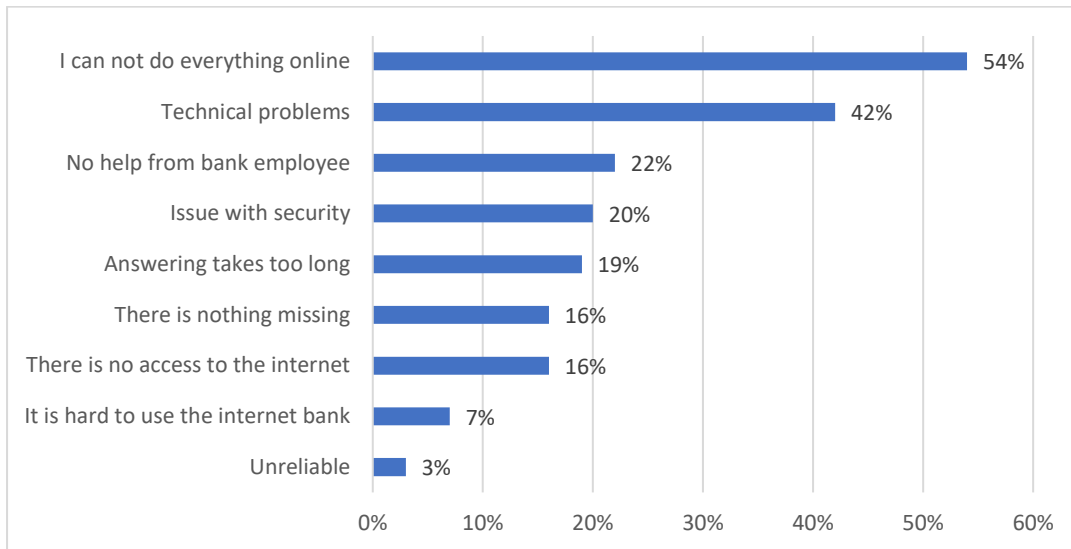


Figure 8.8. Main disadvantages regarding digital solutions 100% n=265

Source: Questionnaire made by the author

It is also essential to understand what people do not like digital solutions and what is missing from their side. The main problem for the respondents is that they can not do everything online (54%). The second problem regarding digital problems is that there are technical problems (42%), which could be solved if there is a bank employee next to them. 22% of the respondents find discomfort regarding that there is no help from the employee though there is only 3% of the whole respondents, who think that online solutions are unreliable or hard to use, which means that that the companies should focus on educating people or digitalizing everything, which would remove the primary concern.

## 4.2. Discussion

The study found out that there is a clear correlation in regarding trust and banking activities in digital channels. There was also a clear preference regarding products and services, what the respondents preferred. Therefore it would be inevitable that if physical offices were closed down, the respondents would choose another financial institute to do that transaction or take upon a loan. It could be changed if the people would be introduced to online opportunities, where there would consider a possibility for the help of the bank employee.

The financial habits and expectations are different towards banking in every age group, and therefore, the financial institutions have a vital role in this environment. Banks should have a business interest to teach people to use personal computers or smartphones. Though there is not such a clear correlation with generation marketing theory, it could be due to insufficient sampling size, or there was no correlation regarding the generational divide.

There were several limitations regarding this study. First of them was related to the exclusion of people who did not use online and digital platforms, which excluded almost 10% of the Estonian population. It is a disturbing factor size these people would still like to access online banking, and most of the sample size what is done currently do not include them inside the sample.

This study used an online questionnaire, which means that the sampling method was convenience sampling, which only included the people who saw the advertisements on social media. The reach of the advertisement was 8613 people, which is not sufficient enough to say that everybody had an opportunity to see the questionnaire.

Regarding future research, the questionnaire could be conducted in a more broad audience, therefore using the paper form as well. The paper form could be distributed to elderly homes and to places where internet access is not available. Also, the questionnaire could be translated into more languages to get a better understanding of the demographic. Also related with the

sampling size, there could be extensive qualitative research done in different age groups to get a better understanding why people are acting the way they are and if there is something more to the bank channel usage than trust and ease of use.

