

# **What are the reasons for not adopting mobile payments?**

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<p>Abstract:</p> <p>The objective of this study was to investigate the reasons or hesitations behind resistance to mobile payments` adoption. As the internet and digitalization have continually moulded consumers` behaviours and attitudes, it is surprising to see that a considerable number of young consumers are still not eager to use mobile for payment services. Therefore, by conducting semi-structured qualitative interviews with young professionals who have never used mobile payment, in-depth knowledge of barriers and motivators for future usage were aimed to be explored. The purpose of the study is answered through the following research question: What are the reasons for not adopting mobile payments? In order to do an explorative study on the subject, each interview was conducted one at a time with ten different young professionals between the age of 20 to 35 in Helsinki, Finland. During the data analyses, a qualitative thematic analysis method was utilized. For example, simple coding on the paper was used for the data familiarizing, and then initial codes were generated. Interview participants found concerns regarding security, lack of world-wide acceptance and old habits as the major barriers for their mobile payments` adoption. The findings might help solution providers to better understand the expectations of potential consumers of mobile payments. Therefore, the information provided can be used to improve the services which may lead to mobile payments` success by convincing and attracting more users. The main limitation of this study is the limited sample which does not warrant generalization of the result. As a recommendation, further research should be conducted by gathering larger samples, conducting a quantitative study to verify the results of the present study and by using different theories as to the basis of the research.</p>	
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# 1 INTRODUCTION

Mobile payment (MP) is defined as “a type of electronic payment transaction procedure in which at least the payer employs mobile communication techniques in conjunction with mobile devices for the initiation, authorization or realization of payment” (Pousttchi, 2003, p.201). Since connectivity and mobility have become an essential part of modern society with the help of technological development, using services through mobile such as payment became an easy task to handle. A study by König (2001) states that money has always found a way to adopt the current situation of the economy because it has always been connected with technological development. Therefore, mobile payment tools are also part of this journey. According to Au and Kauffman (2006), mobile devices can include mobile phones, PDAs, wireless tablets, and any other devices that can connect to mobile telecommunications networks and make it possible for payments to be made. “The main driving force for the rapid acceptance rate of small mobile devices is the capability to get services and run applications at any time and any place, especially while on the move” (Veijalainen, Terziyan & Tirri, 2003, p.1). This should encourage users to change their lifestyles as they can save considerable amounts of time in addition to added convenience and improved services.

Yongqing, Yong, Hongxiu & Benhai (2015) argue that even though a great number of consumers have the general knowledge of possible assistance of mobile payments such as easiness, convenience, and effectiveness, their acceptance of mobile payment is affected by their concerns regarding possible risks. As the internet and digitalization have continually molded consumers` behaviors and attitudes, and there are substantial benefits to be gained, it is surprising to see that there appears to be such a strong resistance to the adoption of mobile payment. According to Fan, Shao, Li & Huang (2018, p.525), since the mobile payments involve different privacy information such as credit card numbers and account balance, many consumers still doubt about trustworthiness and security of mobile payments. There may, however, be other reasons also underlying the resistance.

## 1.1 Research problem

As technology keeps developing, the financial sector is one of the first adopters of most technological advancements. Scott, Reenen & Zachariadis (2017) state in their study that bank performance is affected by digital network innovations. Therefore, the financial sector has always been an early adopter to the newest technologies such as information and communication technologies which help organizations to transform their business.

A great example is mobile payments because by adopting mobile payment, financial companies try to meet the demand from their consumers and bring a solution to their busy lifestyles. Doan (2014) argues that convenience is the key for consumers and if the payment options are designed to fit into consumers' lifestyles, attracting consumers to use these services can be easier.

According to Statista (2017), the share of mobile commerce increased to 23 % from less than 1 % between the years 2012 to 2017 in Finland. This did not only lead companies to adopt new payment systems but also made payment processes faster which also affects the user experience positively. Based on a study by Hayashi (2012), it is possible to decrease payment time by 15 to 30 seconds by eliminating the necessity of carrying physical credit cards or cash.

Statista's example above suggests that technological adoption may take less time in the Nordic countries such as Finland because most of the population is highly educated, and internet access is largely available nationwide compared to other countries. Also, statistics Finland (2014) states that over 60 percent of the Finnish population used smartphones and roughly half of the population had accessed the internet on a mobile phone outside the home or workplace in the past 3 months.

Even though cash and credit cards are still widely used by many of the consumers, new mobile payment tools such as ApplePay, MobilePay or Siirto promise to replace current payment methods in the long run. Au & Kauffmann (2006) state that by targeting different segments such as the micro-payment segment, mobile service providers hope that their systems can replace cash which may help them to fill the market that credit card

companies are not interested in. On the other hand, even though most of the consumers are using mobile devices for their financial management like mobile banking, not all of them are willing to try and use new mobile payment tools. According to a study by Karsikko (2015), most of the survey respondents were familiar with the concept of mobile payments, yet mobile payments were adopted only by 24 %.

Similarly, Doan (2014, p.16) found in his study that paying with mobile devices is not that interesting for consumers. As mobile payment tools do not attract large numbers of consumers fast enough, it is important to investigate the attitudes and perceptions of consumers on mobile payment tools. Therefore, the objective of the thesis is to understand the reasons underlying consumer resistance toward adopting mobile payment tools in Finland. Investigating and examining the status of the consumer perception would not only enable us to better understand the current market situation of mobile payment tools but also give us ideas on and insights into consumer attitudes to mobile payment use in Finland.

## **1.2 Purpose of the study**

The purpose of this thesis is to investigate and discover the main reasons that consumers may have to resist adopting mobile payments. Hence, the aim is to study the attitudes and perceptions of the consumers toward adopting mobile payments.

More specifically the empirical study aims to respond to the following research question:

- *What are the reasons for not adopting mobile payments?*

The intended result of the thesis aims to educate the reader on consumer perception on mobile payment in Finland by conducting research in the Helsinki capital area, Finland.

## **1.3 Structure of the study**

The literature review and investigation on prior research in chapter 2 will give general background information on the topic from different perspectives and help understand what is previously known. By discussing the factors and explaining how consumers`

attitudes have been shaped over the years, the reader is informed by the development of mobile payments. The method of the research is then explained in chapter 3, and after that, findings are presented and discussed in chapters 4 and 5.



## 2 THEORETICAL FRAMEWORK

### 2.1 The evolution of payment

Payment has been evolving to fit consumers` needs and technology is the most important facilitator of its development. Technology will help its transformation also in the future. Due to the advancement of telecommunication technologies, essential innovations were made in payment systems such as electronic funds transfer (EFTS). (König, 2001, p.12)

Even though many different methods are used for payment in the present, various studies show that currently used payment methods, such as cash and credit cards, are expected to be replaced by mobile payment tools. Dahlberg, Mallat & Öörni (2003) argue that mobile payments can substitute all major payment methods including cash, credit and debit cards, and electronic bill payments. Also, since the capabilities of mobile devices are tremendous, non-stop development with innovation helps mobility to be adopted by consumers. According to Oliveira, Thomas, Baptista & Campos (2016), mobile devices can be used for different transactions such as account transfers, ticketing, peer-to-peer transfers, proximity and remote payments, discounts, bill payment or mobile marketing. Thus, this flexibility makes consumer`s lives easier for the management of their payments.

According to the numbers of researchers, there may be a common misconception on mobile banking and mobile payments. Therefore, it is also essential to note that there are huge differences between these two subjects. This idea is supported by Mallat (2007). Her study emphasizes that while mobile banking services are based on banks `own legacy to be offered to only their own customers, mobile payment services are offered by numbers of solution providers to both consumers and merchants.

Furthermore, as mobility and daily internet access are widely embraced by the majority of the consumers, it is inevitable and necessary to innovate tools that assist consumers in positive ways. Smolarczyk (2018) suggests that consumers can transfer money faster with mobile payments which may affect their satisfaction level positively as well.

When looking back to the evolution of the payments, it can easily be seen that digitalization has played a huge role in its transformation. According to Au & Kauffman (2006, p.16), even though there is pressure on cost efficiency, economic predictions are based on investment in technological transformation and usage of money on those developments. Thus, replacing the way of payment with new technological tools not only brings convenience but also enables consumers to save considerable amounts of money.

## **2.2 Growth of mobility and adoption**

There is no doubt that without consumers' eagerness for adoption and embracing mobility, mobile payment cannot be successful. According to Mallat (2007), mobility is necessary for the full advantage of mobile payments to materialize but this necessitates adoption from consumers. As mentioned earlier that connectivity and mobility plays a vital role in mobile payment's adoption, taking advantage of technology by utilizing the innovation is the key to success. Fortunately, with the help of smartphones and easy access to the internet, consumers can easily access any information including their payment services. This also creates a new way of interaction between consumers and service providers because connectivity enables users to communicate through different channels such as offline and online infrastructure. (Voronenko, 2018, p.11)

Besides, there are many reasons why mobile payments are important, but one of the crucial benefits is to bring a new level of experience to consumers. Voronenko (2018, p.12) states that mobile payments are valuable not because current payment methods are broken or not working properly but because mobile payments are expected to bring a new level of consumer experience, valuable data, and convenience.

Therefore, mobile payments do not only make consumers' lives easier but also enable organizations to gather a large amount of data from their customers. Doan (2014) argues that traditional card companies have a strong effect on the financial sector through regulations and pricing. Also, since they were established a long time ago, by gathering and owning huge amounts of data, mobile wallets can be utilized with the help of their established network.

On the other hand, to successfully adopt mobile payment services, the non-stop availability of data transmission is critical. According to Smolarczyk (2018), the internet is the main platform that enables users to take advantage of different self-services such as searching for information about different products, communicating with customer services and conducting financial transactions. Since the impact of the internet on mobility is pertinent, there is a correlation between mobile data access and mobile payment. “User statistics are showing radical growth in mobile data usage among young consumers. Data usage among the group of people between 18-24 years has grown 89 % in comparison to the previous year” (Karsikko, 2015, p.5). Thus, this increasing trend on mobile data usage not only has a substantial effect on various services such as payments but also pushes solution providers to transform their services by making their services available on mobile devices. According to Statistics Finland’s figure (2019) below, the average person in Finland sent and received a total of 32 gigabytes of mobile data per month during the second half of 2018. Also, the data which was transferred through mobile networks was almost 30% and higher than the previous year.

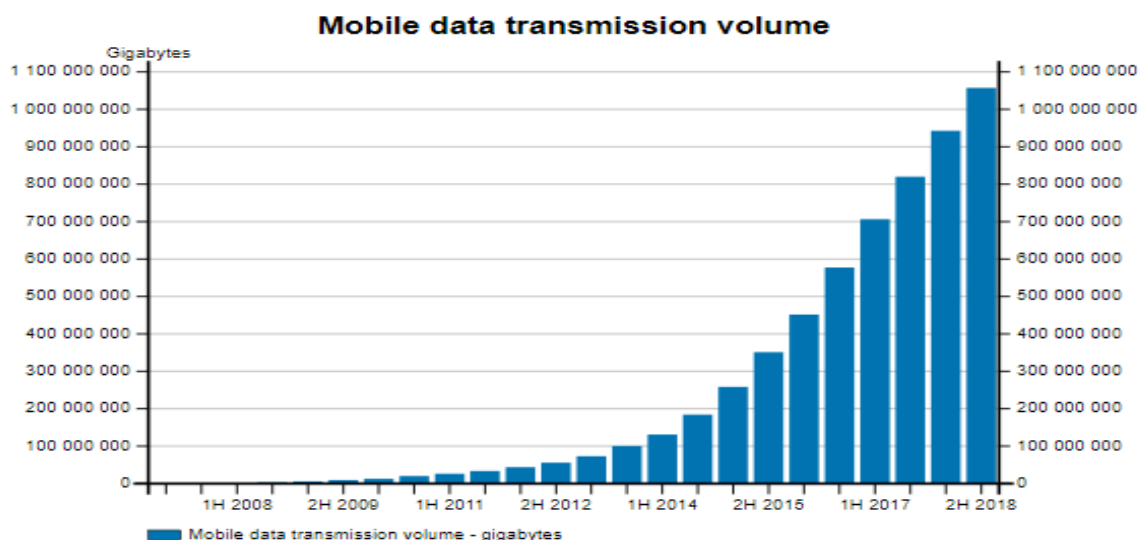


Figure 1: Mobile data transmission volume in Finland (Statistic Finland, 2019)

Considering the above information, mobile payment adoption requires smart devices and connectivity of the services which is not possible without mobile internet data access. Thus, since the usage of smart mobile devices with internet data access is high in Finland, coupled with a well-educated population, mobile payment technologies are expected to be adopted faster in Finland than most of the other countries. There are, however,

differences among different demographics. A study by Voronenko (2018) suggests that some of the factors such as age, education level and payment plan for the application are playing an essential role in the adoption of e-wallets. Therefore, it is essential to analyze the real reasons behind resistance so that convincing potential clients would be easier.

