Bachelor Thesis

Exploring the barriers of consumer purchasing in M-commerce:
A Qualitative Study

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Abstract

**Purpose:** Explore the external and internal barriers preventing consumer purchases in M-commerce.

**Research Questions:**
RQ1: What are the external barriers that prevent consumer purchases on smartphones?
RQ2: What are the internal barriers that prevent consumer purchases on smartphones?

**Methodology:** This thesis is a qualitative study using an exploratory purpose and used a cross-sectional strategy collecting data through two focus groups.

**Conclusion:** There are existing external barriers in M-commerce that consist of; unadjusted webpages for the smartphone, small screen size, and inconvenient internet connection. Along with that, internal barriers consist of; the inability to complete a task efficiently, consumers’ motivation to use the smartphone other than purchasing, technology perceived as difficult, security concerns and lack of trust, and finally the lack of skill. Thus, the findings of this thesis explored how these factors prevent consumer purchasing in M-commerce.

**Theoretical contributions/limitations/future research:** The key contributions of this thesis is in the field of M-commerce. More specifically, dividing the barriers of purchasing in M-commerce into two categories, external and internal barriers, which has not been studied before. Since this thesis used an exploratory purpose, the subjective nature therefore has implications affecting its validity and reliability resulting in lower levels of generalizability and replication. Along with this, the language barriers in the focus groups may have had an effect on the results. A suggestion for future research is to focus on the relationship between the external and internal barriers in M-commerce rather than distinguishing them. Future research could also consist of identifying other approaches of the barriers in M-commerce.

**Keywords:** M-commerce, Internal barriers, External barriers, Smartphone and Consumer purchasing.
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This bachelor thesis was written in the spring semester of 2018 at Linnaeus University in Växjö, Sweden. This research used a qualitative approach in order to explore the existing external and internal barriers preventing consumer purchases in M-commerce. The completion of this thesis would not have been possible without the help of lecturer and tutor Dan Halvarsson and seminar leader Åsa Devine, as well as our fellow students of the Marketing Program. We would like to take this opportunity to specifically express our gratitude to them.

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Linnaeus University,
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1. Introduction

1.1 Background

In less than twenty years the mobile phone has transitioned from a rare commodity into a ubiquitous everyday device (Eze & Chai Har Lee, 2012). Studies suggest that more than 50% of mobile phone users possess a smartphone (Kim, Kim, Choi & Trivedi, 2017), which is a cellular device that encapsulates additional software attributes. An example of this are internet access, apps, and email (Ozok & June, 2010). With the rise of smartphones, the mobile channel has developed into the third marketplace, followed by the first and second marketplaces of offline and online channels (Kim et al., 2017).

Advancements in smartphone technology has ultimately lead to changes in the way consumers do electronic shopping. The proliferation of such devices are becoming increasingly popular due to their ability to individualize, customize, create location specific services, and being easily accessible anywhere at anytime (Malik, Kumra & Srivastava, 2013). According to Clarke (2008) these advancements has created an unprecedented growth in mobility creating the new domain of M-commerce. M-commerce offers a two-way communication between a firm and customers through using the smartphone (Shankar, Venkatesh, Hofacker & Naik, 2010). M-commerce can be defined as “the pairing of mobile devices with commercial transactions, giving customer services anywhere and anytime through a wireless, internet-enabled device and without use of a computer” (Malik et al., 2013, p. 104). Kao (2009) further defines M-commerce as applications of wireless devices to conduct transactions through data connection allowing for the transfer of value in exchange for goods and services. M-commerce emphasizes the mobility of transactions between devices and can deal with a wide range of transaction functions which include; mobile banking, entertainment, advertising, and ticketing (Kao, 2009).

There are inherent advantages for using the smartphone in order to shop online. M-commerce shopping is advantageous through it being ubiquitous and used habitually (Ashraf, Thongpapanl, Menguc, & Northey 2017; Clarke, 2008). Implying that consumers can shop anywhere at anytime (Kumar & Mukherjee, 2013). However, computers are the preferred platform over smartphones and tablets, and are the most commonly used device consumers use for online shopping. 63% use their computer when conducting purchases online, and only 15% of initial purchases are conducted on a smartphone (Investpcro, 2017). Although the use of
smartphones is convenient, consumers still do not utilize smartphones to their full potential, especially in making purchases (Gao, Waechter & Bai, 2015).

1.2 Problem Discussion
The buzz around the smartphone extends beyond communication between users, the small 5-inch screen creates endless opportunities for networking, browsing the internet and shopping experiences. Consumers today tend to use their smartphones in different ways for shopping, for example, tasks such as researching product information, comparing prices, gathering information regarding products and services, reading and leaving reviews. Although M-commerce is used for shopping related experiences, research argues that one of the biggest difficulties is encouraging consumers to complete the purchase on their smartphones (Kumar & Mukherjee, 2013). Previous research conducted by Holmes, Byrne and Rowley (2013) state that consumers using their computers have a higher chance of completing their purchasing transaction on their computer, whereas consumers using their smartphones are more likely to complete their transaction on another device. Thus, smartphones play a significant role in shopping experiences online, but are not the primary device used to complete transactions (Holmes et al., 2013).

Studies suggest that purchase behavior on the smartphone have certain external and internal barriers (Kumar & Mukherjee, 2013; Groß, 2016; Holmes et al., 2013). However, these external and internal barriers have yet to be explored. Therefore, there is an existing research gap concerning why consumers do not use their smartphones for the purchase transaction, as existing research only focuses on shopping related actions, such as pre and post purchasing behavior. Moreover, there is a lack of focus on the existing barriers preventing consumers to complete transactions on their smartphones (Wang, Malthouse & Krishnamurthi, 2015). Researchers Creed, Patton and Bartrum (2004) state that barriers may be defined as external frustrations or internal conflicts that may serve as hindrances. External barriers include smartphone characteristics and network connection whereas internal barriers consist of the lack of motivation, perceptual attributes, trust, and the inability to adapt (Creed et al., 2004). Exploring such barriers will create new insights through providing a contextual understanding of the existing external and internal barriers in consumer activity related to M-commerce (Kim et al., 2017).
1.3 Purpose
The purpose of this study is to explore external and internal barriers preventing consumer purchases in M-commerce.

1.4 Research Questions
RQ1: What are the external barriers that prevent consumer purchases on smartphones?
RQ2: What are the internal barriers that prevent consumer purchases on smartphones?
2. Literature Review

This chapter reviews the existing literature about M-commerce, along with the existing external and internal barriers. Firstly, M-commerce is defined and explained through information about the two influential concepts, being ubiquity and habit. Secondly, the existing external barriers are explored through presenting information about smartphone characteristics and network connection. Thirdly, internal barriers are also explored, consisting of information about consumer motivation, perception, trust and the inability to adapt. By the end of the chapter the concepts addressed in the literature review are summarized in a table.

2.1 M-commerce

Researchers suggest that M-commerce is as any type of communication between user and sender, whereas others argue that for M-commerce to take place, there should be some monetary gain (Frolick & Lei-da-Chen, 2004). Researcher Chong (2013) states that M-commerce is the “the buying and selling of goods and services through wireless handheld devices” (p.523). M-commerce is regarded as an additional phase to E-commerce, allowing internet based transactions to take place on smartphones rather than on stationary ones. Therefore, M-commerce does not replace E-commerce but supplements it (Li, Dong & Chen, 2012). Interestingly, only 15% of consumers use their smartphone when online shopping whereas 63% of consumers use a computer (Investpero, 2017). However, even though a low percentage of consumers use their smartphone when online shopping, M-commerce offers a unique value proposition compared to other electronic transactions by its ubiquity and by how it is used habitually (Clarke, 2008).

The ubiquity of M-commerce is advantageous for consumers meaning that it is available to consumers anywhere at anytime providing convenience and accessibility. Ashraf et al., (2017) define ubiquitous consumption as “the ability to access and consume goods and services anytime and anyplace” (p. 28). Further research argues that ubiquity creates the notion of accessibility, reachability and lastly portability, and users have the ability to access different networks anywhere, regardless of time constraints and they are always reachable (Junglas & Watson, 2006). With M-commerce being easily accessible and readily available, ubiquity is one of the most important factors behind the adoption of M-commerce, and is also regarded as
one of the main factors for influencing consumers in their overall decision making process (Ashraf et al., 2017). Researchers have different conceptualizations of the nature of ubiquity, Barnes (2002) argues that ubiquitous interaction provides the consumer with even more control in terms of what they see, read, and hear. Along with that, Herbjørn and Helge (2005) state that smartphone services are becoming increasingly crucial for firms and consumers due to their ubiquitous and universal nature giving them the opportunities to attain information, services, and the unique personalized exchange of information (Herbjørn & Helge, 2005). And lastly Ko, Kim and Lee (2009) argue that, “M-commerce has been distinguished from the Internet in terms of delivering value by offering more convenience and access at anytime and any place” (p.674) and therefore ubiquity allows consumers to use real-time information regardless of where they are (Ko et al., 2009).