## CONCLUSION

In this increasing marketplace, it can be easy not to spot the new trend and therefore lose the competitive advantage what the company previously had. Due to new regulations and increasing demand for banking services, the competition will rise. Therefore, this thesis aimed to find out what are the primary services and products that people are willing to get online, what is the technology acceptance in the digital banking and what should remain in the physical branch.

According to the technology acceptance model, what was created by Fishbein and Ajzen (1980), the social norms are vital whether the people use online banking, mobile banking, or any other new technological products. If social norms do not support new technologies, then the companies should not invest time and money towards it, because they would not use it. It is understandable that social norms this day is that physical branches should remain since it builds trust towards the financial institute. It was the fundamental essence of understanding what the motivation and social norm for the customer is.

This study set up three research questions, what showed what products and services people are willing to purchase from online and whether the physical branches should remain. Out of the questionnaire, there was a clear indication that some products are preferred more to use via digital channels, such as insurance, bank transfers, and checking the account balance. However, some shall remain in the physical environment, such as loans and topics related to a pension. The financial habits and expectations are different towards banking in every age group, and therefore, the financial institutions have a vital role in this environment. They have a business interest to teach people to use personal computers or smartphones.

Proposals for financial institutions is to educate their customers on different products and services. Digital innovation is necessary for these products, and people are willing to buy or use these products or services if they are there. Consumers are already using the internet bank or mobile bank to do different things related to their financials, but some things are still there as a “tradition.” For financial institutes, it is vital to understand the practical importance of a branch since it is strongly related to trust and social norm.

It is possible to tackle the problems what the respondents said, but the management must understand it. If every product and service is available online, then it would increase the usage of digital solution within the financial sector. Also, if there would be an online assistant, like SEB video meeting has, then people would use more of the digital services. Therefore, the problem must be tackled from the top and understood through qualitative research why people are doing what they are doing.

To further understand consumer behavioural shift in the digital world, then there could be conducted a qualitative study to understand the topic more in-depth. To seek what is the right motivation and belief regarding different products and services and why people are not signing them online. Also, regarding this research, there could be done more extensive research regarding the respondent's number, to improve the model even further than it is.

## LIST OF REFERENCES

- Ait, J. (2017, october 26). Noored IT-seadmete ja interneti maailmas. Retrieved from <https://blog.stat.ee/2017/10/26/noored-it-seadmete-ja-interneti-maailmas/>
- Ajzen, I. (1991). The Theory of Planned Behavior. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.317.9673&rep=rep1&type=pdf>
- Amanda Hall, Graham Walton. (2004, june 10). Information overload within the health care system: a literature review. Retrieved from <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1471-1842.2004.00506.x>
- ärileht.ee. (2017, january 9). SEB pakub teatud klientidele uudset nõustamise teenust. Retrieved from <https://arileht.delfi.ee/news/uudised/seb-pakub-teatud-klientidele-uudset-noustamise-teenust?id=76847394>
- Austin, Z., & Sutton, J. (2015, may). *Qualitative Research: Data Collection, Analysis, and Management*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4485510/>
- Bhattacharjee, A. (2006, december). *Influence Processes for Information Technology Acceptance: An Elaboration Likelihood Model*. Retrieved from [http://faculty.ndhu.edu.tw/~fmhsu/xoops255/uploads/tad\\_uploader/user\\_8/75\\_7-1-INFLUENCE%20PROCESSES%20FOR%20INFORMATION%20TECHNOLOGY%20ACCEPTANCE.pdf](http://faculty.ndhu.edu.tw/~fmhsu/xoops255/uploads/tad_uploader/user_8/75_7-1-INFLUENCE%20PROCESSES%20FOR%20INFORMATION%20TECHNOLOGY%20ACCEPTANCE.pdf)
- Boxall, A. (2013, june 11). *As Apple announces a new beginning, today marks the first iPhone's retirement*. Retrieved from <http://www.digitaltrends.com/mobile/iphone-2g-2007-retired-vintage-obsolete-status/>
- Brako, S., Awuah, M., & Adzimah, E. D. (2015, september). *Effects of ICT on the Performance of Warehouse and Inventory Management*. Retrieved from [https://www.academia.edu/20114558/Effects\\_of\\_ICT\\_on\\_the\\_Performance\\_of\\_Warehouse\\_and\\_Inventory\\_Management](https://www.academia.edu/20114558/Effects_of_ICT_on_the_Performance_of_Warehouse_and_Inventory_Management)
- Calkins, S., & Kelley, M. (2007). Evaluating Internet and Scholarly Sources across the Disciplines: Two Case Studies. *College Teaching*, 151-156.