### 2.3 The mobile payment processes

While the consumer`s role has been limited to choosing the products and making the payments in the past, saving time by using simpler products has been the focus for users. Bank of Finland`s report (2015, p.23) claims that mobile device users who take full advantage of real-time payment also see the shopping process as an advantage by checking through mobile devices and applications. Hence, gathering different transaction processes and solutions into mobile devices for consumer`s usage is practical. As can be seen from figure 2 below, the current simple mobile payment process requires different actions from consumers. According to the figure, apps should be downloaded, and credit card information must be added to make mobile payments usage ready.

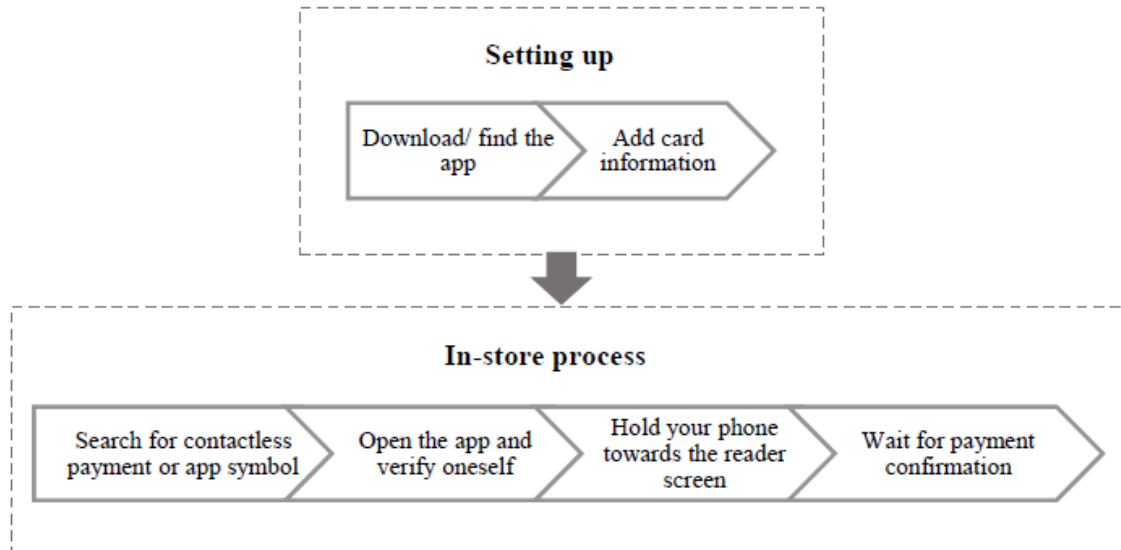


Figure 2: The mobile payment process (Smolarczyk, 2018, p.23)

Furthermore, one of the most important factors for the adoption of the new payment method is the eagerness of consumers. A thought supported by Chatchai & Piotr (2017) stating that in order mobile payment technology to be widespread and successful, four

aspects such as enough demand, eagerness of adoption, supply relevant infrastructure and meeting demands are should be in place.

There are different varieties of mobile payment methods available in the market. According to a study carried out by Hillman & Neustaedter (2016), mobile payment options can be divided into four categories: closed-loop mobile payments, carrier billing, card readers and near-field communications.

Firstly, “closed-loop systems require direct contact between all entities and the payment system: both the merchant and the client must be registered within the payment system of Amex for instance” (Boullier, Sivakumar, Crepel & Juguet, 2017, p.3). One of the examples of this can be Starbucks` app where customers easily pay with their smartphones by using barcode scanning. Secondly, when it comes to carrier billing, it works completely differently from closed-loop payment. According to Torralba (2017), direct carrier billing means that in order to make payments, the consumer acknowledges and pays to merchants for products or services by using a mobile phone and the transaction is charged in their mobile phone bill. For instance; Finnish mobile operators such as DNA, Elisa, and Telia Sonera are assisting different sectors including public transport, charity and more by enabling usage of direct carrier billing. Thirdly, another payment option is a card reader. Hillman & Neustaedter (2016, p.17) emphasize that by attaching a card reader to a tablet or smartphone, payment can be easily made to merchants. Finally, near-field communication payment is an option that has been recently seen often in daily life. According to a study carried out by Smolarczyk (2018), significant technological developments have appeared in this area and near-field communication (NFC) is one of them. “Near Field Communication (NFC) technique refers to a short-range wireless communication technology, which enables data transfer, pay for retail transactions and connection between two devices by closely touching” (Yang, 2016, p.4). In other words, the consumer pays in front of a terminal by waving the smartphones. For example; according to Deloitte report (2019), MobilePay wallet, which was launched by Danske Bank in Denmark and Finland in 2013 as a peer to peer payment service, has reached approximately 800 000 users in Finland. This is equal to 14,5 % of the Finnish population.

## 2.4 Currently used mobile payment solutions in Finland

As it was mentioned earlier that smartphone usage has increased extensively and Nordic is one of the regions that technological adoption is embraced rapidly by consumers. This thought also supported by Deloitte`s report (2019, p.5). The report claims that mobile wallet usage has increased extensively in the Nordic region because smartphones have become widespread which also changed the interaction between consumers and the banks.

Smartphones` adoption has not only reshaped consumer behavior but it has also fueled mobile payments` expansion. According to Paytrail`s report (2017) which can be seen from below`s figure 3, mobile usage for consumer`s shopping process is increasing considerably in Finland. As can be seen from the chart, mobile payments have been constantly increasing from 0,94 % to 23.67% during the years 2012 to 2017. During the same period, mobile payments` adoption has grown, and the usage of desktop and tablet for payments has been steadily decreasing. Below figure`s data on mobile payments was gathered through 10,000 Finnish e-commerce companies and services.

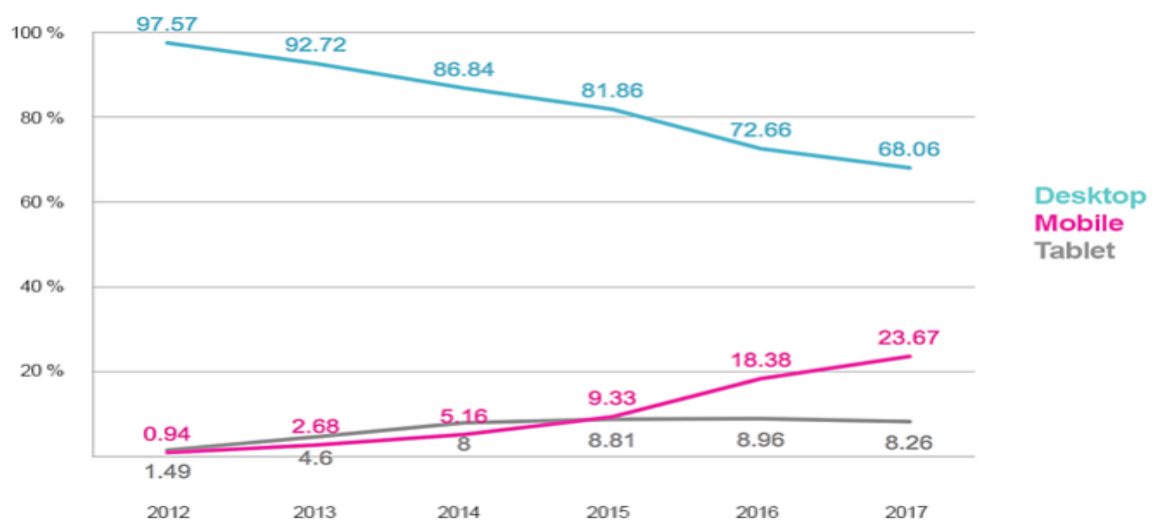


Figure 3: Developments in mobile payments in Finland from 2012-2017 (Paytrail, 2017)

Since mobile payments have a huge potential, many companies are aware of the opportunities and want to take advantage of utilizing their services. Findings by Suoranta (2003, p.12) show that many companies in different industries have already seen the opportunity and integrated mobile communication technologies into their business. Also, the financial

sector is one of the industries that utilized mobile successfully. This not only brings variety to the market but also pushes service providers to adopt their payment systems, which is positive for consumers.

Currently, there are many different mobile payment tools available in the Finnish market, but this thesis will specifically concentrate on only the most used ones. Some of the current solutions are as follows:

**Apple Pay & Wallet:** As Apple wants to be a part of the financial system, they introduced Apple pay in 2014. According to Voronenko (2018), by introducing the first digital wallet to the market, Apple did not only take initiative to innovate something new but also paved the way for new players. Apple Pay & Wallet works with various Apple products such as Apple Watches and iPhones. Since it is Apple`s own payment system, it requires suitable cards to operate. For example; Nordea`s Stockmann master card or Nordea`s own debit and credit cards are compatible with the system in Finland. The application does not have an upper limit while processing the payment through the NFC terminal which is positive for the consumer because most of the contactless cards in Finland have the upper limit of 25€. As a part of Apple Wallet, many various tickets and different loyalty cards can be stored into Apple Pay. (Apple, 2019)

**MobilePay:** It is a mobile payment application that was developed by Danske Bank. The application was released in 2013 with the idea of enabling smartphones for the payments. While it can be used with credit and debit cards which were issued by any bank, its usage is highly popular in Denmark and Finland. In a study carried out by Deloitte (2019), the success of the application was emphasized. According to the study, when MobilePay was introduced the first time in 2013 May in Denmark and December in Finland, the application managed to reach over 100 000 users in a period of one month in Denmark. The application is aimed at smartphones supported by Android and iOS operating systems. Its functionality is wider than that of competitors because consumers can perform contactless payment, users can transfer funds to each other, or bill can be split between users such as in the restaurant. “MobilePay is being marketed as a new easy way of sending, receiving, requesting and splitting payments among peers” (Karsikko,2015, p.18). Also, one of the other success factors that led the application to be this popular is that it allows loyalty

cards such as S-bonus card to be added to the application. Thanks to its wide range of functionalities, Danske Bank had huge success with MobilePay because they could even reach a great deal of non-customer to use their product. (MobilePay, 2019)

**Mobiilimaksu:** This payment system is a great example of direct carrier billing which was already mentioned in the previous section. It is offered by Finnish mobile operators such as DNA, Elisa, Moi, and Sonera. According to Karsikko (2015), direct carrier billing started to be seen in the market in 1997 and it became a huge business where customers could buy such as games and ringtones for mobile phones.

When the consumer performs the purchase through the carrier, payment is directly added to the telephone bill. It is extremely easy to use because it does not require any registration or specific application. Torralba (2017, p.27) states that Mobiilimaksu has a direct effect on the growth of mobile payment because of its simplicity and easiness. When Mobiilimaksu is chosen as a means of payment, it is sent to approval through sim-based authentication. Users can make a maximum payment of 60€. (Mobiilimaksu, 2019)

**Nordea Wallet:** The system works with Android and Apple smartphones and payment is performed by NFC payment technology. Nordea Wallet requires credit or debit cards issued by Nordea Bank. Consumers can easily pay with contactless payment but payments over 25€ must be confirmed by the user's own pin code. For online purchases, Masterpass can be chosen for easy payments. This application does not support Nordea's products only but also cooperates with other companies for mobile payments such as Garmin and Google Pay. (Nordea, 2019)

**Aktia Wallet:** It is formerly known as Elisa Lompakko and it was further developed by Aktia Bank. Debit and credit cards that were issued by Aktia bank are used with the app. NFC (near field communication) payments are supported by the app and it is easily downloadable from Appstore or Android. (Aktia, 2019)



## 2.5 Benefits of mobile payment usage

Since this thesis focuses on finding out why consumers are resisting to use mobile payment services, it is also important to underline the benefits of mobile payment's usage so that analyzing the opportunities and threats would be easier. According to Chatchai & Piotr (2017), the first mobile payment was practiced in 1997 in Helsinki, Finland by using Coca Cola vending machine which had the capability of receiving payment through SMS. However, since that time, mobile payment has developed extensively. For Voronenko (2018), mobile technologies and digital innovations will continue to be the main growth drivers in the world including mobile payments. There are many different benefits of mobile payment usage. In a study carried out by Hayashi (2012), four main benefits are emphasized which are the convenience, security, merchant acceptance, and cost.