Okazaki and Mendez, (2013) argue that the ubiquitous nature of M-commerce can be conceptualized into four pairs of key dimensions (1) continuity and simultaneity (2) immediacy and speed (3) portability and mobility and lastly, (4) searchability and reachability. The first, continuity and simultaneity, refers to the unique ability that the smartphone offers through the continuous access to services that is not offered by other traditional marketing channels and simultaneously refers to the doing and happening at the same time of services. Secondly, immediacy and speed illustrates the effortless and easiness of M-commerce while the third, portability and mobility shows the physical elements of the smartphone being light enough to bring anywhere. Lastly, searchability and reachability refers to the ability to communicate with other users and search for information anywhere at anytime (Okazaki & Mendez, 2013).

The omnipresence of smartphone technology has allowed consumers to incorporate M-commerce as part of their habitual behavior. Consumers are developing a habit of interacting with products and services through the use of their smartphone (Wang et al., 2015). Users tend to use mobile devices to do the same frequent and daily functions regularly. This ultimately leads to new patterns in behavior that are linked to the technology they use (Ashraf et al., 2017). Such repetitive behavior eventually becomes a habit and thus performed without thinking. Habit can be defined as “the extent to which people tend to perform behaviors because of learning” (Ashraf et al., 2017, p. 29) and is a perceptual construct which illustrates outcomes of past experiences. In relation to M-commerce, Ashraf et al., (2017) define habit as “an automatic behavioral response that is triggered by situational stimulus without a cognitive analysis process due to the learned association between the shopping behavior and satisfactory results”
(p. 29). Literature suggest that the continuous use of M-commerce and smartphone applications creates an increase in future M-commerce purchasing behavior, therefore making habit one of the strongest factors in customer acceptance towards M-commerce (Ashraf et al., 2017). Maruyama and Wu (2014) state that shopping habits in consumers are also said to play a big role over choosing traditional or non-traditional retail decisions. With the increase in usage of smartphones, shopping habits tend to be more modern and take place online (Maruyama & Wu, 2014).

Although the use of smartphones is ubiquitous and used habitually, many retailers lack mobile readiness and studies suggest that out of the 50 top retailers in the United Kingdom only 26% use M-commerce to its full potential and 76% out of the top 100 retailers in the United States lack preparedness (Ashraf et al., 2017). Previous findings from literature argue that buying products and services in M-commerce is often regarded as a negative and stressful experience as accessing information online consumers are exposed to a wide variety of technology platforms. Platforms range from rudimentary content (i.e. text and written information to aid the consumer) to extremely complex content (i.e. visual and audio content). In contrast, in traditional shopping experiences consumers are not exposed to so many features when making their purchasing decisions, creating a larger cognitive cost for consumers when engaging in electronic and mobile commerce (Maity, 2010). As discussed, mobile convenience comes with various advantages, but the environment of M-commerce is still facing challenges (Gupta & Arora, 2017; Lu & Yu-Jen Su, 2009).

2.2 External Barriers

According to Wang et al., (2015) external barriers can be described as factors that are beyond the user’s control. Researchers argue that smartphones, given their flexibility "are sufficient to provide convenient access when customers want to achieve specific goals or habitual needs that do not require much search or cognition” (Wang et al., 2015, p. 218). For M-commerce to be accepted, characteristics such as smartphone attributes and internet usage in M-commerce should be considered. According to Li et al., (2012) the success of M-commerce is highly dependent on the ability of connecting users and information quickly, easily and enjoyably (Li et al., 2012).
2.2.1 Smartphone Characteristics

According to Ozok and June (2010), E-commerce is facing general issues such as trust, privacy and convenience, additional concerns such as limited input, limited size and limited processing should be considered in the context of M-commerce. Notably, users prefer features such as the design of the web page and content in online retail stores, however, the ability to display limited content at one time in M-commerce environment is seen as a challenge. Companies need to consider how to simplify and limit their content, because if they do not, it will require extensive scrolling by the consumer. It has been pointed out that the size of the smartphone is not a suitable gear for data-rich interaction, but rather more dictated by the interval between the human ear and mouth. Thus, the usability is challenged by the use of the small screen size which is seen as an issue that is seen as the biggest cause of frustration (Ozok & June, 2010).

While users are researching on the smartphone, the device is repeatedly abandoned for larger displays at the actual point of purchase. Along with that, there is a low conversion rate which is mirrored by high abandonment rates, indicating that consumers constantly switch between different devices (Gupta & Arora, 2017; Holmes et al., 2013; Wang et al., 2015). Thus, another external barrier that M-commerce is facing today is the smaller screen size. Due to the screen size and the functionality of smartphones are limited compared to computers, it is evident that these constraints have changed the consumers search behavior (Kumar & Mukherjee, 2013). Moreover, these browsing behavior have been examined and it has been concluded that consumers using smartphones tend to click on links more than when they use computers. The requirements of searching on smaller screens includes various maneuvers, for example, scrolling, which limits the type and amount of information customers can capture (Wang et al., 2015; Shankar et al., 2010; Sweeney & Crestani, 2006).

In another study conducted by Ghose and Park (2013), it has been concluded that users hesitate to purchase niche products when using devices with a smaller screen. Along with that, consumers have the ability to act habitually when facing time or resource pressure. Thus, due to the smartphones’ limitations in screen and functionality, smartphones are convenient when consumers are reluctant to invest in higher search costs and want to shop habitually (Ghose & Park, 2013; Wang et al., 2015). Customers may take advantage of the convenience provided by the smartphones, however, such high search costs can negatively impact their ability in locating and remember web information retrieved (Wang et al., 2015; Sweeney & Crestani, 2006). When customers M-shop, they therefore tend to purchase products that they are familiar with rather
than purchasing products they are unfamiliar with (Wang et al., 2015). As a result of this cross-device behavior among consumers and the emergence of M-commerce, companies have started to optimize their websites to better suit the smartphone device (Li et al., 2012).

Comparing a mobile device with a stationary computer or laptop, Lu and Yu-Jen Su (2009) suggest that smartphones input buttons, displays, computing abilities, battery power and memory are limited. Meaning that the smartphones have the ability to automatically set up into a power-off or power-save status due to the lack of battery power, which in turn will shorten the time the users have to look for information. Along with that, the issue of smaller screens can lead to more steps in processing web pages compared to what a desktop would do. Finally, it is evident that the environments in which M-commerce are used are not stable enough. Users often fear the potential problem of M-commerce being such as loss of data or other similar issues (Lu & Yu-Jen Su, 2009).

2.2.2 Network Connection

The emergence of mobile Internet is rapid and the interest and motivation in and learning from E-commerce by customers and investors are high. Nonetheless, this rapid growth contributes with major challenges in M-commerce. E-commerce shoppers have stated that using M-commerce is simply too complicated (Ozok & June, 2010). Therefore, recent studies have examined and discussed how wireless network accessibility contributes as a major challenge for mobile services (Lu & Yu-Jen Su, 2009) and the constraints for the M-commerce environment are the lack of internet access and the slow and inconvenient smartphone shopping sites (Kumar & Mukherjee, 2013). According to Groß (2016), the consumers’ inadequacy of control over their physical environment along with the wireless network accessibility are considered as usage barriers for M-commerce. Similarly, it is argued that one major problem is that the bandwidth of the mobile internet is limited compared to the fixed lines and this can lead that the new networks occasionally disconnect without any warning (Groß, 2016).

Moreover, it has been pointed out that users’ acknowledgement of different technologies is highly dependent on convenient tools and their dispersion in the marketplace. When it comes to M-commerce, the basic tools are handheld mobile device and a reliable wireless communication system. Accessibility of communication can refer to "people’s ease of access to a particular medium” (Sivunen & Valo, 2006, p.57).
2.3 Internal Barriers

External barriers consist of hindrances associated with the physical utilitarian aspects of M-commerce. With that stated, one should also refer to existing internal barriers and in this case, the involvement of M-commerce. More specifically, researchers argue that the level of motivation, consumer perception, trust, and the inability to adapt are all important factors to consider when addressing the internal barriers of consumer involvement with M-commerce (Li et al., 2012; Teo, Lim, & Lai, 1999; Chong, 2013; Sun & Chi, 2018; Sharif, Shao, Xiao & Saif, 2014).

2.3.1 Motivation

It has been made known that motivation has the ability to influence decisions to embrace new technology. Motivation can be defined as the underlying reason/s for users to behave and/or act a certain way (Chong, 2013). Therefore, motivation can be viewed as a construct that helps to understand the impact consumer experiences have in regard to the consumption of M-commerce (Chong, 2013; Li et al., 2012). Motivation is a construct that can be divided into two categories; utilitarian motivations and hedonic motivations (Chong, 2013). Historically, consumer motivation is encouraged by utilitarian motives (Babin, Darden & Griffin, 1994). This perspective supports the idea that consumer consumption involves a decision-making process as consumers prefer to complete a task efficiently (Babin et al., 1994; Li et al., 2012). Furthermore, researchers Li et al., (2012) elaborate on utilitarian motivation in regard to M-commerce as extrinsic motivation is encouraged with the improvement of customer performance of M-commerce. More specifically, with the improvements of content quality and system quality, thus demonstrating the impact physical context has to the concept of motivation (Li et al., 2012). Furthermore, with the development of technology, hedonic motivation has become an import factor to consider. According to researcher O’Brian (2010), hedonic motivation is usually “associated with intrinsically motivated intentions, such as to have fun” (O’Brian, 2010, p. 345). Hence, perceived efficiency and practicality is a part of extrinsic motivation and perceived amusement, a form of motivation that is intrinsic (Teo et al., 1999; O’Brian, 2010). Previous studies have declared that extrinsic and intrinsic motivations are able to influence smartphone chat services, electronic chat services, smartphone internet and M-commerce (Chong, 2013). Furthermore, the “desired outcome of an activity (to make a purchase or to have fun)” (O’Brian, 2010, p. 345) has a determining role how large the hindrance for the consumer will be, in the form of motivation, as M-commerce is pursued.
Therefore, it can be determined that the very motivation for consumers to interact with M-commerce is associated with the combination of the physical and psychological influences (O’Brian, 2010).