- Davis, Fred, D., Bagozzi, Richard, P., Paul, R., & Warshaw, P. (1989, august). *User acceptance of computer technology: A Comparison Of Two*. Retrieved from [https://www.researchgate.net/profile/Richard\\_Bagozzi/publication/227446117\\_User\\_Acceptance\\_of\\_Computer\\_Technology\\_A\\_Comparison\\_of\\_Two\\_Theoretical\\_Models/links/57c85f7608ae9d640480e00f/User-Acceptance-of-Computer-Technology-A-Comparison-of-Two-Theoretical-](https://www.researchgate.net/profile/Richard_Bagozzi/publication/227446117_User_Acceptance_of_Computer_Technology_A_Comparison_of_Two_Theoretical_Models/links/57c85f7608ae9d640480e00f/User-Acceptance-of-Computer-Technology-A-Comparison-of-Two-Theoretical-)
- Doney, P., & Cannon, J. (1997). An Examination of the nature of trust in buyer-seller relationships. *Journal of Marketing*, 61, 2, 35-51.
- Douglas, G. (2018, may 8). *Too Many Communication Options Causing Headaches at Work*. Retrieved from <https://www.bna.com/communication-options-causing-b57982092628/>
- Eesti Pangaliit. (2019). *Pangaliidu juhatas*. Retrieved from <https://www.pangaliit.ee/uldteave/pangaliidu-juhatas>
- Eesti Pank. (2009). *Pankade kadumine Eesti pangandusturult 1990-2009*. Retrieved from <https://www.eestipank.ee/pankade-kadumine-eesti-pangandusturult-1990-2009>
- Eesti Pank. (2014, september 22). *Pangateenuste kättesaadavus Eestis. Eesti Panga presidendi Ardo Hanssoni vastus Riigikogus 22. septembril 2014*. Retrieved from <https://www.eestipank.ee/press/pangateenuste-kattesaadavus-eestis-eesti-panga-presidendi-ardo-hanssoni-vastus-riigikogus-22-22092014>
- Elstad, E. (2019, april). *Digital Expectations and Experiences in Education*. Retrieved from <https://www.sensepublishers.com/media/2852-digital-expectations-and-experiences-in-education.pdf>
- Engel, J., Blackwell, R., & Miniard, P. (1990). *Consumer Behaviour*. Dryden Press.
- Eurostat. (2018, 08 17). *Level of internet access - households - %*. Retrieved from <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tin00134>
- Finantsinspektsioon. (2018, june 30). *Eesti finantsteenuste turg*. Retrieved from [https://www.fi.ee/sites/default/files/finantsteenuste\\_turg\\_seisuga\\_2018\\_30\\_06\\_0.pdf](https://www.fi.ee/sites/default/files/finantsteenuste_turg_seisuga_2018_30_06_0.pdf)
- Fishbein, M., & Ajzen, I. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, N.J. : Prentice-Hall. Retrieved from [https://scholar.google.com/scholar\\_lookup?title=Understanding%20attitudes%20and](https://scholar.google.com/scholar_lookup?title=Understanding%20attitudes%20and)

%20predicting%20social%20behavior&author=I.%20Ajzen&author=M.%20Fishbein  
&publication\_year=1980

Foltz, P. (1996). *Comprehension, coherence, and strategies in hypertext and linear text*. In Rouet, J-F. et al. (Eds.) *Hypertext and cognition*. (pp. 109-136) . Mahwah, NJ: Lawrence Erlbaum Associates.