Firstly, *convenience* is defined as “the state of being able to proceed with something without difficulty” (The Oxford Dictionary, 2019). Since busy lifestyles encouraging consumers to use more practical tools and services in their daily lives, mobile payment services are also reshaping and for Hayashi (2012) convenience for mobile payments can be described as flexibility, speed, portability, and ease of use. These factors play an essential role in each consumer's adoption. Smolarczyk (2018, p.15) points out in her study that one of the most important aspects or motivator of mobile payment adoption is ease of use. As it was mentioned earlier chapter that mobility has become an important part of consumer's lives, according to Mallat (2007), contactless payment not only enhances consumer's experience by adopting mobility but also improves their flexibility with time and location.

Secondly, *security* is also another issue that mobile payment would bring to consumers. According to Smolarczyk (2018), thanks to well-developed technologies supporting mobile payments, safe transactions can be performed easily. While thieves have been using integrated fraud systems at ATMs machines in a different part of the world, mobile payment has the potential to eliminate those frauds. Oliveira et al., (2016) state that awareness shortage of perceived security highly common among individuals. This idea was supported by Smolarczyk (2018, p.15). She claims that consumers are not that comfortable while entering their personal data into contracts with mobile app providers.

Thirdly, merchant acceptance of mobile payment is a vital topic because, without wide acceptance by merchants, it is impossible to talk about the success of mobile payments. For Hayashi (2012), this is an important topic that refers to merchants, such as stores and shops, offering mobile payment as an option for consumers. Therefore, since Finland is a highly technology adoptive country, it is possible to pay to merchants with mobile payment solutions. For Mallat (2007, p.12), in order to attract a large number of consumers, launching new payment tools with the services which have established users such as public transports would help its development. Also, by including other services and applications, an even larger number of users can be gained gradually. For example, consumers can already use mobile payment in S-market, Lidl, Prisma, and many more services but still traditional payment methods such as credit and debit cards are used more commonly by consumers.

Finally, *the cost* is also one of the benefits of mobile payment usage because most of the credit and debit cardholders must pay monthly usage fees to banks. Mallat (2007, p.3) states that if the transaction cost is directed to the consumers, their adoption of mobile payment would directly be affected. However, nowadays customers do not have to pay those fees with mobile payments. According to Smorlarczyk (2018), many modern smartphones are NFC-enabled which enables consumers not to bear any additional costs on such equipment or cards.

## **2.6 Sustainability and environmental issues**

Based on the evidence currently available, it seems fair to suggest that on the way to a cashless economy, mobile payment seems to be a great solution for sustainability. Rochemont (2018, p.14) expresses the opinion that by removing cash usage in the economy and decreasing ATM machines, the environmental impact may be reduced because less electricity and paper will be used.

In other words, reducing cash will automatically affect the ATM usage cost and the less ATM machines mean less energy consumption. However, in order that to happen all financial parties such as banks must benefit from different opportunities. “M-payments are going to be sustainable and long-lasting if it is beneficial and create revenue opportunities

for all the key players of the value chain” (Mantri and Feng, 2011, p.37). Nordea Bank`s sustainability report (2018, p.5) highlights that in order to meet the climate targets which were set in Paris agreement, the financial sector must act and be committed to the energy shift. Therefore, counterproductive use of capital can be shifted for the benefit of climate as well.

Therefore, adopting mobile payment into business is both valuable for consumers and organizations and will affect the environment positively. “Generalized use of mobile payments may enable some circular economy virtuous cycles, such as the reach of recycling schemes and sharing platforms to reduce wasted capacity” (Rochemont, 2018, p.7).

## **2.7 Barriers and Threats**

“User-friendliness is important for everyone, but whereas the open-mindedness of the younger age groups enables experimentation with various types of equipment and methods of payment, for older people these new types equipment and methods may become a barrier to payment, which could increase the fragmentation of society” (Bank of Finland, 2015, p.18).

As can be seen from the above example that willingness to try new tools is the key to mobile payment solutions to be successful. While the younger generation is more liberal to try and test, the older generation is less eager to change their attitudes and behavior toward financial tools. Deloitte (2019, p.37) also emphasizes that the mobile payment industry faces the challenge of attracting the older generation at the same pace as the younger ones. This creates a generation gap that potentially may interrupt utilizing the full market potential for solution providers.

Even though a great deal of consumers has been using mobile banking, not all of them want to adopt mobile payment solutions as a part of their digital lives. A study by Karsikko (2015) emphasizes that more than half of his research participants have been using mobile banking in Finland but only one out of five stated that they have used mobile payments for services or goods. Therefore, it is important to uncover some of the most important barriers that previous empirical studies have not shed light on. Many studies have specifically focused on why consumers are adopting innovation whereas this study will focus on the opposite, finding out why consumers are resisting to adopt mobile

payment solutions. Some similar studies have been conducted in Finland by Smolarczyk (2018), Karsikko (2015), Mallat (2007), Laukkanen, et al, (2007) and Suoranta (2003).

## **2.8 Prior research on mobile payment resistance**

Mobile payments have become an essential part of today's social life (Druck-er, 2011), and conceptualization around the topic has attracted large numbers of prior researchers globally. However, a previous empirical study on the subject specifically focusing on Finland is limited. An early study by Mallat (2007) has been carried out in Finland, on consumer adoption of new electronic payments such as mobile payments. The data was gathered with a qualitative approach by hosting six different group interviews to discover consumer adoption of mobile payments. The data gathered by Mallat (2007) suggests that the advantages of mobile payments depend on certain factors such as urgency or lack of other payment methods. Also, the study continues by presenting main factors and barriers such as pricing, the complexity of the processes, lack of merchant acceptance and perceived risks which affect the adoption of mobile payments negatively.

Another prior investigation in Finland was conducted by Karsikko (2015) who focused on the drivers for barriers to mobile payment` diffusion among the consumers. His theories were built on two different models, the innovation diffusion theory and the technology acceptance model. According to Karsikko`s (2015) findings, even though most of the research respondents were aware of the concept of mobile payments, only 24 percent of them adopted mobile payments into their lives. Compared to the card payment option, mobile payments are perceived as less secure by respondents. Even though mobile payments were seen positively, the perceived value and relative advantages were not acknowledged by participants.

In addition to studies in Finland, Pousttchi (2003) performed a study on the conditions for the actual utilization of the mobile payment process by examining the consumer. He tried to identify critical factors such as potentially cost, security and convenience. He also used the theory of informational added value to find out conditions for usage of mobile payments. A closer look at the findings indicates that cost, security, and convenience are the critical factors that play an essential role in the acceptance and usage of Mobile

Payment tools. Also, research suggests that if the right steps are taken for mobile payment, it would successfully be adopted by consumers. For success, a more customer-centric approach is needed for mobile payments which require constant collaboration between consumer and solution providers.

Furthermore, Upadhyay and Jahanyan (2016) also focused on finding the factors which affect usage intention of mobile payment. They conducted a nationwide survey in Iran with validated questions from prior published literature. According to their findings, usefulness, ease of use, system quality, connectivity, discomfort, task-technology fit, and structural assurance are the factors that play an essential role in usage intention for mobile payments. Also, some factors such as personal innovativeness, monetary value, and absorptive capacity were perceived as unimportant for research respondents. However, since technology usage may differ greatly from one country to another, the results may not be generalizable. According to Becker (2007), even though the success of mobile payments may be great in some parts of the world, other geographic locations may be negatively affected by different factors such as laws or payment regulations.

A further informative study was carried out by Yongqing et al. (2015). Their research model and hypotheses were developed through three different theories: perceived risk theory, prospect theory, and perceived value theory. Their primary aim was to discover how different uncertainties may be affected by different perceived risks that cause delays in mobile payment acceptance. Yongqing et al. (2015) suggest that the main concern of the consumers seems to be service intangibility, technology uncertainty, perceived information asymmetry, and regulatory uncertainty. Moreover, mobile payments` usage intention was also negatively affected by some of the determinants such as perceived privacy risk, perceived performance risk and perceived financial risk.

## **2.9 Theoretical models for understanding user experience and perception of mobile payments**

“The diffusion of technology-based payment solutions hinges on addressing the needs, perceived or real, of consumers whose adoption will determine whether any specific mobile payment system becomes a standard” (Amoroso & Magnier-Watanabe, 2011, p.95).

As convincing the consumer to use the new development tools such as mobile payments is the most important aspect of success, finding out what the consumer really values, is the key to catch their attention. According to Mallat (2007), even though there is a general interest from consumers to use mobile payment tools, the adoption has not been as much as it was expected. However, some tools that understood the consumer well succeeded in reaching a great number of consumers. For example; since MobilePay has a functionality that makes consumer lives easier, it already reached around 800 000 users in Finland.

The factors earlier mentioned are likely to play a role in consumer`s adoption of mobile payment usage. This paper will investigate the underlying reasons for resisting to adopt mobile payments.

The theoretical background of this thesis is formed by three models that were applied to earlier studies on the same topic. These models are the technology acceptance model, the innovation diffusion theory and the resistance to innovation model. Thus, this thesis is further conceptualized with the mentioned theories.

### **2.9.1 The technology acceptance model**

The technology acceptance model is one of the tools which has been widely used by previous researchers on factors affecting the adoption of an innovation. According to Davis`s model (1989), two essential variables such as perceived usefulness and perceived ease of use are introduced. His study continues by defining the meaning of two variables. Firstly, perceived usefulness defined by Davis (1989) as “the degree to which a person believes that using a particular system would enhance his or her job performance.” Thus, this can be translated as while using tools and innovation, consumers should feel that their lives are getting easier. Secondly, it is also vital to design applications or tools which are easy to use for the consumer. Therefore, the second variable which is perceived ease of use is highly important for adoption. It is defined as “the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p.319). The general process of the model can be seen from the figure below.

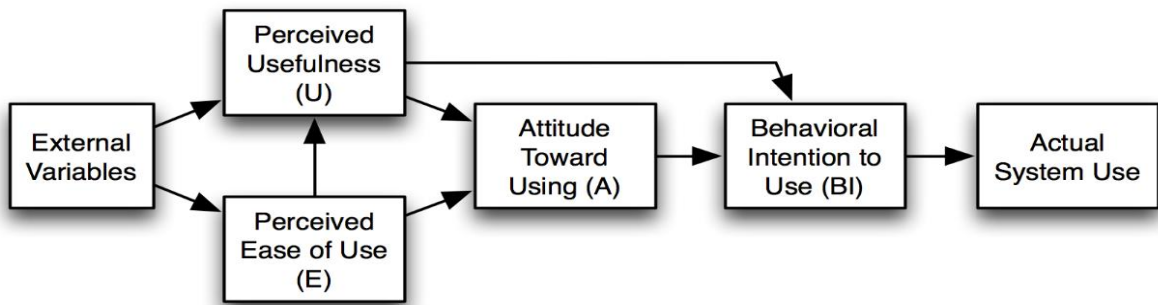


Figure 4: The Technology Acceptance Model (Davis, Bagozzi and Warshaw, 1989)

### 2.9.2 The innovation diffusion theory

The diffusion of innovation theory is one of the well-known theories which has been used by a great number of researchers to describe the adoption of mobile technologies. This theory is conceptualized in a book called *Diffusion of Innovations* which was written by Everett Roger in 1962 and different editions are also available. In his book, the theory is explained by focusing on how at what rate and why the new technological innovations are adopted. According to Rogers's fifth edition (2003), diffusion is "the process in which an innovation is communicated through certain channels over time among the members of a social system". In other words, for innovation to be commonly accepted by consumers, the right channels should be chosen to draw consumer's attention. Even though much has been written on innovation diffusion theory, much of the literature suffers from pro-innovation bias, which supports the idea that new innovations or developments should be adopted by everyone without further consideration. (Laukkanen, Sinkkonen, Kivijarvi & Laukkanen, 2007, p.420) However, communication seems to be the most important aspect while encouraging consumers to use innovation.

"Diffusion is a special type of communication, in which the messages are concerned with a new idea. It is this newness of the idea in the message content of the communication that gives diffusion to its special character. The newness means that some degree of uncertainty is involved" (Roger, 2003).