2.3.2 Perception

Another construct that contributes to research investigating internal barriers is perception, which researchers Sun and Chi (2018) describe as the way in which individuals understand, regard or interpret something. From existing research, the construct of perception can be divided into two divisions; perceived usefulness and perceived ease of use (Sun & Chi, 2018). According to researchers Sun and Chi (2018), perceived usefulness can be defined as, “a perception of the degree in which one believed that by “using a particular system would enhance his or her job performance”” (Sun & Chi, 2018, p.787) or in this case, enhance the ability to use M-commerce. Consumer’s intention to embrace technology is highly influenced by the perception consumers have towards the usefulness of the technology, thus implying that a possible hindrance is created when consumers are not convinced about the technology (Chong, 2013). Researcher Chong (2013) argues that when discussing M-commerce and the perception of perceived usefulness. Moreover, M-commerce does provide unique characteristics as it offers mobile activity “free from the physical requirements of wired connection” (Chong, 2013, p.1353) however this is only an advantage if consumers perceive it useful. Therefore, one may say that the perceptual division of perceived usefulness has a vital role in the decision-making process of consumers in regard to the adoption of M-commerce (Chong, 2013). Furthermore, prior research on the relationship between consumers and M-commerce suggest that the construct of perceived usefulness has been an attribute of heavy influence to the growth of M-commerce (Davis, 1989; Chong, 2013; Sun & Chi, 2018).

As previously stated, the second division of perception is called, perceived ease of use which refers to “the degree to which a person believes that using a particular system would be free from effort” (Sun & Chi, 2018, p.787). This particular division of perception has also been proven important due to prior research, suggesting that when consumers perceive technology challenge free, the likeliness consumers will accept it increases (Sun & Chi, 2018). Researcher Chong (2013) argues that even though the popularity of smartphones, the phenomena of M-commerce applications are still relatively new to a lot of consumers. With the continuous development and introduction of new M-commerce applications and its features, for example completing a transaction on a smartphone may be perceived difficult for users that lack
experience and are considered new. In regard to perceived ease of use, prior research argues that there needs to be an existing “balance between ease of use and the functions of the applications, as ease of use of a system is sometimes achieved at the expense of features and functions” (Chong, 2013, p.1353). On the other hand, content delivery, transactions and location-based services are all positive attributes shared commonly between the perception of perceived ease of use and M-commerce today (Chong, 2013). A relationship between the two-perceptual divisions have been established as prior research has found that if a technology is easy to use, greater perception in regard to its usefulness may be obtained, which in turn will find the technology used useful. Thus, delivering a convincing argument that perceived ease of use has a positive effect on the perceived usefulness of the technology embraced (Davis, 1989; Sun & Chi, 2018).

2.3.3 Trust
Another important concept when addressing barriers to M-commerce is the construct of trust, which can be described as a belief in the ability of something/someone in terms of truth and reliability. As increased attention has been placed on M-commerce, so has the need for trust of consumers. The concept of trust plays a vital role amongst consumers as it contributes to the establishment of success in technology adaption. More specifically, it is of importance that the trustee successfully convinces the trustor in order to establish a basis of trust to thereafter ensure commitment (Li & Yeh, 2010; Li et al., 2012; Sun & Chi, 2018). M-commerce achieves this by working hard to prevent negative outcomes and ensure perceived certainty in the beholder of the consumer. Prior research suggests that this is because there are greater security and privacy infringement risks in M-commerce in comparison to the traditional, therefore security is a major attribute of trust in M-commerce (Danny Tengti, 2009). Furthermore, ensured trust is obtained in order to reduce levels of insecurity, complexity and potential transactional risks (Danny Tengti, 2009; Sun & Chi, 2018). According to Li and Yeh (2010) trust can be divided into three major categories defined “in the terms of ability, integrity and benevolence” (Li & Yeh, 2010, p. 674). The first category being ability, refers to the trustees’ performance and competencies. The second category, integrity concerns the trustees’ ethical principles and lastly, the third category benevolence involves the trustee’s level of empathy it has in regard to the trustor. Existing perceptions and deviations of the above three categories determine the level of trust established (Li & Yeh, 2010).
Groß (2016) argues that M-commerce involves security concerns contributing to low level of trust and high levels of risk. Risk includes the awareness by the consumers of shoulder surfers, individuals who closely watch while one shops with one's smartphone, which constraints the consumers from using M-commerce while on-the-go (Groß, 2016; Ozok & June, 2010). Researchers Li and Yeh (2010) state that trust in M-commerce can be divided into two divisions, “trust in mobile technology and trust in mobile vendors” (Li & Yeh, 2010, p.674). It has been identified that information technology may help the effectiveness of the consumer experience with M-commerce and related transactions, thus developing a greater degree of trust. Conversely, research suggests that hindrances of trust in M-commerce may occur with limited system resources (Li & Yeh, 2010). Sun and Chi (2018) state that consumer trust in M-commerce refers to the existing willingness of consumers providing financial and personal information in order to complete a transaction on the smartphone (Sun & Chi, 2018). It can also be assumed that the concept of trust is a crucial element that either contributes or hindrances the success of M-commerce, as the level of trust is determined by the consumer (Danny Tengti, 2009; Li & Yeh, 2010; Li et al., 2012; Sun & Chi, 2018).

2.3.4 Inability to Adapt

With M-commerce, consumers have problems with adapting to smartphone payments (Gupta & Arora, 2017) and the issue of acceptance among users when it comes to M-commerce (Lu & Yu-Jen Su, 2009). Many users are not skillful enough which makes this technology and service unaccepted. In comparison to traditional computer systems, various mobile transactions cannot be finished successfully if the users are not able to perform skillfully under several circumstances. This can for example be performing under different time constraints because of the smartphone battery supplement and system limitations. The more skillful people are with technology such as the smartphone, the more accepted M-commerce will be. Therefore, M-commerce might be avoided because of the users’ skill at using smartphones are inadequate. Users may distrust their own ability to correctly execute a transaction and therefore distrust the usability of the system. Moreover, "a person’s belief in his/her ability to bring about a desired outcome may provide an anchor for assessing the usability of an unfamiliar technology” (Lu & Yu-Jen Su, 2009, p.455). Thus skillfulness, more specifically, the ability to adapt to new technology, can be seen as a barrier for predicting whether or not M-commerce will be adopted among users (Lu & Yu-Jen Su, 2009).
2.4 Chapter Summary of Literature Review

The table below presents the three main theoretical concepts in the literature review of this thesis, along with a summarized definition.

Table 1.0 Summary of theoretical concepts (owned by authors, 2018)

<table>
<thead>
<tr>
<th>Theoretical concept</th>
<th>Summarized definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-Commerce</td>
<td>Li et al., (2012) explains M-commerce in regard to an additional phase to E-commerce, allowing internet based transactions to take place on mobile devices rather than on stationary ones (Li et al.,2012). Moreover Ashraf et al., (2017) argue that ubiquity of M-commerce is advantageous for consumers meaning that it is available anywhere and anytime providing convenience and accessibility (Ashraf et al., 2017). Furthermore, theory about habit is also addressed as consumers are developing a habit of interacting with goods and services through their smartphone (Wang et al., 2015).</td>
</tr>
<tr>
<td>External Barriers</td>
<td>External barriers are factors that are beyond the users control (Wang et al., 2015). Examples regarding external barriers are smartphone characteristics; small screen size, input buttons, display, computing abilities, battery power and memory (Ozok &amp; June, 2010; Lu &amp; Yu-Jen Su, 2009). Moreover, the internet access is presented as; slow wifi, internet costs and this has an effect on the users’ experience of M-commerce (Lu &amp; Yu-Jen Su, 2009; Kumar &amp; Mukherjee, 2013; Groß, 2016).</td>
</tr>
<tr>
<td>Internal Barriers</td>
<td>Internal barriers may be explored through the concepts of the level of motivation, consumer perception, trust, and the inability to adapt are all important factors to consider when addressing the internal barriers of consumer involvement with M-commerce (Li et al., 2012; Teo, Lim, &amp; Lai, 1999; Chong, 2013; Sun &amp; Chi, 2018; Sharif, Shao, Xiao &amp; Saif, 2014). Chong (2013) states that motivation influences decisions to embrace new technology. Perception refers to how individuals interpret something (Sun &amp; Chi, 2018). Trust is another concept addressed and can be explained as an important role amongst consumers as it contributes to the establishment in the success in technology adoption (Li &amp; Yeh, 2010). Lastly inability to adapt concerns consumers problem with adapting to new technology (Gupta &amp; Arora, 2017).</td>
</tr>
</tbody>
</table>
3. Methodology

This chapter presents the methods used in this thesis along with a justification of the chosen methods. Furthermore, the subchapter data collection instrument is included where an operationalization is presented along with a focus group guide and pretest. By the end of this chapter, the methods and chosen paths are presented in a summarized table.