FTC. (2019, february 28). *Consumer Sentinel Network*. Retrieved from [https://www.ftc.gov/system/files/documents/reports/consumer-sentinel-network-data-book-2018/consumer\\_sentinel\\_network\\_data\\_book\\_2018\\_0.pdf](https://www.ftc.gov/system/files/documents/reports/consumer-sentinel-network-data-book-2018/consumer_sentinel_network_data_book_2018_0.pdf)

Gardner, B. (2007). *Ensuring Successful Information Technology Utilisation in Developing Countries*. Garborone: Botswana (Pty) Limited, Botswana.

*Gates Showcases Tablet PC, Xbox at COMDEX; Says New "Digital Decade" Technologies Will Transform How We Live*. (2001, november 11). Retrieved from <http://www.microsoft.com/en-us/news/press/2001/nov01/11-11comdex2001keynotepr.aspx>

Gemius. (2019, february 13). *Gemius review of internet usage tendencies in Estonia in 2018*. Retrieved from <https://www.gemius.ee/468/gemius-review-of-internet-usage-tendencies-in-estonia-in-2018.html>

Google/TNS. (2017, november). *Consumer Barometer Study 2017 - The Year of the Mobile Majority*. Retrieved from <https://www.thinkwithgoogle.com/intl/en-145/tools-and-research/studies/consumer-barometer-study-2017-year-mobile-majority/>

Gralla, P. (2011, november 10). *Microsoft released its first tablet 10 years ago. So why did Apple win with the iPad?* Retrieved from [http://blogs.computerworld.com/19251/microsoft\\_released\\_its\\_first\\_tablet\\_10\\_years\\_ago\\_so\\_why\\_did\\_apple\\_win\\_with\\_the\\_ipad](http://blogs.computerworld.com/19251/microsoft_released_its_first_tablet_10_years_ago_so_why_did_apple_win_with_the_ipad)

Greenberg, P. (2001). *Public Organizations in the Age of Globalization and Technology*, *Public Organization Review*, 7: 181-189.

Gruener, W. (2010, april 17). *Did Steve Jobs Steal The iPad?* Retrieved from <http://www.tomshardware.com/news/alan-kay-steve-jobs-ipad-iphone,10209.html>

Hargittai, E. (2010). College Students' Digital Literacy: A Reality Check. . *Literacy in the Digital University*.

- Heinström, J. (2006, may). *Habits in information seeking*. Retrieved from [https://www.researchgate.net/publication/275646740\\_Habits\\_in\\_information\\_seeking](https://www.researchgate.net/publication/275646740_Habits_in_information_seeking)
- Heinze, N. (2008). *Bedarfsanalyse für das Projekt i-literacy : Empirische Untersuchung der Informationskompetenz der Studierenden der Universität Augsburg*. Retrieved from <https://opus.bibliothek.uni-augsburg.de/opus4/frontdoor/index/index/docId/685>
- Hiner, J. (2013, july 15). *The iPad's success is still more about the 'i' than the 'Pad'*. Retrieved from <http://www.techrepublic.com/blog/tech-sanity-check/the-ipads-success-is-still-more-about-the-i-than-the-pad/>
- Hirschman, E., & Holdbrook, M. (1982). *Hedonic Consumption: Emerging Methods and Propositions*. Journal of Marketing.
- Honan, M. (2013, august 5). *Remembering the Apple Newton's Prophetic Failure and Lasting Impact*. Retrieved from <http://www.wired.com/design/2013/08/remembering-the-apple-newtons-prophetic-failure-and-lasting-ideals>
- Howe, N., & Strauss, W. (1991). *Generations: The History of America's Future, 1584 to 2069*. Quill.
- ituudised.ee. (2011, august 26). *Internetipangandus teeb ruumi m-pangandusele*. Retrieved from <https://www.ituudised.ee/uudised/2011/08/26/internetipangandus-teeb-ruumi-m-pangandusele>
- Johannessen, Ø. (2009). *In Search of Evidence: The Unbearable Hunt for Causality*. Retrieved from <http://www.oecd.org/education/ceri/39458854.pdf>
- Kemp, J., & Gelderen., v. (1996). *Co-discovery exploration : an informal method for the iterative desig of consumer products*. London: Taylor and Francis Ltd.
- Kim, K.-S. (1999, january). *Searching the Web: Effects of Problem Solving Style on Information-Seeking Behavior*. Retrieved from [https://www.researchgate.net/publication/238620201\\_Searching\\_the\\_Web\\_Effects\\_of\\_Problem\\_Solving\\_Style\\_on\\_Information-Seeking\\_Behavior](https://www.researchgate.net/publication/238620201_Searching_the_Web_Effects_of_Problem_Solving_Style_on_Information-Seeking_Behavior)
- Koppel, K. (2019, january 02). *Ühinemise lõpule viinud Luminor: kliendi jaoks ei muutu midagi*. Retrieved from <https://www.err.ee/889013/uhinemise-lopule-viinud-luminor-kliendi-jaoks-ei-muutu-midagi>