Furthermore, Ram & Seth (1989) state that innovation which requires changes in consumers' daily lives, would take a relatively long process before being accepted by the consumers. For Karsikko (2015, p.21), when innovation appears for the first time, its diffusion can affect social change from invention to adoption or rejection. However, before adoption, consumers tend to believe that the new innovations are improvements over

existing products or services without exception which may not be always right. (Laukkanen et al, 2007, p.420)

According to Roger (2003), there are four key elements of the diffusion of innovation: the innovation, communication channels, time, and social system. Firstly, *the innovation* was described by Roger as “An innovation is an idea, practice, or project that is perceived as new by an individual or other unit of adoption” (Rogers, 2003, p. 12). He also emphasizes that for an innovation to be accepted as “innovation”, it should be perceived as new by consumers. As this paper focuses on mobile payment, there have been many innovations that consumers perceived as new in the payment process. For Smolarczyk (2018, p.8), cashless payment methods include credit/debit cards, online banking, and bill payment. Also, mobile payment tools and mobile web payments were recently introduced as a part of cashless payment methods.

For Roger (2003), the newness form of an innovation-decision process can be affected by three different steps such as knowledge, persuasion, or a decision to adopt new tools or services. On the other hand, the biggest obstacle for adoption seems to be uncertainty. “More standards tend to slow down consumer adoption, most likely due to the uncertainty of service continuity or the number of competing plans and providers” (Au & Kauffman, 2006, p.8). According to Rogers (2003), these uncertainties may result in the adoption or rejection of an innovation. However, Roger (2003) also suggests that in order to decrease the uncertainties of innovation adoption, consumers must be well informed about its advantages and disadvantages.

*Communication channels* are the second element of the innovation adoption process. For Karsikko (2015), communication “includes messages about a new idea and the outcome of the process is to reach a mutual understanding”. Roger (2003) states that communication happens between sources by using an individual or an institution that originates a message. Thus, a channel is a method where the message goes from source to receiver. The third important element of the innovation adoption process is *time*. According to Roger (2003), during the diffusion process, time is one of the most important aspects because the communication process cannot be considered without time.



Even though it is important for adoption, it has not been focused much on previous studies. Sahin (2006) stresses the importance of time for adoption and for him “the number of individuals who adopted the innovation for a period of time can be measured as the rate of adoption of the innovation”. Finally, the fourth element for innovation adoption is the *social system*. Roger (2003) defines a social system as “a set of interrelated units that are engaged in joint problem solving to accomplish a common goal”. It is important to understand that without a mature environment and willingness from consumers, the adoption process would take longer. “Perhaps the most common reason for customer resistance to innovation is that it is not compatible with existing workflows, practices and habits” (Ram & Seth, 1989, p.4). For Roger (2003), since the social system helps to accomplish a common goal by using joint problem solving, it is also affected by the social structure of the society. He also states that the nature of the system may have an influence on an individual’s innovativeness which may affect adoption positively.

### **2.9.3 The decision process of innovation adoption**

In addition to attitudes, which are affected by the perceived usefulness and ease of use (Davis & et al, 1989), consumers are also affected by other people. Mallat (2007) states that “consumer decision to adopt a payment system is therefore significantly affected by the number of other consumers and merchants using it”. For consumers to adopt innovations, it is important to gather as much as information possible from the social environment. Roger (2003, p.172) mentions in his study that the innovation-decision process can simply be explained as a process of eliminating uncertainties by carefully analyzing the advantages and disadvantages of the innovation. As mobile payment is a new way of handling the payment process of consumers, changing and attracting each consumer’s perception is dependent on early adopters’ experiences. “As mobile payments represent a new system introduced to the market, reaching a wide enough initial adopter base of consumers and merchants is a critical success factor for m-payments as well” (Mallat, 2007, p.33).

The innovation-decision process is commonly explained with a model of five stages in the innovation-decision process, based on the diffusion of innovations theory by Rogers (2003). This method consists of five different stages: knowledge stage, persuasion stage,

decision stage, implementation stage, and confirmation stage. These stages come after each other sequentially. Process details of the method shown in Figure 5.

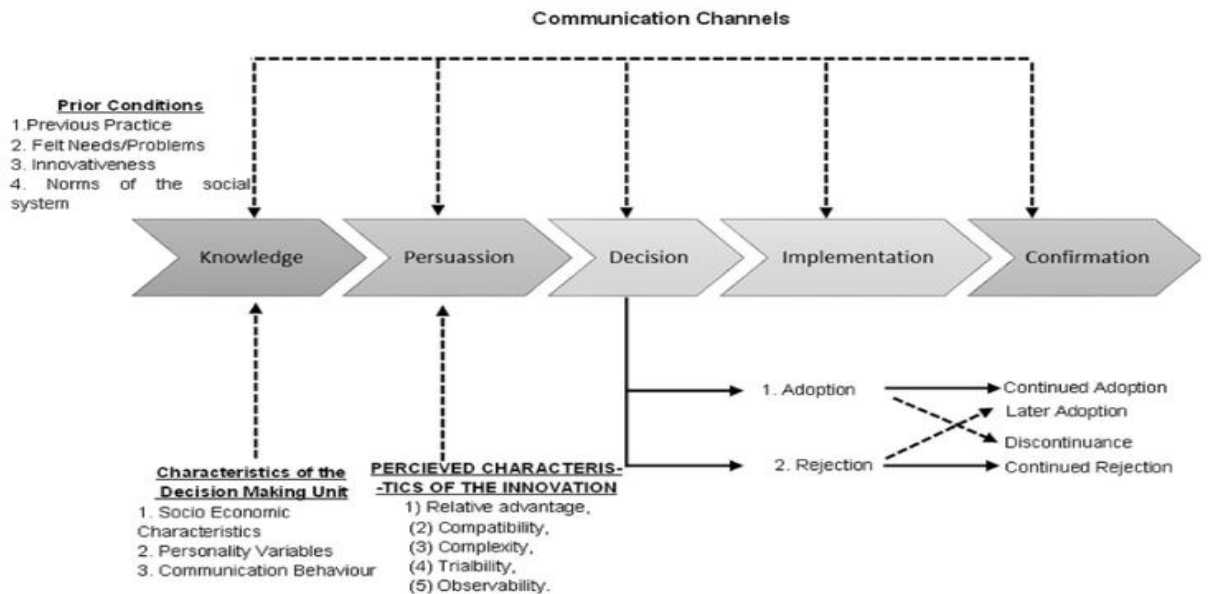


Figure 5: A Model of Five Stages in the Innovation-Decision Process (Roger, 2003, p.170)

In light of the information above, a consumer goes through different stages to finally decide on adopting innovation into their lives. According to Figure 5, the process starts with the knowledge stage where each consumer tries to find out and familiarize themselves more about the existence of innovation. After learning more about the innovation, the persuasion stage comes where a consumer already has either a negative or positive attitude toward innovation. Thirdly, when the customer passes the first two stages, they would reach the decision stage of either adopting or rejecting the innovation. Furthermore, when an innovation must be implemented by consumers such as enacting payment with mobile pay, the implementation stage will be practiced. Finally, when the consumer has made a decision, possibly tried it out, he or she is constantly looking for guidance for continuance or discontinuance of adoption. (Roger, 2003, p.21-189)

#### 2.9.4 Resistance to innovation model

As finding out the reasons behind resistance to innovations such as mobile payments is the main purpose, this topic needs more research for in-depth knowledge. A study carried out by Ram & Sheth (1989) conceptualizes barriers and factors which affect adoption to innovation as described in Figure 6.

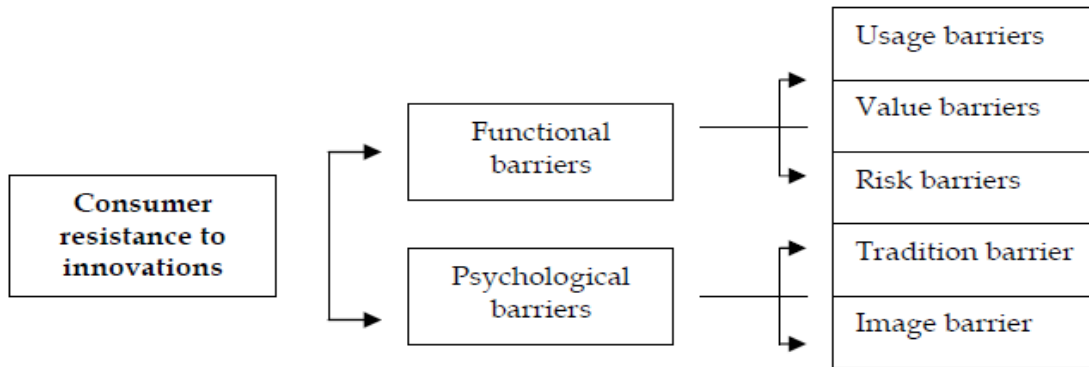


Figure 6: Consumer resistance to innovations (Ram & Sheth, 1989)

According to the model, two main factors play a negative role in consumer resistance, and they are *functional barriers* and *psychological barriers*. The *functional barriers* are associated with three different areas, which are usage barriers, value barriers, and risk barriers. Ram & Sheth (1989) suggest that these barriers mostly occur if the consumer expects huge changes from adoption to innovation. *Functional barriers* can also be explained with the product usage patterns, product value, and risks associated with product usage.

Moreover, *psychological barriers* include traditional barriers and image barriers. According to Ram & Sheth (1989), these barriers emerge because of the norms of each consumer and their traditions which shape their perceptions on service or product images. Therefore, it is mostly gained through consumer's earlier experiences and beliefs. Since it is gained through life experiences and values, it may often be hard to change these barriers.

### **3 METHOD**

The main idea of this thesis is to enable the reader to understand why many of the consumers are still resisting to use mobile payment tools or services regardless of being highly digital. Thus, the primary aim of this research is to answer the following research question:

*What are the reasons for not adopting mobile payments?*

With the help of digitalization, mobile payment tools are one of the most popular subjects when it comes to consumers` attitudes towards a cashless economy. Therefore, the topic attracted a large number of researchers` attention to investigate. However, relatively little previous empirical work on the subject has been researched which focuses on the Finnish market. Also, most of the studies focused on why consumers are adopting mobile payments but finding out the reasons behind resistance to using mobile payments is limited. Hence, in order to understand the factors behind resistance and help to unlock the potential of mobile payments, new research is required and necessary to better recognize the development of the concept.

In this chapter, the general idea behind the methodology is introduced by explaining the research approach and chosen research participants. Finally, data collection and analyses of the research are described.

#### **3.1 Research design and choices**

As this thesis work is focusing to uncover the limitations and barriers to the adoption of mobile payments, the main research question is answered through the chosen research method. A qualitative research design was selected as the purpose was to understand how consumers make sense of their resistance, in line with suggestions by Bryman & Bell (2015) posit that qualitative studies are focusing on words rather than numbers and they are trying to understand the interpretation of different social properties for each individual.

Furthermore, the primary data collection method of this research is a semi-structured qualitative interview. According to Adams (2015, p.1), semi-structured interviews are conversational and conducted one respondent at a time with closed and open-ended questions which are generally accompanied by follow-up why and how questions. By doing so, this research paper does not only aim to explain the reasons and factors affecting the adoption of mobile payments but also tries to find out each interview participant's perception of its usage. Denzin & Lincoln (2000, p.3) also emphasize that qualitative researchers try to find, make sense or interpret subjects and what it means to different people.

Due to the limited amount of existing research on the same topic and used models, the nature of this research is explorative study. Previously conducted similar research such as Mallat (2007) and Smolarczyk (2018) have demonstrated the feasibility of explorative study in studying mobile payment solutions. This statement was also supported by Jarvenpaa & Lang (2005). Moreover, the process of designing the questions was highly essential for this research since in-depth information needed to be gathered from each interviewee. Therefore, extensive investigation on questions that were used in previous similar studies are benchmarked and taken into consideration.

The research is designed by the nature of *consumer resistance to innovation theory* by Ram & Sheth (1989) which is conducted by explorative research with open-ended questions. Thus, the theory was used while generating the research questions because theory seems to be the best fit for exploring the topic of new innovations such as mobile payment resistance. Also, by completing this study, uncovering numbers of concrete barriers and factors are aimed to be found regarding resistance to mobile payment solutions.