3.1 Research Approach

Abductive reasoning is a research approach that addresses the weaknesses in both deductive and inductive reasoning. It states that deductive research lacks clarity due to its inability to select appropriate theory to be formulated into a hypothesis, and inductive research is criticized because no amount of data collected can necessarily build theory. Moreover, the abductive approach overcomes these weaknesses by using a pragmatic perspective (Dubois & Gadde, 2002). In an abductive approach, the researcher aims to understand the best explanation among different alternatives in an attempt to explain existing puzzles in research. Puzzles in research arise at the start of the research process when there are certain empirical phenomenon that cannot be explained with the existing theory. This approach therefore combines both cognitive reasoning and numerical data, in other words, abductive research combines deductive reasoning as well as inductive reasoning (Saunders, Lewis & Thornhill, 2009). This approach is beneficial for researchers if their aim is to discover other variables and relationships, focusing on theory development rather than theory generation (Dubois & Gadde, 2002). The researcher aims to develop a theoretical position on the subject manner and then aims to test it through the collected data (Saunders et al., 2009). Dubois and Gadde (2002) state that the biggest difference compared with both deductive and inductive approach is the role of framework. Abductive studies focus more on modifying the original framework “partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process” (Dubois & Gadde, 2002, p.559).

On the other hand, deductive and inductive research are the two main research approaches. Deductive, the most common approach for analyzing and understanding the nature of the relationship between theory and research, is often associated with quantitative research and scientific investigations. Deductive research is grounded in objectivism and sees the world in a state of being. The researcher develops a theory and a hypothesis and designs a strategy to further test the hypothesis or hypotheses (Saunders et al., 2009). It focuses on testing theory
and researchers move from a general level to a more specific one. A compelling theory, or topic of interest, is first thought about to later narrow it down to a more specific hypothesis. Observations are collected in order to gather specific data to test the hypothesis in order to determine if it is accepted or not (Bryman & Bell, 2011). In contrast, inductive research focuses on emerging theory, starting from observations to larger generalizations and theories and is typically associated with qualitative research. An inductive approach is grounded in constructivism and sees the world in a state of becoming (Bryman & Bell, 2011). Researchers initially look at specific data, observations, and measurements in order to detect existing patterns and regularities to create a tentative hypothesis that can be further measured. The outcome is to further develop general theories (Saunders et al., 2009).

This study used an abductive approach, as it is a mixture of deductive and inductive reasoning which helped meet the objectives and purpose of this thesis. The abductive approach was appropriate as it built more on refinement of existing theories rather than investigating in new ones (Dubois & Gadde, 2002). Since this investigation aimed to get a deeper contextual understanding of the research phenomena, more in-depth and rich data collection was needed, characterizing an inductive approach. However, since this thesis commenced with reading an excessive amount of theory and used operational terms to measure theory, a deductive approach was also suitable. This allowed for new combinations of theory and rich empirical data.

3.1.1 Qualitative vs. Quantitative Framework
A qualitative research approach is based on meaning derived from words and are characterized by the ability to apply and explore a subject in a real life setting. Meaning, it uses data collection techniques such as interviews and focus groups to generate non-numerical data such as words, pictures and video clips (Bryman & Bell, 2011). The relationship between theory and research is viewed as inductive and focuses on social constructionism. Unlike quantitative research, which uses a statistical analyses, qualitative research conducts analyses through the use of conceptualization and classifies results from non-standardized data into categories (Saunders et al., 2009). In contrast, a quantitative research approach is a data collection technique and analysis procedure based on the generation of numerical data that derives meaning from numbers. Researchers conduct statistical analyses to explain the relationship between two or more predetermined variables and processes data in the form of diagrams and statistics. The results are further aimed to make generalizations about a population as a whole (Saunders et
al., 2009). The relationship between theory and research in a quantitative approach is viewed as deductive, and has an objectivist conception of social reality (Bryman & Bell, 2011).

There are multiple implications associated with the use of a quantitative framework that supports the notion that it does not suit this investigation. For example, it is made known that “quantitative research is seen as carrying an objectivist ontology that reifies the social world” (Bryman & Bell, 2011, p.168). Thus, implying that an investigation conducted with a quantitative framework analyzes the relationship between variables from a statistical view of social life, disregarding attributes related to people’s lives (Bryman & Bell, 2011).

As qualitative research is an open-ended process, it is possible for researchers to identify superficial responses and thoughts to gather data that is based on humans emotional responses. Meaning that this is critically important for researchers as it will generate an emotional response which is often based on individual’s decisions or what impacts their behavior (Bryman & Bell, 2011). This can be seen as an advantage for this thesis as it aims to explore the external and internal barriers preventing consumer purchases in M-commerce. A known implication with qualitative research is that it usually is more difficult to generalize the data generated as qualitative data contains a more complex data collection process.

Despite this particular implication, the use of a qualitative framework is found suitable for this investigation, providing the opportunity for a purpose of exploratory nature to be properly investigated. The researchers of this investigation seek to achieve the development of new theory and therefore require a framework that encourages the collection of in-depth descriptive data, rather than numeric data. Furthermore, this investigation aims to explore the motives behind transactions in regard to M-commerce and therefore requires a framework of qualitative nature in order to fully comprehend the motives behind consumer purchasing on smartphones (Saunders et al., 2009).

3.2 Research Design

When pursuing an investigation, the chosen research design contributes with creating a framework which provides a way for data collection and analysis to take place. A specific type of research design chosen has a strong impact on what is being investigated (Bryman & Bell, 2011). The influential impact created in regard to “choice of research design reflects decisions
about the priority being given to a range of dimensions of the research process” (Bryman & Bell, 2011, p.40). The range of dimensions extend from; expression of casual connections between variables; the importance of generalization; the importance of understanding behavior and the meaning behind it. Therefore, it is of utmost importance to choose a research design that aligns and prioritizes the dimensions that is coherent with what is aimed to be investigated (Bryman & Bell, 2011).

Another factor of investigation influenced by the choice of research design, is the choice of purpose (Bryman & Bell, 2011). Despite the type of purpose chosen, qualitative research design aims to explore processes (Trainor & Graue, 2014). According to Bryman and Bell (2011) a purpose can be approached from three different stances; descriptive, explanatory and exploratory. With a qualitative research design in motion, an exploratory purpose was pursued, implying that the purpose of the investigation focused on the generation of theory (Bryman & Bell, 2011).

A purpose with either a descriptive nature or an exploratory purpose is deemed suitable for qualitative research designs (Trainor & Graue, 2014). As this study seeks to explore behavioral patterns, an exploratory purpose was pursued, with a qualitative research design type of framework. An exploratory purpose is the preference of choice as the investigation has addressed concepts such as the behavior consumers have towards purchasing on smartphones, and therefore required an in-depth analysis in order to properly gain an understanding of the study. A purpose of descriptive nature could also be pursued, however, is not the preferred type of purpose as behavioral characteristics is not of focus in a descriptive nature. Furthermore, a purpose of qualitative research extends beyond description as it encompassed methods to deliver new knowledge (Trainor & Graue, 2014).

Moreover, in order to proceed with the investigation and answer the purpose, research questions were created. The research question/s of a study must not only have a degree of influence on the purpose of the investigation but also on the type of methodologies chosen when collecting data (Trainor & Graue, 2014). How the research question is formulated functions as a justification in regard to “the types of questions qualitative research best answers” (Trainor & Graue, 2014, p.268). Research questions can be formulated in order to answer a specific type of question, having formulated relevant research questions, the
researchers are able to successfully narrow down the field of research from a general sense to specific research questions (Trainor & Graue, 2014; Bryman & Bell, 2011).

3.3 Data Source

Primary and secondary data are the two different types of data sources (Bryman & Bell, 2011). Primary data can be defined as "original data collected for a specific research goal" (Hox & Boeije, 2005 p.593), meaning that it is data that has been collected primarily for a specific research problem at hand and using strategies that suit the problem best. During the collecting process of primary data, new data are combined with an already existing store of social knowledge. Focus groups are one type of primary data collection in qualitative research. A disadvantage with primary data is that it is time consuming to collect the data. Although, due to the fact that the researcher is involved in the collecting process, the risk of misusing the data or drawing unwarranted conclusions are low. The primary data and material created by researchers is later made available to reuse by other researchers, which is the concept of secondary data (Hox & Boeije, 2005).

Secondary data can be defined as “data originally collected for a different purpose and reused for another research question” (Hox & Boeije, 2005 p.593). In other words, it is data that already exists and due to this, the primary advantage of secondary data is low cost and less expensive than primary data. This type of data source allows the researcher to reanalyze already existing data that has been collected for other purposes (Cowton, 1998). Another advantage with secondary data is therefore that it is less time consuming and it allows the researcher to review background information in order to grasp the area of research (Bryman & Bell, 2011). However, the advantages of secondary data brings with it disadvantages in the sense that the researcher has not been involved in the process of gathering the data. This may lead to the researcher misusing the data and drawing unjustified conclusions. Similarly, it is a specific problem of bias in the gathered data, which indicates that the data should be evaluated carefully (Cowton, 1998).

Since this thesis aimed to explore external and internal barriers preventing consumer purchases in M-commerce, this investigation made use of primary data. Primary data gave rich and deep information which helped the researchers answer the purpose of this thesis. Furthermore, primary data was gathered in the form of a qualitative research approach through conducting
two focus groups. This was conducted due to the lack of information readily available addressing this investigation.