- Kovach, S. (2011, august 12). *Here Are All The Smartphone Features You Love So Much And Who Had Them First*. Retrieved from <http://static3.businessinsider.com/image/4e453b1e6bb3f7ee58000043-480/ibm-simon.jpg>
- Laurence Alpay, John Verhoef, Bo Xie, Dov Te'eni, J.H.M. Zwetsloot-Schonk. (2009, april 3). *Current Challenge in Consumer Health Informatics: Bridging the Gap between Access to Information and Information Understanding*. Retrieved from <https://journals.sagepub.com/doi/pdf/10.4137/BII.S2223>
- Manfreda, K., Batagelj, Z., & Vehova, V. (2002, april 1). *Design of Web Survey Questionnaires: Three Basic Experiments*. Retrieved from <https://academic.oup.com/jcmc/article/7/3/JCMC731/4584251>
- McDowell, D. (2011, september 14). *The Financial Crisis of 2011: Why This Time is Different*. Retrieved from <https://www.worldpoliticsreview.com/articles/10005/the-financial-crisis-of-2011-why-this-time-is-different>
- Milos. (2018, march 1). *Suur uuring – eestlaste interneti ja sotsiaalmeedia kasutus aastal 2018*. Retrieved from <https://milos.ee/eestlaste-interneti-ja-sotsiaalmeedia-kasutus/>
- Mitt, I. (2017, december 11). *Finantskäitumise uuring 2017*. Retrieved from <https://www.eestipank.ee/press/inimesed-harjunud-pangakaarti-kasutama-kuid-sularahavaba-uhiskonda-siiski-ei-poolda-11122017>
- Newton MessagePad - 1993*. (2013, june 10). Retrieved from <http://oldcomputers.net/apple-newton.html>
- Pauline, E.-P., & van Raaij, F. (2017, february). *Banking system trust, bank trust, and bank loyalty*. Retrieved from International Journal of Bank Marketing: [https://www.researchgate.net/publication/313361778\\_Banking\\_system\\_trust\\_bank\\_trust\\_and\\_bank\\_loyalty](https://www.researchgate.net/publication/313361778_Banking_system_trust_bank_trust_and_bank_loyalty)
- Perlow, L. A. (2012). *Sleeping with Your Smartphone: How to Break the 24/7 Habit and Change the Way You Work*.
- Piilmann, J. (2019, may 3). *SEB: iga neljas kohtumine pangaga toimub video teel*. Retrieved from <https://www.seb.ee/uudised/2019-05-03/seb-iga-neljas-kohtumine-pangaga-toimub-video-teel>