## **3.2 Participants**

The interview informants were chosen among young random professionals who have already entered working life between the age of 20 to 35 and did not have any experience using mobile payment tools. To ensure the proper data saturation and reliability, particularly ten individuals were selected and interviewed for this study. Also, since this thesis

research is performed in Finland, most of the respondents were Finnish citizens who are permanently living in Finland. Interviewees who took part in the research were randomly chosen individuals from the author's social environment. However, each respondent needed to be able to speak English to perform the interview.

While Mallat (2007) had six different focus group interviews in her study, this thesis specifically focuses on extending one of the focus groups which is young professionals as mentioned above. The reasons for choosing this group were: first; they already have financial freedom, second; they are highly digital, third; they are generally open to innovations. Therefore, investigating barriers for this group of consumers would help us to understand what needs to be done to attract them to adopt mobile payment tools into their daily lives.

### **3.3 Data collection and interview guide**

The data collection was conducted through ten semi-structured in-depth interviews with one respondent at a time which were performed either face to face or online video call by asking nine open-ended questions to each interview participant. The format of the research was found suitable by the informants to describe their attitudes and perceptions on the subject. Moreover, these ten research interviews took place in the Helsinki capital area in Finland and performed during early June to late July 2019. Each of these ten-interview sessions took approximately 45 minutes to an hour.

As mentioned earlier, the participants of the interviews were ten young professionals who did not have any experience using mobile payments. According to the numbers of studies, between five to ten interviews could be enough for qualitative research. Hence, ten interviews for this specific study was an adequate sample size for the data saturation. However, in some cases, a larger data sample may be required. Hagaman & Wutich (2017, p.26) state that in one study, they reached study-wise saturation after seventeen interviews.

Even though respondents did not have much experience, most of them had general knowledge and were familiar with the concept of mobile payments. Greener (2008, p.10)

states that setting clear objectives for the study by asking valid and fair questions that serve the purpose of the study is highly essential for finding the right information. Thus, to explore the best out of each interview, extra effort was put in designing interview questions. Therefore, consumer resistance to innovations theory by Ram & Sheth (1989) was utilized while generating each research question to investigate the barriers mentioned by the theory. According to the model (see Figure 6 above on page 27), the theory includes five different barriers: usage barriers, value barriers, risk barriers, tradition barriers, and image barriers. Thus, by designing each question from the theory to conduct semi-structured interviews, unlocking research participants' perceptions and attitudes that play an essential role for resistance to mobile payment tools were aimed to be explored.

### **3.4 Data analyses**

In order to analyze the data, a qualitative thematic analysis method was utilized. According to a study carried out by Braun & Clarke (2006), following six different phases or steps are suggested in thematic analysis: familiarizing with data, generating initial codes, searching for themes, reviewing themes, defining & naming the themes and producing the report based on the data. Therefore, suggestions by Braun & Clarke (2006) was followed to analyze the data of this study.

According to Braun's & Clarke's (2006) suggestions, the following steps are taken during the analyses of this research: Firstly, each interview was audio recorded which helped to have a full concentration on discussion during the interviews. Secondly, all the answers from the interviews were transcribed to the word document. The next step was coding of data input for each question by writing on the paper and by segmenting specific words and themes which were mentioned repeatedly by the research participants. Later, data was defined and named for each question to cover all the points mentioned by the informants. Finally, the outcome of the interview is reported to make sense out of the data.

Since the aim of the thesis was to identify the reasons behind resistance to the adoption of mobile payments, it was essential to analyze the data carefully so that findings and interpretations would be reported as it was found and avoided researcher bias.

## 4 RESULTS

The findings of the research are presented in this chapter. The results are structured according to interview questions. First, consumers' awareness and knowledge about mobile payments are presented to understand whether solution providers are successful with their marketing strategy or not. Second, factors that should be improved for more consumer adoption were stated with different points. Third, consumers' motivators, future expectations and the innovation adoption curves of the consumers were investigated and presented. Finally, general overall barriers that may play an essential role in resistance to use mobile payment tools were identified.

### 4.1 Awareness of mobile payment

The majority of the interviewees were aware of the existence of mobile payments which made it easy for them to tell about what they already know about the tools in general. Some of the advertisements from solution providers were the key for respondents to have general knowledge about the existing solutions. However, it was not convincing enough to attract or make them adopt mobile payments into their lives.

*"I think that mobile payments are innovative futuristic solutions for the banking or payment industry reshaping traditional banking services. As far as I know, mobile payments have been in our lives for only the last 5 years. I have already seen some commercials about it, and I know that there are a couple of solutions providers in Finland and most likely they will reach wider customer range in the future" (Interviewee 4).*

Even though they have not used any mobile payment tools, the relative advantages and the benefits of mobile payments were mentioned repeatedly by interviewees. For example, a few of these advantages are practicality, being fast, convenience and providing an alternative way of payment to consumers.

*"I think it is a good thing to have mobile payments. With the development of technology everything is becoming easier and more convenient to use and why not also when paying? I am very positive about mobile payments" (Interviewee 6).*

Besides, mobile payment tools were also perceived as a part of technology development which will break the old rules and reshape old habits and perceptions. Also, many interview participants stated that seeing consumers using mobile payment tools in the shops and



restaurants made them think about how easy can payment process be with the potential to improve our daily lives.

*“For example, whenever my boyfriend takes his iPhone out of his pocket and shows it to the machine to pay at the counter or uses his Mobile Pay app to send money to a specific person, I am always in awe of how easy the procedure is” (Interviewee 10).*

*“As much as I know, they can be a really easy way to pay, they are much quicker than any other payment tools but since I have not used them by myself, they are the only things that come to my mind” (Interviewee 1).*

It was also interesting to see that the majority of the respondents liked the general idea of not carrying a wallet with them and with the help of connected devices, our financial behavior will change as well.

## **4.2 Knowledge of the functionality of mobile payments**

Although the research participants had the general knowledge on the topic, most of them did not know how the mobile payments system works and what functionalities are. The findings on the question of what is known about the functionality of the mobile payments by participants would give us how they see the mobile payment system works even though they have not tried using it. Gathered data during the interviews were generally overlapping with first the question on its awareness.

According to interviewees, some of the functionalities such as *payment through text message, contactless payments, money sending & splitting and mobilizing the payment* were the most mentioned features. However, they also stated that the knowledge about features of mobile payments which were mentioned during the interviews was gained through their observation either from their close friends, family, social environment or advertisements.

*“As far as I know, it is the mobile version of the bank card, be it a credit or a debit card. So, instead of using the card for payments you use your mobile phone which gives out the same details as your bank card. I am not sure if mobile bank apps are included and considered as mobile payment apps or not. But all in all, it is about to mobilize the payments” (Interviewee 6).*

It was also a common conception between participants that mobile payment would require to carry bank or credit cards as a backup payment method because of not being sure whether all the merchants already took in using mobile payments in their business.

*“If I will carry the credit card with me, why should I have mobile payment in my phone” (Interviewee 2).*

However, it was also mentioned that mobile payments eventually would imply that consumers would not have to carry their wallets and credit cards in the future once all business owners adopt mobile payments into their businesses.

*“I do not know so much about its functionality because I have not tried it yet. But I am guessing that in order to use it, I must download the app and maybe combine it with my bank account so that I can use it for basic payment like groceries, etc. I think that setting up the mobile payment might be easy” (Interviewee 5).*

*“All I know is that you don’t need to carry your credit card” (Interviewee 10).*

### 4.3 Most trusted payment methods by participants

Based on the interviews, there seemed to be a direct relationship between trust and adoption. Therefore, since none of the research participants used mobile payment tools, finding out which method of payment they trust the most was critical for mobile payments’ success.

The most trusted payment methods that emerged from the data analysis are credit & debit card payment, NetBank payment, and cash payment. Overall, credit & debit card payment is the most trusted way of payment among the interviewees. The percentage distribution of each method is shown in Figure 7 below.

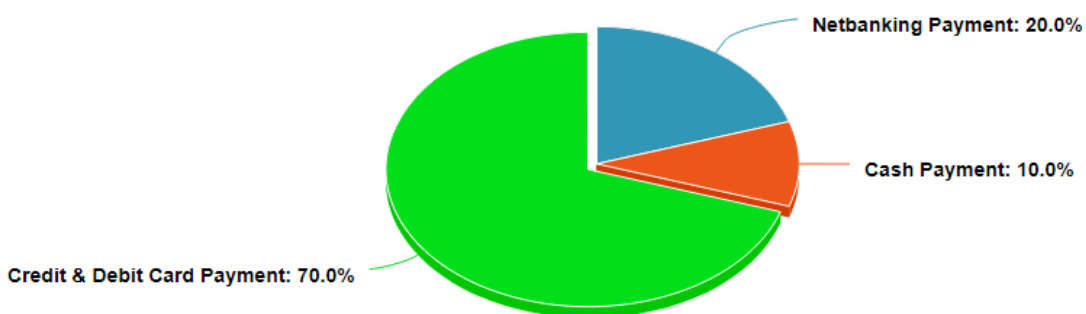


Figure 7: Most trusted payment tools by interviewees (2019)

Moreover, it was also stated by respondents that contactless payments with either by credit card or mobile phones might not be as secure as paying by card with entering pin so putting a limited amount of money for contactless payment is logical. Another point

which was brought up by interviewees was that since cash can be easily lost or stolen and it is an old traditional way of payment, it is not trusted as much as before. Also, some of the respondents stated that it might be easy to copy credit & debit cards` information in some parts of the world, but still current financial system is more compatible with credit/debit cards and it is also accepted worldwide.

*“I think that all of them have some disadvantages and it is hard to say which one is the best option. For example, cash you can easily lose it, very old style, currency in different countries and exchanging money is costly. Secondly, the card method sounds the most secure one between all other payment tools, but it can be easily copied or scammed in different countries. Also, start using mobile payment tools with trustworthy companies is logical such as Apple Pay. However, we should still be careful while sharing information with well-established companies because some of them such as Google or Facebook, are involved in selling individual`s information to third party companies “(Interviewee 4).*

*“In my opinion, mobile payment and credit cards are more secure than cash because cash is a lot easier to lose. For example; in case of losing wallet full of money, it may cause losing all the money as well. On the other hand, my credit card would be more secure because I do not know how secure mobile payment is yet” (Interviewee 7).*

Another important point brought up during the interviews was that mobile payment systems and apps were believed to be easily hacked compared to credit debit cards. The lack of information about mobile payments and their security may be the reason why they thought that their information can be stolen easily.

*“Telling the truth, I prefer using debit/credit card payments or NetBank payment. It is not mainly regarding the lack of my trust in mobile payments, but I believe that stealing information from my phone would be much easier compared to the card. In other words, it is about my lack of trust in my smartphones in general and I consider my laptop more secure” (Interviewee 6).*

#### **4.4 Disadvantages / Challenges of mobile payments tools**

The disadvantages & challenges of mobile payments were evaluated by the research participants but since they did not have experience using it, the main idea was to find out how the interviewees see the downside of mobile payments with limited information. The findings suggest that potential consumers of mobile payment have four main concerns which might play a role in their adoption of mobile payment tools into their daily lives. The most mentioned disadvantages & challenges of the mobile payment by the interviewees are shown below figure.

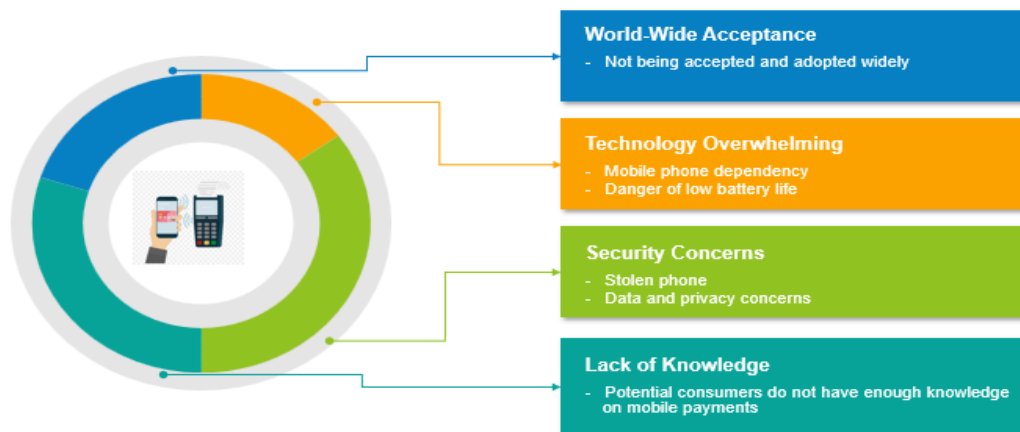


Figure 8: Disadvantages & Challenges of mobile payments (2019)

Even though this research mainly focused on Finland, almost all research participants mentioned that next to domestic acceptance, world-wide acceptance is also essential for them as they are traveling often either for business or leisure.