3.4 Research Strategy
Saunders et al., (2009) argue that there are a number of different research strategies to use; experiment, survey, case study, ethnography, cross-sectional and archival research. Each research strategy can be used for exploratory, descriptive and explanatory nature but some strategies are better suited for a deductive or an inductive approach. However, choosing a strategy is still of great importance as it facilitates or disables the researcher to answer the research question/s. Therefore, the choice of research strategy is influenced by the research question/s and the objectives. Moreover, the different research strategies should not be seen as mutually exclusive, meaning that more than one research strategy is allowed to be used. Saunders et al., (2009) suggest that a survey is a more applicable strategy for a deductive approach, experimental strategy aims to see the change between two variables and archival research involves secondary data. Along with that, ethnography is rooted firmly in an inductive approach but ethnography mainly aims to explain and describe whereas this thesis aims to explore (Saunders et al., 2009).

This investigation consists of an exploratory purpose and therefore a cross-sectional research design was chosen. A cross-sectional research strategy can be defined as the “study of a particular phenomenon (or phenomena) at a particular time” (Saunders et al., 2009). Bryman and Bell (2011) further explain a cross-sectional research strategy as a method to collect data at a particular time on more than one case. Moreover, studies employing a cross-sectional research strategy aims to gain variation which can be in terms of people, organizations or similar. This type of variation can only be established if more than one case are being investigated (Bryman & Bell, 2011). Cross-sectional research can be adopted within both quantitative and qualitative research. In regards to quantitative research, cross sectional studies may consist of surveys as the research aim to describe a phenomena, or to explain the relationship between existing factors. On the other hand, cross sectional research can also take form in qualitative methods, as interviews may be conducted over a short period of time, for example, focus groups, where the aim is rather to explore a phenomena (Saunders et al., 2009).
The strategy of a cross-sectional study in this thesis allowed for multiple advantages, for example, it was used in order to gain multiple perspectives of the topic simply by interviewing various participants in the form of focus groups which suits the purpose of this thesis. Additionally, a cross-sectional study serves as an efficient research strategy utilized for this thesis with an exploratory purpose because it provided an in-depth empirical investigation of a particular social phenomenon (Robson, 2002).

3.5 Focus Groups
The research design chosen, due to it being most suitable for this research, is qualitative. This implies that the initial stance of the investigation will be naturalistic as “the researcher seeks to collect data in naturally occurring situations and environments, as opposed to fabricated, artificial ones” (Bryman & Bell, 2011, p.44). A research paper of qualitative nature adopts data collection techniques such as observations, focus groups and interviews (Bryman & Bell, 2011; Dodd, 2018). “Distinctions between qualitative and quantitative research seem only to occur at the level of methods, and not at the level of epistemology or theoretical perspectives” (Dodd, 2018, p.12). According to Bryman and Bell (2011), focus groups are a qualitative way of collecting primary data. Focus groups can be defined as “group interview, composed of a small number of participants, facilitated by a ‘moderator’, in which the topic is defined clearly and precisely and there is a focus on enabling and recording interactive discussion between participants” (Saunders et al., 2009, p.592). It is important that the composition of the groups and the discussion are carefully planned in order to create a non-threatening environment to ensure that the participants are comfortable and feel free to talk openly and express their honest opinion. A focus group should consist of approximately six individuals and the main focus concerns exploring the selected participants perceptions and opinions about a specific phenomenon. Focus groups consist of a moderator who asks open-ended questions and it is a rather unstructured way of interviewing (Bryman & Bell, 2011). As the questions are open-ended it enables participants to discuss and explore, which in turn allows them to elaborate their answers (Calder, 1977). Moreover, probing questions can be asked by the moderator in order to guide participants through the session, also making sure that the discussion remains relevant to the topic. By creating an opportunity for probing answers, participants are able to deliver more in-depth responses which in turn contributes to rich data (Saunders et al., 2009). The potential in-depth data is obtained as participants deviate from the topic and interview questions and therefore elaborate on their own personal experience. This act has the potential to lead to new
found knowledge, which in turn may have an effect on the research questions in the investigation. With that stated, it is important to be aware of how the moderator interacts with the focus group as it will have a profound impact on the data eventually collected. Focus groups are therefore a good way to gather in-depth information as the participants not only should express their own opinions, but also to respond to questions asked by the moderator and other participants. Furthermore, this type of data collection method is time efficient as it collects rich amount of data in a small time frame (Bryman & Bell, 2011).

The data collection technique for this thesis was focus groups. Focus groups were chosen, not only because it suited the research design being qualitative, but also because of the in-depth information gained with the help of utilizing the chosen technique. Once the empirical data was collected with the aid of the above data collection technique, the researchers aimed to identity patterns, behaviors, and similar characteristics that were further used in an analysis of the data collected. As behavioral attributes were investigated, focus groups served as a convenient way to collect data from several individuals. Furthermore, it can help people to explore and clarify their views in ways that would be difficult to achieve in one-on-one interviews (Saunders et al., 2009).

The number of focus groups conducted in a study varies from case to case depending on the size of the project. Projects that are smaller on average hold two to three groups, whereas big projects can hold up to six to ten groups (Bryman & Bell, 2011). This thesis conducted two focus groups on students at Linnaeus University between the ages 18-34. The reason two groups were held was due to after two sessions the research reached a degree of theoretical saturation. Meaning, researchers of the study reached a point in the analysis of data in which no further qualitative interviews lead to any more information contributing to the research questions. In other words, after two focus groups were conducted, no new information was retrieved and added to the phenomena of the study.

3.6 Data Collection Instrument

3.6.1 Operationalization

Bryman and Bell (2011) describe operationalization as the process of transforming and deducting philosophical theories and concepts that are measurable. It is essential for the researchers to have a theoretical understanding of the subject matter before doing the operationalization in order to find measurable variables. The first step is to transform the theory into generalized concepts, which are the key concepts for the study and should illustrate what
the theory suggests. Secondly, these key concepts can then be reformulated to an operational definition where the researcher is able to get an understanding and also to measure the theories in reality. This will in turn allow the researchers to find possible measures for the variables and help to create specific questions. The process of operationalization is therefore essential for the researchers in order to gather relevant empirical information which will help the study to draw accurate conclusions (Bryman & Bell, 2011).

Conceptual definitions (refer to column 2 in Table 2.0) derived from theories were used to get an operational understanding of both the theoretical concepts and theoretical sub-concepts being investigated throughout the study. The table presents the concepts of M-commerce, external barriers and internal barriers along with their sub-concepts. The concepts were defined and the item was also stated, which presents what the researchers wanted to investigate with the aid of the focus group questions. Furthermore, an operational definition was stated in order to measure the theories in a social setting and aims to explore external and internal barriers preventing consumer purchases in M-commerce.
<table>
<thead>
<tr>
<th>Theoretical Concept</th>
<th>Definition</th>
<th>Sub concept</th>
<th>Item</th>
<th>Operational Definition</th>
<th>Question</th>
</tr>
</thead>
</table>
| Initial Questions   |            |             | Online behaviour. | To understand how participants conduct online purchases. | What device/s do you use to make actual purchases online?  
What characteristics do you find beneficial when conducting an actual online purchase? |
| M-commerce          | … as the buying and selling of goods and services through wireless handheld devices (Chong, 2013 p.523) | Interpretation of M-commerce, ubiquity, habit. | To see if participants know what M-commerce is and to understand participants prior experience with M-commerce. | What do you know about M-commerce?  
What are your previous experiences with M-commerce?  
In which context do you prefer making actual purchases on your smartphone?  
How often do you interact with M-commerce? |
<table>
<thead>
<tr>
<th><strong>External Barriers</strong></th>
<th>“External barriers can be described as factors that are beyond the users control” (Wang, Malthouse &amp; Krishnamurthi (2015))</th>
<th><strong>External barriers of M-commerce.</strong></th>
<th><strong>To see what external factors encourages/prevents the participants to proceed with M-commerce.</strong></th>
<th><strong>Why do you/do not use your smartphone to make purchases online?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Smartphone Characteristics</strong></td>
<td>Characteristics of a smartphone: interface, screen size and functionality.</td>
<td><strong>To see if participants have a positive/negative association with the characteristics of the smartphone in relation to M-commerce.</strong></td>
<td><strong>What characteristics of the smartphone prevent/encourage you to purchase online?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Internet Access</strong></td>
<td>Internet speed, accessibility, convenience/Inconvenience.</td>
<td><strong>To understand how participants are influenced by internet access in regards to M-commerce.</strong></td>
<td><strong>Devices utilize internet differently (for example smartphones w/ 4G and the use of wifi with laptops and smartphones), how does this influence your choice of utilizing a device to make an online purchase?</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Internal Barriers</strong></td>
<td>“...the level of motivation, consumers perception,”</td>
<td><strong>Internal barriers of M-commerce.</strong></td>
<td><strong>To understand what internal factors encourages/prevents the participants to</strong></td>
<td><strong>How would psychological factors encourage/hinder you to use M-commerce?</strong></td>
</tr>
</tbody>
</table>

24
trust, and the inability to adapt are all important factors to consider when addressing the internal barriers of consumer involvement with M-commerce” (Li et al., 2012; Teo, Lim, & Lai, 1999; Chong, 2013; Sun & Chi 2018; Sharif, Shao, Xiao & Saif, 2014)

<p>| Motivation | Utilitarian motivations, hedonic motivations. | To see what motivates the participants to make purchases in regard to M-commerce. | What motivates you to make an actual online purchases? What are existing motivating factors that influence your choice of device used when making an online purchase? |</p>
<table>
<thead>
<tr>
<th>Perception</th>
<th>Perceived usefulness, perceived hindrances, and perceived ease of use.</th>
<th>To get an understanding from the participants about their negative/positive perceptions of M-commerce.</th>
<th>How has your previous experiences influenced how you perceive M-commerce today? What perceived advantages and disadvantages do you feel in regard to M-commerce? What perceived advantages and disadvantages do you feel in regard to purchase online on your laptop?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>Trust in smartphone technology, trust in smartphone vendors.</td>
<td>To see how trust influences participants device of choice.</td>
<td>When purchasing on the smartphone is there a smaller degree of trust in technology compared to a laptop? If yes, why? What is your opinion in regard to saving your card details online? Is there any device/s you feel more secure about saving your card details on? What are your thoughts on the difference in providing personal details in order to complete an online purchase, on a smartphone in comparison to other devices?</td>
</tr>
</tbody>
</table>
Do you associate M-commerce with a greater degree of risk?