- Prensky, M. (2001). *Digital Natives, Digital Immigrants. On the Horizon*, 9(5), 1-6.
- Raagmets, E. (2018, september 19). *Swedbank avas mobiilsed viipemaksed ja tutvustab uue äpi esmaversiooni*. Retrieved from <https://kukkur.swedbank.ee/rahakott/swedbank-avas-mobiilsed-viipemaksed-ja-tutvustab-uue-api-esmaversiooni>
- Raesaar, K. (2000, june 28). *Hansapank sai valmis hanza.net?i WAP-versiooni*. Retrieved from <https://www.aripaev.ee/uudised/2000/06/27/hansapank-sai-valmis-hanza-net-wap-versiooni>
- Revilla, M. (2017). *Analyzing Survey Characteristics, Participation, and Evaluation Across 186 Surveys in an Online Opt-In Panel in Spain*. Retrieved from <https://mda.gesis.org/index.php/mda/article/download/2017.02/208>
- Saima Kuu, Karin Baskin, Kirsti Pedak, Anu Kivi. (2018, june). *Eesti koolinoorte kehalise võimekuse testimise ja*. Retrieved from <https://terekk.ee/wp-content/uploads/TEREKK-projekti-%C3%95pilaste-kehaline-v%C3%B5imekus-ja-aktiivsus-ning-neid-m%C3%B5jutavad-tegurid-KOKKUV%C3%95TE.pdf>
- Sanger, L. (2010, april 15). <https://er.educause.edu/articles/2010/4/individual-knowledge-in-the-internet-age>. Retrieved from <https://er.educause.edu/articles/2010/4/individual-knowledge-in-the-internet-age>
- Schedeen, J. (2010, april 1). *The History of the Tablet PC*. Retrieved from <http://www.ign.com/articles/2010/04/01/the-history-of-the-tablet-pc>
- SEB Eesti. (2018). *SEB Eesti finantsaruanded*. Retrieved from <https://www.seb.ee/seb/finantsaruanded/seb-eesti-finantsaruanded>
- Smith, E. (2019, januart 31). *Strategy Analytics: Samsung Breaks 19-Quarter Tablet Decline to Post 7% Growth in Recovering Global Market*. Retrieved from <https://news.strategyanalytics.com/press-release/devices/strategy-analytics-samsung-breaks-19-quarter-tablet-decline-post-7-growth>
- Smith, S. (2017, february 8). *Digital Banking Users to Reach Nearly 3 Billion by 2021, Representing 1 in 2 Global Adult Population*. Retrieved from <https://www.juniperresearch.com/press/press-releases/digital-banking-users-to-reach-nearly-3-billion-by>

- Social semantic networks for distributing contextualized information.* (n.d.). Retrieved from <https://patents.google.com/patent/US20080137668A1/en>
- Swedbank. (2018). *Swedbank Eesti aastaaruanne*. Retrieved from <https://www.swedbank.ee/about/about/reports/annual>
- Tammur, A. (2019, January 16). *The population of Estonia increased last year*. Retrieved from <https://www.stat.ee/news-release-2019-007>
- Tapscott, D. (1998). *Growing up digital: The rise of the Net generation*. . New York: McGraw-Hill.
- The Evolution of Cell Phone Design Between 1983-2009.* (2009, May 22). Retrieved from <http://www.webdesignerdepot.com/2009/05/the-evolution-of-cell-phone-design-between-1983-2009/>
- Turner, J. D. (2014). Financial History and Financial Economics. *Oxford Handbook of Banking and Financial History*, 14-03.
- Vabariigi Valitsus. (2018). *Eesti Infoühiskonna Arengukava*. Retrieved from [https://www.mkm.ee/sites/default/files/eesti\\_infouhiskonna\\_arengukava\\_2020\\_ja\\_ku\\_berturvalisuse\\_strategia\\_2019-2022.docx](https://www.mkm.ee/sites/default/files/eesti_infouhiskonna_arengukava_2020_ja_ku_berturvalisuse_strategia_2019-2022.docx)
- Venkatesh, V. (2003, September). *User Acceptance of Information Technology: Toward a Unified View*. Retrieved from [https://www.researchgate.net/publication/220259897\\_User\\_Acceptance\\_of\\_Information\\_Technology\\_Toward\\_a\\_Unified\\_View](https://www.researchgate.net/publication/220259897_User_Acceptance_of_Information_Technology_Toward_a_Unified_View)
- Venkatesh, V. M. (2003). *User Acceptance of*.
- When was the First Mobile Phone Invented?* (2013, August 22). Retrieved from <http://www.wisegeek.org/when-was-the-first-mobile-phone-invented.html>
- Yamin Firooz M, D. M. (2005). *Information needs and Information Seeking Behavior. National studies on librarianship and information organization*. 16(3):123–32. .
- Yannopoulos, P. (2011, October). *Impact of the Internet on Marketing Strategy Formulation*. Retrieved from <https://pdfs.semanticscholar.org/0ce5/c799898b4696e24518ba27e0f457f3e1df19.pdf>