*“The biggest disadvantage might be that every store may not already adopt that payment tools so wide acceptance of the store in domestic and abroad is important. You can maybe use in some places but if not widely accepted still might not be as popular as a credit card” (Interviewee 1).*

*“Integration also might be the other issue because in Europe it can be used but in some other countries, it might be hard to pay by contactless so as a result, backup credit/debit card is always needed. However, that brings to question which is if I will carry the credit card with me, why should I have mobile payment in my phone” (Interviewee 2).*

In addition to wide acceptance, participants also had a concern about dependency on technology. Some of them pointed out that they already have enough apps on their smartphones which makes them feel that they are overwhelmed with countless different apps. Therefore, combining some different financial apps into one could be beneficial. Also, they mentioned that they do not want to be dependent on and manage their daily finances with a mobile phone which has only limited battery.

*“I think that with mobile payment, you are dependent on the phone all the time because you rely on your phone to pay for something. However, the biggest risk or disadvantage might be that if there is no battery or not working properly then there would be a huge problem. So, this makes each consumer carry a backup payment method such as cash or credit cards next to mobile payment” (Interviewee 7).*

*“If we think about the disadvantages, I would say that downloading something to your mobile that is not that necessary at this point might be a big challenge because as mentioned earlier that putting all the new apps and adopting them makes me feel like it is too much work” (Interviewee 5).*

Another three critical points from the interviews were security concerns and a lack of knowledge of potential consumers about mobile payments, including security concerns related to data privacy and stolen phones.

*“There are also disadvantages: for instance, if the user’s mobile phone is off and has no other means to pay then he/she ends up in an awkward situation. Also, as we talked before, the security issue is another thing to consider. Imagine your card info is stolen from your mobile and you find it out later that all your money has been stolen. Maybe technically it is not possible, but I am still worried” (Interviewee 6).*

*“Sharing private information can be tricky especially if the purchase demographics are outside Nordics or beyond (Slight risk) / Secured servers & R&D” (Interviewee 8).*

*“Because it is entirely dependent on your mobile phone, it is useless if your phone is out of battery or stolen” (Interviewee 10).*

Participants stated that the biggest reason for their lack of knowledge about mobile payment is missing value proposition or marketing from solution providers. Thus, better marketing and information flow are required to attract potential consumers to use mobile payments.

*“Since it is on a mobile phone, it may be risky for consumers who do not use security functions such as a pin code or a fingerprint because if the phone is stolen then they can easily pay with phone. For example, my wallet was stolen before and I quickly called and canceled my credit card, but I do not know if I can do the same for mobile payment with a single phone call to deactivate my mobile app from the phone. Therefore, maybe security is already at a good level but still mentioned issues make me worry about adoption (Interviewee 2).*

*“The biggest challenge is that the service provider marketing side is lacking. Even though I am a young person, I do not know so much about these mobile payment tools” (Interviewee 4).*

## **4.5 Suggested changes & development areas**

In order to better understand the improved value of the mobile payments, gathering each participant’s input on how it should be developed was important for this research. Even though they had a limited amount of information on mobile payments, they had many valuable feedbacks to be improved. The findings suggest that participants want to see various changes or development in mobile payment so that it can also create value for them. Some of the most mentioned improvement areas are *better integration* within different markets, *high-security usage* such as *biometrics*, *facial recognition*, *clear privacy & ethical policy*, *providing educational information* about the products.

*“Since it is all about money, it should be both handy and secure to use. Therefore, I should have full trust in mobile payment systems before adopting it. For me, security, integration, easiness to use and world-wide acceptance are important points that should be developed because when we are in Finland, we do not use cash at all but in some other part of the world, the situation might be completely different (Interviewee 2).*

*“I am not that interested to adopt mobile payments at this moment, but If I would use it, then I would prefer to have a combined app where I could manage numbers of financial transactions. Also, the payment tools should be trustworthy and secure, accepted world-wide, be offered by the well-established company” (Interviewee 5).*

Similarly, it was also mentioned by some of the participants that if they would use mobile payment tools now, they would be worried about their privacy and ethical information which is a sensitive topic. Since, some of the mobile payment tools are offered by the none bank third party companies such as Apple, Samsung rather than trusted banks, it may take time for consumers to trust those companies for their daily financial management. This may be the result of the latest news that one of the biggest social media company Facebook was selling its 50 million users’ personal data to the third companies without permission. Also, it was suggested using biometrics while entering the apps or paying would bring high trust to the mobile payment tools.

*“When thinking about the banks, they are well established and some of them are over 100 years, but when mobile payment solutions come with a small company such as start-ups, how can they be trusted as a newly founded company to put the money. Even though the banking industry is highly regulated, still sometimes it might not work perfectly. So, it raises the question that whether these small companies can survive in 5-year time and protect your data well enough or not?” (Interviewee 4).*

*“I think that the first thing is clear borders of security and ethical issues such as personal information usage etc. I must know the risks associated with my mobile payment usage. Besides, my shopping behavior and personal information may be misused if the solution provider is not my trusted bank. I would develop it so that the users’ shopping behavior would not be used for marketing and analysis purposes. Finally, new technology such as a facial recognition system or fingerprint system is better than inserting codes on mobile. I don’t mean codes should be removed since there are mobile users who would prefer a code system to the recognition systems I mentioned.” (Interviewee 6).*

#### **4.6 Main motivators to use mobile payment solutions for potential consumers**

As it was already mentioned that none of the research participants already used mobile payment tools and did not see any point of trying at this point as well, finding out what would motivate them to adopt or try mobile payments was also necessary. The main

motivators described by the interviewees were categorized into four different themes which are shown in figure 9 below.

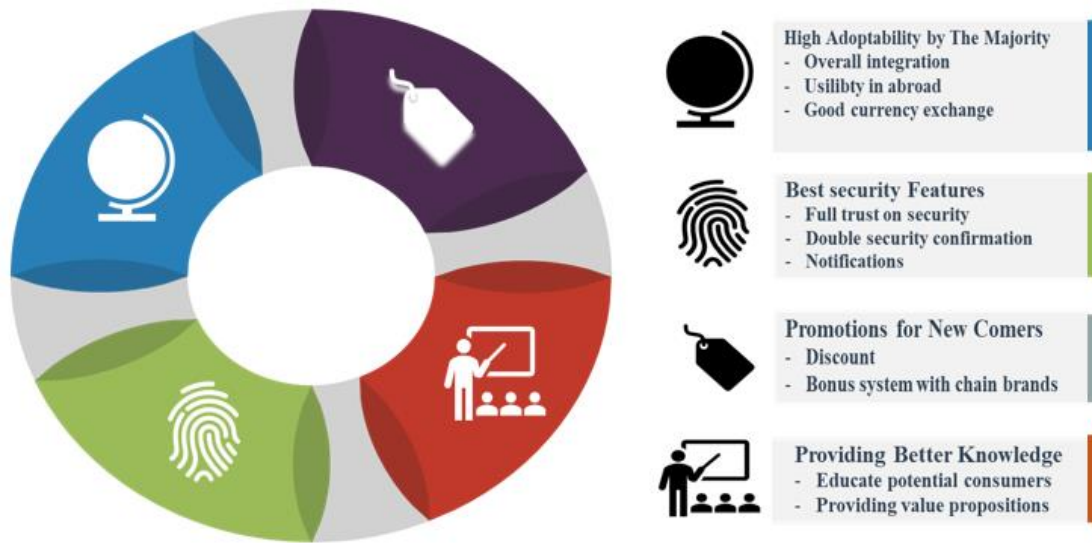


Figure 9: Four motivators to adopt for potential consumers (2019)

Firstly, high adoption and popularity among the majority described as big factors by participants to adopt. Also, overall integration to global financial systems, ease of use abroad and good currency exchange rate are perceived as important motivators. Thus, after improving these factors in mobile payments, some of the convinced participants may want to try using mobile payments.

*“For me, maybe using this app in different countries without any charges, good currency exchange rates and easy bill payment could be my motivators. So basically, I would say that ease of usefulness in other countries” (Interviewee 5).*

*“Just like paying with cash got out of fashion and was replaced almost everywhere to credit card devices, the same kind of thing has to happen to credit cards for me to start using mobile payment methods” (Interviewee 10).*

Furthermore, as security and lack of knowledge have been the main issues in almost all questions, potential consumers should be educated well that the mobile payments` usage is as secure as a credit card. Hence, consumers could take initiative by trying out a new way of payment. This point can only be solved with great communication and well information flow from solution providers to potential consumers because solution providers should clearly deliver their message about the benefit of using mobile payments and its value propositions.

*“For me, the main motivators would be more knowledge such as some course provided by the companies, better marketing, advertisement and being 100 percent sure about its security” (Interviewee 1).*

Another strong motivator was considered as promotions by interviewees as it might potentially be as a benefit which would lead to more adoption. However, interviewees also pointed out that it would be hard for them to change their attitudes and perceptions on the new way of payments as they have been only using cash and credit/debit cards for a long time.

*“One thing that comes to my mind is that promotion can be a good way. For example, a %5 discount or bonuses can be given when using mobile payments in specific stores or services. This can be achieved with collaboration with other big brands, restaurants and group companies so that people would have some motivation to try. By only showing advertisement saying that it is handy and easy, it would not be easy to attract traditional individual like me to try these tools” (Interviewee 2).*

*“If there are cashback or bonus system, I would use it for sure instead of my bank cards. But also, when I travel, instead of taking many cards at once I would prefer to have a mobile payment system” (Interviewee 6).*

#### **4.7 Future expectations on mobile payments**

As each interviewee`s point of view is completely different than others and representing their traditional barriers, future expectations from mobile payments can be a great way of evaluating whether participants are eager to adopt in the future or not. Based on the research interviews, the following five themes were identified a bigger market share with wide acceptance, more convenience such as customized and combined solutions, less cash, more secure and trustworthy solutions.

*“I think that it will develop and grow as a business which will make people adopt more. It is maybe already quite easy to use but it may even be more convenient in the future. Also, maybe cash would completely disappear because of mobile payment” (Interviewee 1).*

*“I think there is a potential for it to be the widespread paying method but currently it doesn`t seem so because you can` t even use your credit card for contactless payments in many stores because their machines are not equipped with contactless payment technology” (Interviewee 10).*

Given the above points, research participants did not only mention that the younger generation will lead the adoption of mobile payments in the future but also, they will help its development and adoption by using these tools in public. Since the majority of this research group wants to be sure about its security and benefit of using mobile payments



before adopting, they stated that reading feedbacks and solutions to their concerns might help them to trust the tool as well.

*“Well, in the future I expect that it would be more popular among each consumer. I think that especially the younger generation will be the biggest segment using it. By adoption from many people, it has a huge potential to be the most used payment method in the future” (Interviewee 7).*

*“It is a technology-based solution and people are following the trends in this era. But I am a more conservative person about technology and everyone around me using mobile payments on their devices. I believe that more and more people will use it in the future and most likely I will start using it as well but not just yet. For me to adopt, I would like to make sure that mobile payment tools are beneficial for me and have a clear advantage over existent payment methods (Interviewee 2).*

Furthermore, even though mobile payments apps and tools are already easy and convenient to use, interviewees stated that they expect even easier and simpler solutions in the future. This also refers to an earlier point where participants suggested that combining many financial tools into one would make their lives easier and would make them feel less overwhelmed about technology.

*“I expect a mobile payment app that would combine all bank cards so that I would not have to choose between apps. It is more convenient to use one system with all my bank cards. Besides, I expect mobile payment systems to be more technological to recognize the users and have increased security” (Interviewee 6).*

#### **4.8 How adaptive are the participants toward innovation?**

The interviews suggest that none of the research participants can be considered as tech enthusiasts or early adopters toward new technologies. Since, mobile payments tools such as Apple Pay, Mobile Pay and Samsung Pay type of solutions which has the capabilities of contactless payments with near field communication (NFC) have been in the market for the last five years, the majority of the participants have not gathered enough information possibly because they were not interested to change the way they pay. *“I am conservative, and I try to live simpler. I follow technological improvements, but I adapt them to my life only after a significant amount of time” (Interviewee 9).* Out of ten interviewees, four consider themselves laggards which are still skeptical about mobile payments and it would take a long time for them to adopt. Using Rogers`s (2003) innovation adoption curve (see Figure 10), this suggests that the majority of the participants in the present study are generally late in adopting innovation.