- If yes, why does risk prevent you from making actual purchase decisions on your smartphone?

<table>
<thead>
<tr>
<th>Inability to adapt</th>
<th>Skillfulness, adaption.</th>
</tr>
</thead>
</table>

Does skill play a role in online shopping? Elaborate.

Does an individual's ability to adapt to new technology play a role in M-commerce?
3.6.2 Focus Group Guide

Before conducting a focus group, researchers must know the theme and/or themes that they are exploring and what they aim to discuss with the participants. Since this thesis is an exploratory investigation, using focus groups, there needs to be a clear focus in order to know the direction and purpose of the discussion. Researchers started with identifying the themes of the investigation being M-commerce, external and internal barriers. Thereafter, researchers reflected the different questions related to the research topic that were incorporated into the discussion. Lastly, the different areas and topics needed to be answered in the discussion accompanied by probing questions used to follow up the responses in order to gain deeper and richer details from participants (Saunders et al., 2009).

Researchers kept in mind that the order in which the questions were posed to ensure that they were logical and that the participants fully understood the questions in a clear and structured language. The purpose of the focus group guide was to further explore and understand research themes used to identify existing relationships between them (Saunders et al., 2009).

Refer to Appendix A.

3.6.3 Pretest

Pretesting is a process used before collecting the primary data and it is important to get valuable inputs and thoughts upon the questions being used in the data collection (Bryman & Bell, 2011). The aim with pretesting is to identify potential improvements and adjustments of the interview questions, method and structure to ensure that it is of good quality and also that the questions are understandable for the participants. By doing a pretest, the researchers have the ability to gain more confidence which in turn will contribute to a greater degree of content validity (Saunders et al., 2009). Moreover, Bryman and Bell (2011) argue that by conducting a pretest with the help of potential participants and professionals within the research field, the questions of validity and reliability can be evaluated and errors that might occur can also be avoided (Bryman & Bell, 2011).

Prior to conducting the focus groups, questions were formulated and structured in an operationalization. Thereafter, a pretest of the questions, method and structure was conducted
before the actual focus groups took place. The pretest took place on the 11th of April 2018, and consisted of six participants being students from Linnaeus University between the ages 18-34. The pretesting session began by a short introduction by the moderator, thanking the participants for joining the session, informing them about their rights, and lastly asked the participants if they were familiar with the concept of M-commerce. Which was then followed by the definition of the concept. Once this was done the pretest began as the moderator lead the participants into a discussion with help of the focus group guide made prior to the pretest. The structure of the pretest was conducted in the same manner as the actual focus groups were intended. Having gone through all of the questions, participants were asked if they had any remaining thoughts or opinions that they would like to share with the group. Once this stage was completed the moderator began asking the participants questions in regard to the pretest. Here, the researchers gained insight into which questions were perceived difficult to answer due to being formulated poorly. Moreover, the participants of the pretest also gave suggestions for improving the method and structure of the focus groups. For example, participants suggested that it may be beneficial to have initial questions regarding online behavior before addressing M-commerce as it would lead to a more well-rounded discussion. The advice was taken into consideration and two initial questions were added to the operationalization and focus group guide with the purpose to understand how participants conduct online purchases (refer to table 2.0 & appendix A). The operationalization also gained an extra column titled “items” used as a checklist for the researchers when conducting the two actual focus groups (refer to table 2.0). After the adjustments were made to the questions asked in the pretest, the questions were sent to the tutor of this thesis for professional insight. Thereafter, two more focus groups were conducted with a clearer structure and more focused questions.

3.7 Sampling

Knowing who to target in research, regardless of the research approach, is important. Researchers must in unison agree on which particular population of people, items, or objects they are interested in. However, due to time and cost constraints it is impossible to measure a targeted population as a whole, so a sample is selected and used. This sample must act as a representation to the relevant population (Bryman & Bell, 2011).

The choice of sampling method is highly influenced by the choice of research design and the nature of the purpose for the investigation (Bryman & Bell, 2011). One can approach sampling from two different methods, one being probability sampling and the other being non-probability
sampling. As this investigation was structured from a qualitative research design, consisting with a purpose of exploratory nature, the sampling method of choice found most suitable was non-probability sampling. Non-probability sampling can be defined as a sampling situation that “provides a range of alternative techniques to select samples based on your subjective judgement” (Saunders et al., 2009, p.233). In regard to an investigation of exploratory nature, non-probability sampling may be most effective however, it is difficult to answer objectives that require statistical inferences about the population of that being sampled (Saunders et al., 2009). However, this was not a hinder for this particular thesis as it did not seek out to investigate the existing statistical inferences and therefore it can be determined that the act of adopting the non–probability method was most suitable. Moreover, sampling techniques that fall under the umbrella of non-probability sampling include, quota sampling, snowball sampling, self–selection sampling and convenience sampling (Saunders et al., 2009; Bryman & Bell, 2011).

3.7.1 Sampling Frame and Sample Selection

According to Bryman and Bell (2011) a sampling frame can be defined as the “listing of all units in the population from which a sample is selected” (Bryman & Bell, 2011, p.176). When generating a sampling frame there are aspects that need to be closely monitored and considered. For example, it is important to determine the most adequate sampling frame as researchers Bryman and Bell (2011) state that “if the sampling frame is not comprehensive or is inaccurate or suffers from some other kind of similar deficiency, the sample that is derived cannot represent the population” (Bryman & Bell, 2011, p.177).

According to a study investigating the “Swedish mobile consumer habits in the height of the smartphone era” conducted by Deloitte (2016), Swedish people tend to be extremely tech-savvy with their smartphones when viewed from an international viewpoint. Almost all Swedes are active smartphone users, but the study further suggests that the younger generation, aging from 18-34, use their phone more than the older generation who ages are between ages 35-55+ (Deloitte, 2016). This thesis resulted in sampling individuals between the ages 18-34. The chosen participant’s occupation were students of Linnaeus University and were chosen due to convenience sampling. Convenience sampling chooses participants at random due to availability (Saunders et al., 2009). Thus, resulting in the formation of two focus groups, where focus group 1 consisted of five participants between the ages of 18-34 and focus group 2 consisted of seven participants between the ages of 18-34. By sampling individuals between
the ages 18-34, who are considered the most active smartphone users, the study gained a greater sense of trustworthiness and authenticity.

3.8 Execution of Focus Groups

Once the pretest was conducted and alterations were made, the researchers of this study were able to proceed with conducting the two focus groups. The two focus groups were conducted on separate occasions being the 17th of April 2018 and the 18th of April 2018, in a classroom, familiar to participants, at Linnaeus University. The focus groups were conducted in the same manner, implying that there were no apparent differences found in the formation of the focus groups. Once all participants were present, the introduction phase of the focus group began. Here, the moderator and the two researchers welcomed the participants and thanked them for participating. Thereafter, the moderator informed the participants of their existing rights in regard to participating in the focus group, the aim of the study, and how the findings were going to be used and also making sure that all participants were in agreement about being recorded on a voice recorder. Lastly, the participants were asked whether they were familiar with the concept of M-commerce. The discussion phase then took place, two researchers took notes as the moderator asked the participants the two initial questions in regards to online behavior (refer to table 2.0 & appendix A). This was done in order to create a transition to M-commerce and to understand how participants conduct online purchases. With the progression of the focus groups, probing questions were presented with the intent to encourage participants to talk about and discuss personal opinions and feelings in regard to M-commerce and also to evoke critical thinking. Furthermore, the moderator guided the discussion between participants by asking questions within the research topic. When the participants became distracted, the moderator guided them back to the discussion.

Similar probing questions were used during both focus groups as the moderator found themselves in a similar situation and felt that it was natural enough to ask the same questions. Participants successfully expressed their opinions, feelings, and critical thinking to an extent that a sense of full understanding toward M-commerce was gained. More specifically, the probing questions concerned the concept of M-commerce and the association with external and internal barriers. Furthermore, the moderator found themselves encouraging critical thinking in situations where participants did not elaborate themselves. This was done by asking “why” based questions. To understand the consumer and his/her/their interaction with M-commerce
was the essential aim of the focus groups. Thus, the participant’s opinions, feelings, and answers derived from critical thinking was always of focus.