Yarow, J. (2013, april 3). *How The iPad Totally Changed The World In Just Three Years*. Retrieved from <http://www.businessinsider.com/how-the-ipad-totally-changed-the-world-in-just-three-years-2013-4>

Zur, O., & Walker, A. (2011). *On Digital Immigrants and Digital Natives: How the Digital Divide Affects Families, Educational Institutions, and the Workplace*. Retrieved from [http://www.zurinstitute.com/digital\\_divide.html](http://www.zurinstitute.com/digital_divide.html)

## APPENDICES

### Appendix 1. The questionnaire

Question	Scale	Options
How often do you use these products within one month?	I do not use it Less than once a month 1 to 3 times 3 to 8 times 8 to 12 times Over 12 times	Visiting the bank office Using bank mobile application Visiting internet bank through personal computer
Where would you prefer to do these next actions in?	Paying bills Checking bank statements Opening a new account Bank transfers Investments Insurance Loans Questions related to pension Questions about bank products or services	Bank office Mobile bank application Internet bank through the personal computer Video meeting Other (ATM; e-mail, phone)
Do you trust banks who do not have physical bank offices and only operate through the internet?	Trust completely Rather trust Rather not trust Do not trust at all Can not say	
Do you trust the safety and security of internet bank?	Trust completely Rather trust Rather not trust Do not trust at all Can not say	
Would you trust the bank employee if the conversation would happen in	Yes No	Bank office Through phone Through computer screen



<p>What are missing from the internet bank (you can count more than one)?</p>	<p>Internet bank is overall difficult</p> <p>Technological problems</p> <p>There is no help of any bank employees</p> <p>Security reasons</p> <p>Limited access (can not do all the bank activities)</p> <p>There is no personalization</p> <p>There is a long waiting time for getting the answer</p> <p>Unreliable</p> <p>Access to the internet</p> <p>There is nothing missing</p>	
<p>What are missing from the physical branch (you can count more than one)?</p>	<p>Waiting line</p> <p>Uncomfortable location</p> <p>Quality of the service</p> <p>Opening time</p> <p>There is nothing missing</p>	
<p>What encourages you to use more banking products online</p>	<p>Access of the internet</p> <p>I do not have to talk with the bank employee</p> <p>Safety</p> <p>Free transactions through the internet</p> <p>I do not have to leave the house</p> <p>I can do everything by myself</p> <p>Fastness</p> <p>Access from everywhere</p>	
<p>Gender</p>	<p>Male</p> <p>Female</p>	
<p>Age</p>	<p>Under 20</p>	

	20-29 30-39 40-49 50-59 60-69 70 and older	
Your education	Primary school High school Vocational school Higher education	
What County do you live in	Harju County Hiiumaa County Ida-Viru County Jõgeva County Järva County Lääne County Lääne-Viru County Põlva County Pärnu County Rapla County Saare County Tartu County Valga County Viljandi County Võru County	


## Appendix 2. The Online Questionnaire in Estonian and Russian

The online questionnaire was distributed through Google Form and according to the methodological guide for writing research papers in Tallinn University of Technology. Russian inquiry is in the following link: <https://forms.gle/iyjdwMTkFxLDsbdD9> and Estonian is available from here: <https://forms.gle/uZrJvRnLQyibrTA7A>

## Appendix 3. Facebook advertisements


Advertisements what run on Facebook. There was a total of 4 advertisements and using A/B testing Facebook could show what the best message and visual to use is.