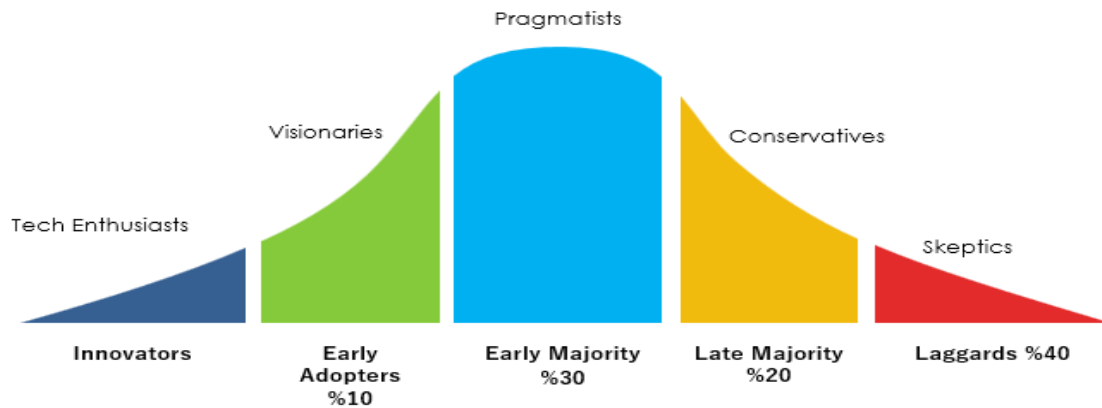


Figure 10: Innovation adoption curve by the interviewees (Rogers, 2003)

Some interviewees also noted that in addition to them to adopt new technologies and innovations, they must be either pushed or take many recommendations from their friends or social environments.

*“It takes me quite a long time to adapt to innovations. For example, when almost all my friends started to use smartphones, I was still using an old-style phone and I was content with it. I bought a smartphone only after my old phone was dead. It’s still the same when I’m buying a new phone. My current phone should be useless before I buy a new one. I can give the use of travel cards as another example. When people were already using the HSL app to pay for tickets, I still insisted on showing my travel card on the bus. Now that I started using the Whim app, I don’t even know where my travel card is anymore. So, my adoption is more like passing the threshold rather than a process” (Interviewee 10).*

*“I would consider myself a late adopter when thinking about technology. For example, when smartphones came, I adopted it late. The main reason is being that when I used to something, it takes a long time for me to adopt a new one” (Interviewee 1).*

Another important point stated by participants was also that if there would be some different type of innovations which does not involve money or risks, then it would be much easier to take in use. However, when their financial information involves, they are more cautious and willing to wait for how it will develop.

*“For me, it takes time to adopt innovations because I always want to see how the first adopter react and give feedback on their experiences. Also, since the money is involved, I prefer being cautious. That is why I want to see at first that people trust and recommend the innovation so that I can adopt as well” (Interviewee 5).*

*“I would say that it always takes time for me to adopt innovations. First, I must educate myself on the innovation and then I would see if I am eager to use it. My decision is also affected by the involvement of the innovation” (Interviewee 7).*

## 4.9 Main reasons for resistance

According to interview participants, there seem to be different hesitations for the adoption of mobile payments. Even though various limitations and barriers were described, some of the points must be recapped to clarify the hesitations of the consumers. The following hesitations and concerns were identified by interview participants: security, lack of knowledge, technology overwhelming and lack of value proposition.

Since security is playing the most essential role in consumer adoption, it would be beneficial to describe and specify their concerns based on the provided interview data. This group of interviewees has not adopted mobile payments into their lives due to safety and security concerns. These concerns can be summarized in four aspects. Firstly, since mobile payments are also provided by third party organizations like small startup companies, interviewees did not feel fully comfortable trusting them as their own banks because their system capabilities might not be enough, and, they might not survive in five years' time. On the other hand, if the solution provider is big like Apple, they are concerned that their personal data is used for different purposes and they have no control over which may lead to misuse of their data. Secondly, another point brought out by the participants was relating to their mobile devices because they stress that if their smartphones are hacked, they may lose their money. Also, contactless payment is perceived as a potential risk factor for scammers. Thirdly, since some of the participants do not use any password or fingerprint to unlock their smartphones, they also have a concern relating to their own careless behavior. Their point may be justifiable because stealing money from a smartphone that does not have any password would be easier. Furthermore, they also worry that if they forget to charge their smartphones, they will not be able to pay which may lead to difficult situations. Finally, they do not trust their own behavior because they are used to the old way of payment method which feels more secure for them.

Another main reason was lack of knowledge because their concern was relating to not knowing enough regarding mobile payments` system. Even though they have general knowledge from advertisements and from their social environment, they believe that mobile payments are more complicated than cash and credit/debit cards. Thus, not knowing

how the system of mobile payments works, stops them to take the first step to try because they do not have enough knowledge of whether their money will be safe or not.

Although this interview group has not tried using mobile payment tools yet, most of them see that it has a huge potential, and most likely they will also adopt in the near future. However, one of their critical concerns is that using smartphones for their financial management might make them even more dependent on technology and their smartphones. Therefore, in order not to be overwhelmed by technology, some consumers may want to keep their financial management separately.

Besides, the last important point is the lack of value proposition, because most of the participants mentioned that they do not see any clear benefit of using mobile payments compared to currently used methods. However, they also had valuable suggestions for solution providers to attract more consumers. For example; if the consumer pays with mobile payment tools, they would be offered promotions or discounts. Therefore, solution providers ought to reach, educate and give necessary information to potential consumers. Thus, consumers would know more about how mobile payments can improve their lives.

#### **4.10 Summary of the reasons for not adopting mobile payments**

The findings further aim to emphasize the main reasons behind the resistance to mobile payments. Therefore, each participant was asked once more to clarify what factors are playing essential roles for them not to adopt mobile payment tools. According to interviewees security and lack of knowledge were rated the top two reasons behind the resistance. Being old habits oriented which leads to a much more longer adoption process to innovations was the third most mentioned factor by the participants.

*“I believe familiar things feel more secure. Especially if you don’t understand the new technologies or don’t show any interest in new technologies, anything different or new might be too overwhelming” (Interviewee 10).*

A summary of the main reasons or hesitations which were gathered during the interviews is reported in Figure 11.

<b>Main Reasons &amp; Hesitations</b>	<b>Number of Times Mentioned</b>
Security concerns	5
Lack of knowledge	5
Old habits oriented	4
Lack of worldwide acceptance	4
Not owning a smartphone	1
Lack of interest	1
Availability	1

Figure 11: Main reasons or hesitations for research participants (2019)

As can be seen from the table, without convincing potential consumers about these concerns, it would not be easy to attract them to use mobile payments. Moreover, next to a security concern, informative marketing is also missing from solution providers. Thus, since the majority of the interviewees are not aware of what benefits mobile payments would bring to their lives, it would be critical to educate them for mobile payments` success.

*“First service providers are not clear, and I do not know who they are. Secondly, I also do not know how I can combine these tools with my local bank together. Thirdly, I also do not know the benefit of changing my local bank to mobile payment tools. For me also the main value proposition is missing from the provider side” (Interviewee 4).*

*“Being used to pay with credit card is making difficult to adopt new ones. Also, since my social environment such as friends and family does not use these tools, it does not encourage me as well. Since it is an innovation, maybe that is why it was not adopted enough yet. However, I believe that communication and general information is missing from provider companies” (Interviewee 7).*

In addition, some research participants also stated that even though they have not tried mobile payment yet, they think that using mobile payment tools might be more secure than credit & debit cards as copying the information would not be as easy.

*“I would not be hesitant to use mobile payments if I would feel that the system is highly secured. Moreover, I do not see the difference between the convenience of using mobile payments or bank cards. In both cases, I spend some time on identification and carry out payments. Because I live in Nordics, I am not worried that someone would steal my bank cards, or I would not be robbed in the street. But when I travel abroad, I would certainly consider using mobile payment” (Interviewee 6).*

## 5 DISCUSSION

The primary aim of this thesis was to discuss and explore the reasons and hesitations behind the resistance to mobile payment adoption. Also, the author did not only try to unlock the perceptions and attitudes of potential consumers toward mobile payments but also tried to understand what kind of changes or development on mobile payments would convince them to adapt to their lives.

According to thesis research, most of the interviewees were not interested in using mobile payments for their financial management just for now. Even though almost all the research participants can be considered as digitally adopted individuals by owning smartphones and using most of the popular apps, they considered themselves as conservative when it comes to their financial management. Similarly, Karsikko (2015) found in his study that almost 50% of his interview participants were aware of mobile payment solutions but they have never used or tried it. However, by investigating each interview participant`s input with qualitative research, it is clear to see that their concerns and hesitations are very similar to each other.

The findings suggest that three main factors play an essential role in the adoption of mobile payment tools. The first one is *security* which is safety-related issues including personal data and privacy. As some of the mobile payment solutions are offered by non-bank companies such as Apple or Samsung, interviewees did not see these companies as trustworthy as their banks when it comes to their financial information. According to Mallat`s (2007) findings, sharing information with third-party companies other than banks were perceived as a risk factor by the research participants because they stress that their information may be misused, or they would receive a lot of unwanted advertisements. This research participants also stressed the same concern that Mallat (2007) pointed out. Also, since many small Fin-tech companies are involved with mobile payments, participants stated that it is difficult to trust those small companies because they might not survive in five years` time. Moreover, using mobile for financial management was perceived as a potential risk for this interview group because they worry that their phone can be easily hacked, and their money can be stolen. The research participants did not only concern about scammers but also, highlight that they are not careful enough with their phones

when it comes to security. For example, some of the interviewees do not use any password or fingerprint on their smartphones. Although they had many different concerns regarding security and safety, most of the concerns are the result of a lack of knowledge which will be discussed in the next paragraph.

The second factor is the *lack of knowledge* which means that potential consumers do not have enough knowledge to evaluate whether mobile payment tools are beneficial for them or not. Yongqing et al. (2015) also found that because of the complexity of the various parties involved in mobile payment solutions, the consumer may have uncertain information about its adoption. This also shows that solution providers are failed to deliver their messages and value propositions to potential customers with the right strategies. Also, since the consumer does not have enough knowledge, they are concerned about their money, so before adopting mobile payments, they would like to be 100% sure that their money is safe with mobile payments. However, since most of them are not interested to learn more about mobile payments at this moment, they may be unsure about their own behaviors which lead to not understanding the value proposition as well.

Thirdly, the findings further indicate that *old financial habits* are not that easy to change for this interview group because they do not have enough knowledge to adopt a new payment method which leads them to stick with old habits. Hence, it may still take a considerable amount of time for them to adopt mobile payments unless they are pushed by their banks or feel that they are left alone who are not using these tools. This point is also supported by Yang (2016), and his research suggests that nearly 86% of his research interviewees prefer using traditional means of payment methods such as credit/debit cards instead of using new payment methods. Moreover, this factor was a highly essential barrier for participants because most of them stated that they feel comfortable using the old way of payments and they do not want to complicate their financial management. According to Smolarczyk (2018), previous experience in related technologies would enable consumers to feel more confident and see the positive side of the adoption. However, since this group of consumers has not used mobile for their payments before, they do not still feel confident and safe enough to take into use.

The result of the study provides valuable information for solution providers for better understanding their potential consumers. As the potential of the mobile payments is tremendous, by using provided data through this research, more consumers can be attracted. According to findings, solution providers primarily must work and improve three different aspects: finding out the best way to reach new consumers and providing the right information for them, convincing consumers that mobile payments are as secure as credit/debit cards, clarify the value proposition of the mobile payments so that consumers can easily change their habits by seeing the benefits of new payment tools. These results also support some of the other studies which previously proposed the factors on the attitudes towards mobile payment adoption especially security and trust issues. Considering all the main concerns of the consumers that were stated in this study, attracting and convincing them to use mobile payments may be faster.

## **5.1 Recommendations to service providers**

By conducting this research with consumers who have never tried using mobile payments, their concerns and hesitations were presented on mobile payments. Thus, findings clearly show that getting used to the old way of payment methods and changing those habits are not that easy for this interview group.