3.9 Data Analysis Method

As previously stated, this research investigation contained a qualitative framework, thus, the data collected was not quantifiable. In other words, the empirical data collected did not focus on the numeric but rather on the collection of descriptive data, as qualitative data is “based on meanings expressed through words” (Saunders et al., 2009, p.482). Saunders et al. (2009) state that qualitative data serve some implications, especially during the analysis period. These implications concern the immense and somewhat complicated nature of the data collected. Therefore, in order to more efficiently present the data collected organization is crucial. Examples of the act of organizing data can data that is “condensed (summarized), grouped (categorized) or restructured” (Saunders et al., 2009, p.282) in a manner that supports a well-developed analysis (Saunders et al., 2009).

3.9.1 Transcribing

Non-standardized interviews, which fall under qualitative research, are typically audio-recorded so that they can later be transcribed. Transcribing is the process of reproducing the audio-recording in a written format using the actual words and phrases from the interviews. Transcribing aims to entail the exact words said in the interviews and by whom, and includes the tone in which the participants communicated in. Researchers must be specific in terms of the context surrounding the non-verbal communication, stressing that researchers must also pay attention to the contextual understanding surrounding the interview (Saunders et al., 2009).

Transcribing is a time-consuming task, and it is recommended that transcribing should be done as quickly as possible after an interview takes place. This is to eliminate a build-up of audio-recordings and allows researchers to remember the emotional reactions and the specific behavioral traits displayed by the participants. To avoid possible transcription error, researchers must clearly distinguish between the participant and researcher in the audio-recording (Saunders et al., 2009). Therefore, researchers of this thesis clearly identified themselves at the beginning of the focus group. For the focus groups of this study, researchers also clearly stated each question they were asking, so that it was easy to distinguish between questions, making it clear which answers went under which question to avoid confusion. Each focus group was recorded using a voice recorder with the consent of the participants involved. This allowed
researchers to thoroughly write down the exact words said by the researchers and participants. Shortly after the focus groups were conducted, the researchers of this paper began the process of transcribing on the 22nd of April, 2018. The process took place in a quiet room at the Linnaeus University library and took a total of 6 hours. Once transcribed, the process of coding took place.

*Transcriptions for this thesis are available upon request.*

### 3.9.2 Grounded Theory

In 1967 sociologists Barney Glaser and Anselm Strauss developed grounded theory as a means of analyzing qualitative research which aims to discover theory emerging from data. The main strategy, and the strategy that was used in this thesis, is the general method of comparative analysis. Through the use of this method, researchers were able to compare different facts and insights across cases in order to distinguish differences and pinpoint similarities. These ultimately helped with the discovery of generalizability of the research concept. Researchers compared previous literature existing in the field, which either resulted in supporting insights or differing conclusions, and each case helped with providing clarity on the research topic (Johnson, 2015).

Researcher Johnson (2015) also stresses the important role the researcher holds in the interpretation of data. Researchers must be aware of the concept of theoretical sensitivity, which is the ability researchers have in understanding meaning. Meaning is influenced by factors such as personality and experience. Thus, the meaning of the results retrieved from grounded theory are not only predicated by the participants of the study but also by the researchers themselves (Johnson, 2015).

### 3.9.2.1 Coding

Data analysis in grounded theory is conceptualized into different coding steps conducted on the data collected. The first step of coding is referred to as open coding (Johnson, 2015). Open coding is the process of "assigning meaningful quotations to a high-level major category of information" (Johnson, 2015, p. 263). The theories of M-commerce, external barriers and internal barriers worked as a framework for the researchers in the process of coding. Researchers in this investigation started with carefully reading all of the data several times in order to make sense of the information, and then created labels *(refer to table 4.0)* that
efficiently summarized meaning emerging from the data. The second step, axial coding, is when "the open codes are analyzed to uncover the core phenomenon as well as the categories around the core phenomenon such as categories that influence the central phenomenon" (Johnson, 2015 p.263). Here, researchers identified open codes (refer to appendix B & C). Lastly, selective coding, is “the process by which all categories are unified around a “core” category, and categories that need further explication are filled-in with descriptive detail’ (Johnson, 2015 p.263). In this stage, researchers further reinforced the core variable of M-commerce, encompassed all of the data collected. After this, researchers re-read the data collected again to selectively code data that correlated to the core concept. Through the use of selective coding, researchers were provided with the necessary integration in connecting the different axial codes and creating a theory, using their pre-understanding of the topic (Johnson, 2015; Bryman & Bell, 2011; Saunders et al., 2009).

3.10 Quality Criteria
In order to ensure quality of research, it is important to take reliability and validity into consideration. Reliability demonstrates whether the results of a study are repeatable, meaning that it shows the stability of the measurement instrument. On the other hand, validity indicates whether the research is measuring what it intends to measure (Bryman & Bell, 2011; Malhotra, 2010). In regard to qualitative studies, reliability and validity can be divided into two categories; internal and external. Internal reliability states that if there is more than one observer in the study they must agree over what they see and hear when translating the data. This was done through the researchers of this thesis being in agreeance when translating the data. External reliability, on the other hand, is concerned with the degree to which the study can be replicated. Since qualitative research is based off of more in-depth interviews to gain a deeper contextual understanding, external reliability in qualitative research is more difficult. However, researchers of this thesis thoroughly wrote down how the study was conducted step by step in chapter 3.0 order to ensure that future researchers can replicate it. Internal validity in qualitative research is concerned if whether or not the measurement instrument measures what it is intended to. The degree to which the results can be generalized is the concept of external validity. However, since these concepts are harder to use in qualitative research, trustworthiness and authenticity are two other alternatives of quality criteria (Bryman & Bell, 2011). These two concepts were actively pursued in order to ensure a high level of quality in regard to the data collected for this thesis.
3.10.1 Trustworthiness

Trustworthiness is a criteria of qualitative research that can be defined as a “set of criteria advocated by some writers for assessing the quality of qualitative research” (Bryman & Bell, 2011, p. 720). In order to understand the criterion of trustworthiness, one may say that it can be divided into four sub-criteria; credibility, transferability, dependability and confirmability. Credibility is a trustworthiness criterion that concerns the importance of social reality and the level of credibility of findings. Thus ensuring that the research is pursued in a decent manner and that the social world has been understood in regards to the researcher (Bryman & Bell, 2011). Transferability is the second criterion of trustworthiness and entails investigating the “contextual uniqueness and significance of the aspect of the social world” (Bryman & Bell, 2011, p. 398). Furthermore, in order to properly address the social world in regard to transferability, one should take into consideration the use of thick data, being in depth data concerning details of culture. Thick data contributes to transferability by creating “a database for making judgements about the possible transferability of findings” (Bryman & Bell, 2011, p. 398). Thirdly, dependability is another criterion of trustworthiness and concerns the act of adopting an auditing approach, implying that entire records are preserved of every stage of the research process. Once having preserved records of every stage of the research process peers take on the role of auditors, establishing to the extent “how far proper procedures are being and have been followed” (Bryman & Bell, 2011, p. 398). Moreover auditing is not seen as a persuasive approach to validation as qualitative research generally produces large datasets (Bryman & Bell, 2011). Confirmability is the final criterion of trustworthiness and entails the insurance that researcher’s personal values or theoretical inclinations are not intervened in the research or the findings. This is one of the main tasks for auditors (Bryman & Bell, 2011).

Along with this, both researchers and moderator of this thesis made sure to remain objective throughout the conduction of the two focus groups, as being bias could harm the results. Thus implying that there were no efforts in trying to persuade the participants and the findings. This was done by the moderator avoiding to influence with his personal opinions, feelings and beliefs during their interaction with the participants of the focus groups.
3.10.2 Authenticity

Authenticity is an alternative criterion for reliability and validity in qualitative research. Bryman and Bell (2011) suggest that authenticity is a quality criteria in qualitative research and a question that is associated with authenticity is whether the evidence is “genuine and of unquestionable origin?” (p.545). Authenticity can be divided into five sub criteria. These criteria “raise a wider set of issues concerning the wider political impact of research” (Bryman & Bell, 2011, p. 398).

Fairness is the first criteria for authenticity and appoints if the researcher fairly serves different viewpoints among the participants in the setting. The second criteria is the ontological authenticity, which ensures that the researchers try to help the participants to gain a better understanding of their social environment. Educative authenticity is the third criteria, and suggests that the researcher/s should encourage participants to acknowledge the different perspectives of the other participants in the social setting. Along with that, catalytic authenticity is the fourth criteria and refers to if the researcher/s have acted as motivation to the participants helping them engage and make their circumstances different. Lastly, tactical authenticity seeks to see if the research “empower members to take the steps necessary for engaging in action” (Bryman & Bell, 2011, p. 399).

This was a present value throughout the discussion phase of the focus groups as participants were informed that everyone's opinion mattered and that there are no right or wrong answers as it is all based on previous personal experiences, thus demonstrating the use of fairness. Furthermore, the researchers of this study gained a greater contextual understanding of M-commerce and so did the participants, which demonstrates ontological authenticity. Moreover, this also demonstrated the effect of educative authenticity as researchers and participants gained new found knowledge.