Post Details

**Wise Gadgets**  
April 27 at 12:04 PM · 🌐

ДИГИ-ДИГИ-ДИГИ, и роботы захватят мир! Отлично, я привлёк Ваше внимание.

Пришло время, чтобы провести опрос, и я буду очень благодарен, если Вы найдёте 3-5 минут, чтобы ответить на вопросы! Очень благодарен всем ответившим! 🙌😊



**Дигитализация в банке**

Уважаемый респондент,

Меня зовут Янно Дрегер, и учусь на бакалавриате в Таллинском Техническом Университете. Ищу модель поведения клиентов и факторы, влияющие на поведение в связи с дигитализацией банков. Для проведения исследования, прошу Вас потратить 3-5 минут и заполнить опросник.

Опрос проводится анонимно, и каждый ответ крайне важен.

В случае, если у Вас есть вопросы, буду рад на них ответить.  
[janodreger@gmail.com](mailto:janodreger@gmail.com)  
Большое спасибо за Ваш ответ!

\*Required

DOCS.GOOGLE.COM

**Дигитализация в банке**

Уважаемый респондент, Меня зовут Янно Дрегер, я...

[Learn More](#)

### Performance for Your Post

**2,637** People Reached

**3** Likes, Comments & Shares

1 Likes	1 On Post	0 On Shares
2 Comments	2 On Post	0 On Shares
0 Shares	0 On Post	0 On Shares

**55** Post Clicks

0 Photo Views	47 Link Clicks	8 Other Clicks
---------------	----------------	----------------

### NEGATIVE FEEDBACK

0 Hide Post	0 Hide All Posts
0 Report as Spam	0 Unlike Page

Insights activity is reported in the Pacific time zone. Ads activity is reported in the time zone of your ad account.



Wise Gadgets

April 26 at 8:52 PM · 🌐

Like Page

DIGI-DIGI-DIGI ja robotid võtavad maailma üle! Sain ehk Teie tähelepanu. Kätte on jõudnud hetk, kus viin läbi küsitluse ning oleksin äärmiselt tänulik, kui leiaksite 3-5 minutit aega, et vastata sellele! Olen kõigile vastajatele südamest tänulik! 🙌😊



### Digitaliseerumine pangas

Hea vastaja!

Olen Tallinna Tehnikaülikooli bakalaureusõppe tudeng Janno Dreger. Ühinn tarbijate käitumismustrit ja need mõjutavaid tegureid seoses digitaalse pangandusega. Teema uurimiseks pean 3-5 minutit teie aajat, et täita allolev küsimustik.

Küsimustik on anonüümne, iga vastus on aga äärmiselt oluline.

Kui teil on küsimusi, olen meeldid valmis neile vastama. [jannodreger@gmail.com](mailto:jannodreger@gmail.com)

Tänan teid teie aja eest!

\*Required

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### Digitaliseerumine pangas

Hea vastaja! Olen Tallinna Tehnikaülikooli...

Learn More

3,907  
People Reached

87  
Engagements

Boost Again

### Performance for Your Post

3,907 People Reached

3 Likes, Comments & Shares

0 Likes | 0 On Post | 0 On Shares

0 Comments | 0 On Post | 0 On Shares

3 Shares | 3 On Post | 0 On Shares

84 Post Clicks

0 Photo Views | 81 Link Clicks | 3 Other Clicks

#### NEGATIVE FEEDBACK

0 Hide Post | 0 Hide All Posts

0 Report as Spam | 0 Unlike Page

Insights activity is reported in the Pacific time zone. Ads activity is reported in the time zone of your ad account.