Furthermore, as changing their financial habits would also make them uncomfortable at the beginning, security concerns seem to play a huge role as they do not know what to expect. However, to make them feel confident and prove that mobile payments also can be as secure as credit & debit cards, they must be well informed either by their banks or solution providers. This can only be achieved with successful marketing strategies and delivering the right message to potential consumers where clear benefits and value propositions are delivered to consumers. By doing so, not only more consumers would be gained for mobile payments but it would also help to lead the cashless economy which is positive for environmental issues as mentioned in the earlier chapter.

Considering all the information above, cautious consumers do not just jump into new technologies or innovations if they do not see clear advantages compared to current ones. Therefore, they will try to resist as much as they can unless they are convinced that mobile



payment would help them improve their daily lives. Hence, as stated in the result part by some of the interviewees, promotions or bonus offerings might be a great way of attracting large numbers but there needs to be a huge collaboration between big chains and brands for this to happen. Moreover, since this interviewee group felt that they are overwhelmed with technology such as all different kinds of apps and tools for their financial management, it would be added value for consumers to be offered a mobile payment solution which is a combination of many different financial apps or tools together. Thus, consumers may feel that they are valued and less overwhelmed.

## **5.2 Suggestions for future research**

As stated earlier that this study was conducted using qualitative research methods that do not provide evidence for generalization but rather direction for future study. Although the data sample was small because of the explorative nature of the study, data saturation was successfully achieved by interviewing ten individuals. However, this research can be conducted more in-depth in the future with a larger sample and with a quantitative method in Finland to compare and gather more reliable data.

Furthermore, this thesis also made recommendations and suggestions by considering earlier empirical research conducted on a similar topic of mobile payments in Finland. Hence, further research which will be studying similar topic could take a closer look into the perceptions and the attitudes of potential consumers towards mobile payment tools by making use of different theory as a base of the research. According to this study, lack of knowledge, security concerns, and old habit orientation are the main barriers to consumers` resistance to mobile payments. Therefore, these topics can be a good start or a comparison for future research.

## **5.3 Limitations**

The main challenge of the study was finding similar research that specifically focuses on the Finnish market. Also, since this study required to interview ten young professionals for data saturation, finding a suitable time for each interview participant was challenging. However, each interview was successfully performed by gathering in-depth knowledge

and perceptions from every interviewee because the researcher was able to ask relevant questions within the assigned time. Another limitation of the research was that choosing the best and most suitable theories among many others.

In addition, as stated above that this research was conducted through qualitative interviews one at a time, the number of participants was relatively limited or small. However, to conduct a more generalizable study, a larger data sample would require a lot of effort and time since each interviewee`s input should be investigated properly.

## REFERENCES

Adams, W., 2015, *Conducting Semi-Structured Interviews*, George Washington University, Fourth Edition, pp. 493-505

Aktia Bank., 2019, *Aktia Wallet*, Available from <https://www.aktia.fi/fi/aktia-wallet>. Accessed 3.4.2019

Amoroso, D., Magnier-Watanabe R., 2011, *Building a Research Model for Mobile Wallet Consumer Adoption: The Case of Mobile Suica in Japan*, Journal of Theoretical and Applied Electronic Commerce Research. pp. 1-17.

Apple Inc., 2019. *Apple Pay & Wallet*, Available from <https://www.apple.com/apple-pay/>. Accessed 3.4.2019

Au Y, & Kauffman R., 2006, *The economics of mobile payments: Understanding stakeholder issues for an emerging financial technology application*, College of Business, University of Texas, pp. 1-24.

Bank of Finland., 2015, *The current payments landscape and trends*, Payment Council Working Group 1, pp. 1-37.

Becker, K., 2007, *Mobile Phone: The New Way to Pay?* Federal Reserve Bank of Boston, pp. 1-14.

Braun, V., & Clarke, V., 2006, *Using thematic analysis in psychology*. Qualitative Research in Psychology, 3 (2). pp. 77-101. ISSN 1478-0887

Bryman, A., & Bell, E., 2015, *Business research method*, Oxford University Press, pp.393-394

Boullier, D., Sivakumar, N., Crepel, M., & Juguet, S., 2017, *Trust architectures in payment systems: the great bifurcation*, Digital Humanities Institute, pp. 1-31.

Chatchai, K. & Piotr, L., 2017, *Supply and demand sides of mobile payment: comparative analysis of successful mobile payment adoption in developed and developing countries*. 28th European Regional Conference of the International Telecommunications Society (ITS), pp. 1-24.

Dahlberg, T., Mallat, N. & Öörni, A., 2003, *Trust enhanced technology acceptance model - consumer acceptance of mobile payment solutions: Tentative evidence*. Stockholm Mobility Roundtable, pp. 22-33.

Danske Bank., 2019, *Mobile Pay*, Available from <https://www.mobilepay.fi/about%20mobilepay>. Accessed 3.4.2019

Davis, F. D., 1989, *Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology*. MIS Quarterly, Vol. 13(Issue 3), pp. 319-340.

Davis, F. D., Bagozzi, R. P. & Warshaw, P. R., 1989, *User acceptance of computer technology: A comparison of two theoretical models*, Management Science, 35 (8): 982–1003.

Deloitte Report., 2019, *Chasing cashless? The Rise of Mobile Wallets in the Nordics*, Monitor Deloitte, pp. 2-48.

Denzin, N. & Lincoln Y., 2000, *Handbook of Qualitative Research*. London: Sage Publication Inc.

Doan, N., 2014, *Consumer Adoption in Mobile Wallet*, Turku University of Applied Sciences, pp. 6-35.

Drucker, P.F., 2011, *Technology, Management, and Society*, Harvard Business Press, Boston, MA.

Fan, J., Shao, M., Li Y. & Huang, X., 2018, *Understanding users' attitude toward mobile payment use: A comparative study between China and the USA*, *Industrial Management & Data Systems*, Vol. 118 Issue: 3, pp. 524-540.

Greener, S., 2008, *Business Research Methods*, Ventus Publishing Aps.

Hagaman, A., & Wutich A., 2017, *How many interviews are enough to identify metathemes in multisited and cross-cultural research? Another perspective on guest, Bunce, and Johnson's (2006) Landmark Study*, Sage Publishing, Vol. 29, pp. 23-41.

Hayashi, F., 2012, *Mobile payments: What's in it for consumers?* *Economic Review-Federal Reserve Bank of Kansas City*, pp. 35-66.

Hillman, S. & Neustaedter C., 2016, *Trust and mobile commerce in North America*, *Computers in Human Behavior*, pp. 10-21.

Jarvenpaa, S. L. & Lang, K. R., 2005, *Managing the paradoxes of mobile technology*. *Information Systems Management*, 22(4), pp. 7-23.

Karsikko, H., 2015, *Current State of Mobile Payment in Finland, Drivers and obstacles in diffusion and adoption of mobile payments*, Oulu University of Applied Sciences, pp. 5-47.

König, S., 2001, *The Evolution of Money. From Commodity Money to E-Money*, UNICERT IV Program, pp. 1-21.

Laukkanen, T., Sinkkonen, S., Kivijarvi M. & Laukkanen P., 2007, *Innovation resistance among mature consumers*. Article in *Journal of Consumer Marketing*

Mallat, N., 2007, *Exploring Consumer Adoption of Mobile Payment - A Qualitative Study*, Helsinki School of Economics, pp. 1-14.

Mantri, R. & Feng J., 2011, *Exploring the Key Challenges: Adaptability, Sustainability, Interoperability and Security to M-Payment*. University of the West of Scotland, UK. pp. 1-7.

Mobiilimaksu., 2019, *Mobiilimaksu Carrier Billing*, Available from <http://www.mobiilimaksuinfo.fi/>. Accessed 4.4.2019

Nordea Bank., 2018, *Sustainability Report 2018*, Available from <https://www.nordea.com/Images/33-304475/Nordea%20Sustainability%20Report%202018.pdf>. Accessed 27.5.2019, pp. 1-52.

Nordea Bank., 2019, *Nordea Wallet*, Available from <https://www.nordea.fi/en/personal/our-services/online-mobile-services/nordea-wallet.html>. Accessed 4.4.2019

Oliveira, T., Thomas, M., Baptista, G. & Campos, F., 2016, *Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology*. Computers in Human Behavior, pp. 61, 404-414.

Oxford Dictionary., 2019, *Definition of convenience*. Available from <https://www.lexico.com/en/definition/convenience>. Accessed 20.04.2019

Paytrail., 2017, *Developments in mobile payments from 2012-24.5.2017*. Available from <https://www.paytrail.com/en/blog/mobile-payments-growth-is-accelerating-in-finland-see-the-latest-figures>. Accessed 31.3.2019

Pousttchi, K., 2003, *Conditions for Acceptance and Usage of Mobile Payment Procedures*, University of Augsburg, pp. 1-10.

Ram, J. & Seth, N., 1989, *Consumer resistance to innovations: The marketing problem and its solutions*. Emory University, pp. 1-11.

Rochemont, S., 2018, *A Cashless Society- Benefits, Risks and Issues*. Institute and Faculty of Actuaries. pp. 1-31.

Rogers, E., 2003, *Diffusion of Innovations 5th edition*. New York: Free Press.

Sahin, I., 2006, *Detailed review of Rogers` diffusion of innovations theory and educational technology-related studies based on Rogers` theory*. Iowa State University, pp. 1-10.

Scott, S., Reenen, J. & Zachariadis, M., 2017, *The Long-Term Effect of Digital Innovation on Bank Performance: An Empirical Study of SWIFT Adoption in Financial Services*, Centre for Economic Performance London School of Economics and Political Science, pp. 1-52.

Smolarczyk, A., 2018, *Customer Satisfaction with Mobile Payments*, Aalto University School of Business, pp. 1-83.

Statista Finland., 2017, *Share of mobile commerce in Finland from 2012 to May 2017*, Available from <https://www.statista.com/statistics/745902/share-of-mobile-commerce-in-finland-by-device/>. Accessed 8.3.2019

Statistics Finland., 2014, *Use of information and communications technology by individuals*. Statistics Finland. Available from [http://www.stat.fi/til/sutivi/2014/sutivi\\_2014\\_2014-11-06\\_tie\\_001\\_en.html](http://www.stat.fi/til/sutivi/2014/sutivi_2014_2014-11-06_tie_001_en.html). Accessed 23.03.2019

Statistics Finland., 2019, *Mobile data transmission volume in Finland*, Available from [https://findikaattori.fi/en/125#\\_ga=2.118067599.729418170.1553344324-1999993122.1552075819](https://findikaattori.fi/en/125#_ga=2.118067599.729418170.1553344324-1999993122.1552075819). Accessed 23.3.2019

Suoranta, M., 2003, *Adoption of mobile banking in Finland*, University of Jyväskylä. pp. 1-86.

Torralba, N., 2017, *Security Analysis of Mobile Payments: Direct Carrier Billing*, Aalto University School of Science, pp. 10-67.

Upadhyay, P. & Jahanyan S., 2016, *Analyzing user perspective on the factors affecting use intention of mobile based transfer payment*, Internet Research, Vol. 26 Issue: 1

Veijalainen, J., Terziyan, V., & Tirri, H., 2003, *Transaction Management for M-Commerce at a Mobile Terminal*, University of Jyväskylä, pp. 1-10.

Voronenko, D., 2018, *Determining Factors of Adoption of Digital Device Wallets by Russian Consumers*, St. Petersburg University, pp. 1-93.

Yang, N., 2016, *The Obstacles of NFC Mobile Payment Development in Finland: Security Issues of NFC Mobile Payment*, Lahti University of Applied Sciences, pp. 4-42.

Yongqing, Y., Yong, L., Hongxiu, L. & Benhai, Y., 2015, *Understanding perceived risks in mobile payment acceptance*, *Industrial Management & Data Systems*, Vol. 115 Issue: 2, pp. 253-269.



## **APPENDICES**

### **Appendix A: Research Questions**

1. What do you think about mobile payments?
2. What do you know about the functionality of mobile payments?
3. In your opinion, which method of payment is more secure? Why?
4. What are the disadvantages/ challenges of mobile payments?
5. What would you change/develop in current mobile payment tools?
6. What would be your motivators to use mobile payment solutions?
7. How do you expect mobile payment to be in the future?
8. How adaptive are you towards new innovations?
9. What are the main reasons or hesitations for resisting mobile payments?