3.11 Ethical considerations in research

Bryman and Bell (2011) state that researchers must be fully aware of the context around what they are investigating and of the different ethical considerations before conducting their data collection. Researches must ensure that (1) there is no harm to participants (2) participants are fully informed and have consented to the investigation (3) there is no invasion of privacy and lastly, (4) no fraudulent activity is involved (Bryman & Bell, 2011).
This thesis conducted two focus groups to gather primary data in order to explore the external and internal barriers preventing consumer purchases in M-commerce. Researchers took measures to ensure high ethical standards in order to overcome unethical implications in the research. Firstly, this study ensured that there was no harm to participants through placing the participants in a familiar and comfortable environment. Participants were also fully informed around the premise of the investigation and researchers asked if the use of a voice recorder was okay. Thereafter, participants were made aware that they were allowed to refuse to participate in the study and also informed that they had the rights to access the results of the study and were allowed to leave the focus group at any time. Since this paper aimed to investigate consumers and their behavior, researchers were aware of not posing any questions that may have been harmful to participants and their self-esteem, through being careful in not posing questions which would invade their privacy. Privacy was additionally upheld as researchers ensured that the data recorded was held anonymous. Lastly, researchers clearly stated the purpose of the investigation and only investigated what they intended to in order to ensure that no fraud or deception was involved.
3.12 Chapter Summary of Methodology

The table below presents the subchapters present in the methodology chapter of this thesis, along with a presentation of the chosen path.

Table 3.0 Summary of the methodology chapter (owned by authors, 2018)

<table>
<thead>
<tr>
<th>Methodology subchapters</th>
<th>Presentation of chosen path</th>
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</thead>
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<tr>
<td>Research Approach</td>
<td>Abductive research approach Qualitative research</td>
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<td></td>
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<tr>
<td>Research Design</td>
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<tr>
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<td>Research Strategy</td>
<td>Cross-sectional strategy</td>
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<tr>
<td>Data Collection Method</td>
<td>Focus groups</td>
</tr>
<tr>
<td>Data Collection Instrument</td>
<td>Sampling: Non - probability Convenience sampling: Students of Linnaeus University 18-34 years old.</td>
</tr>
<tr>
<td>Data Analysis Method</td>
<td>Transcribing (available upon request) Open Coding: Creation of labels Axial Coding: Creation of categories Selective Coding: Reinforce the core variables of M-commerce</td>
</tr>
<tr>
<td>Quality Criteria</td>
<td>Validity - (Internal &amp; External) Reliability - (Internal &amp; External) Trustworthiness - (Credibility, transferability, dependability and confirmability) Authenticity - (Fairness, ontological authenticity, educative authenticity, catalytic authenticity and tactical authenticity)</td>
</tr>
<tr>
<td>Ethics in Research</td>
<td>1. No harm to participants 2. Full consent 3. No invasion of privacy 4. No fraudulent activity</td>
</tr>
</tbody>
</table>
4. Empirical Investigation

The collected empirical data is presented in this chapter, and is structured by first presenting the focus group and its participants. This is followed by the findings of participants experience with M-commerce, participant’s frequency of M-commerce usage and the external /internal pros and cons with M-commerce. All the data is divided into either focus group 1 or 2. A category summary is also presented as a table, showing how the headings were created from the data collected. Additionally, a chapter summary is included at the end of the chapter in the form of a table, presenting the main concepts and its key findings.

4.1 Focus groups

Two focus groups were conducted in the same manner. The first focus group (1) was conducted on the 17th of April, 2018 and consisted of 7 participants; participant 1(1), participant 2(1), participant 3(1), participant 4(1), participant 5(1), participant 6(1) and participant 7(1). Each participant were between the ages 18-34 and students at Linnaeus University. The second focus group (2) was conducted a day later on the 18th of April, 2018 and consisted of 4 participants; participant 1(2), participant 2(2), participant 3(2), participant 4(2), between the ages 18-34 at the same university.

Before the moderator started to ask the focus groups questions (refer to appendix A), two initial questions were asked to get an understanding over the participant’s online behavior and how they conduct online purchases. Implying which device they preferred using when purchasing products or services online. The majority of participants said that their first choice of which device to use when conducting online purchases was on the computer. Thereafter, a question aimed to get an understanding of the participants and their online behavior, the moderator asked what characteristics participants find beneficial when conducting an online purchase. The majority of participants said that purchasing products and services online is convenient, easy, and quick. Participants also agreed that purchasing online saves time and is relatively effortless. Moreover, the moderator asked a probing question about what the participants used their smartphones for today to get a clearer understanding of what they associate their smartphone with. The majority of the participants answered that they use their smartphone for communication in the sense of messaging apps. They also use their phones for entertainment in the sense of social media and music. After these questions were asked, questions about the concept of M-commerce was introduced.
4.2 Experiences with M-commerce

Focus Group 1

After the initial questions were presented and answered, participants were asked to state their prior knowledge surrounding M-commerce. Participant 6(1), 2(1), and 1(1) said that they had no prior knowledge of the concept, and others agreed. A common concern among participants was the confusion over the difference between E-commerce and M-commerce. However, after the moderator defined the concept, participants started to elaborate on their knowledge. Participant 4(1) stated that through buying train tickets and bus tickets it is a beneficial tool as it is always beneficial to have the tickets easily accessible in your phone. Participant 3(1) agreed, and stated that M-commerce is beneficial since everything that can be bought online can also be bought on the smartphone.

“I know that you can basically buy everything online that you can buy on your phone” - Participant 3(1)

The discussion continued in the focus group as the moderator posed the question of their previous experiences in M-commerce. The focus group answers leaned towards M-commerce revolving around clothing and buying clothes online. However, majority of participants also agreed that their main experiences with purchases on the smartphone was purchasing tickets. For example, Participant 3(1) stated that they buy train tickets and bus tickets along with nightclub tickets. Participant 1(1) said that Uber and other services were often used from the phone. However, the overall dispute over whether or not to use the smartphone for purchasing experiences in the past has to do with how well developed the app is for the service.

“I usually buy train tickets through the phone” - Participant 3(1)

Focus Group 2

In focus group 2 participants were asked about the concept of M-commerce. Participant 1(2), 2(2) and 3(2) were not familiar with the concept of M-commerce. In the focus group, the moderator defined the concept, and thereafter posed a probing question about the first thing that came to mind when the participants thought of M-commerce. Immediately, participant 2(2) said they thought of Zalando and further stated that they thought of online shopping, Participant 1(2) mentioned that they thought of apps that need to be paid for, for example Facetune. Through
the responses stated by participants in focus group 2, it can be seen that the majority of the participants associated online fashion brands with M-commerce.

“Online shopping, like Zalando” - Participant 2(2)

“Or the apps that you have to purchase, for example Facetune” - Participant 1(2)

Furthermore, the discussion continued as Participant 2(2) stated that they do not have a lot of experience with M-commerce purchases as they usually use the computer when making online purchases. Participant 3(2) stated that they would only purchase on the smartphone if the app was well developed or if the web pages are well adjusted to the smartphone, otherwise they would also use the computer like Participant 2(2). Participant 1(2) further reinforced what Participant 3(2) said and stated that they once bought from the Zara.com app, and had a negative experience. The experience involved a delay in shipment due to using the app instead of the computer, therefore after that experience they only used the computer to make purchases online. Participant 4(2) agreed with this, and mentioned that buying products or services on the smartphone is a lot harder in comparison to the computer, and therefore only uses the computer. Conversely, participants agreed that using the smartphone for purchases is advantageous for pre-purchasing activities. For example, when they sit on the bus and browse on fashion retail sites, the amount of information on these websites hinders to purchase through the smartphone. Instead, they put the products or services they like in their online “cart” and complete the purchase when they use their computer. Moreover, all participants in focus group 2 mentioned that their experiences when using M-commerce has been somewhat beneficial because of the ability to make quick purchases daily. These purchases can be made effortlessly because of the Mobile BankID and Swish app.

“Since you ordered it on the app, we have not developed the app so it was so much struggle and took one and a half week extra, because I bought it on the app” - Participant 1(2)

4.3 Frequency of M-commerce usage

Focus Group 1

Participants were asked how often they interact with M-commerce, meaning, how many times a day, week, or month they purchases goods and services online. Participant 1(1) stated that it depends on the time of year. For example, around Christmas and New Years they do a lot of
purchases per week, but other times of the year not so much, the rest of the participants were in agreement with this. Participant 2(1) also stated that purchases are often conducted two times a week if not more. The remaining participants agreed with Participant 1(1) and Participant 2(2).

“It also depends on what time of year. For example around Christmas and New Years or whenever, I do a lot of purchases all times a week. But when it is around a normal time or whatever, I do it every 10 days or something like that” - Participant 1(1)

Focus Group 2
In the second focus group, a question regarding how frequent one interacts with M-commerce was asked. Participant 4(2) began the discussion by stating that it depends on how many times they go out per week and how many times they take the train home. Participant 1(2) said that they do it around 15-20 times a month as they always take the bus to work therefore having to purchase a bus ticket on their smartphone. Along with that, Participant 2(2) also said that on average they purchase products or services online around 15-20 times a month. However, Participant 3(2) stated that they purchase online between 2-3 times a month but that the money is the dominating factor.

“Maybe around, 15 times, maybe 20 times, since I use the, I like, go to the work, I take the bus, and then I pay for the ticket every time” - Participant 1(2)

4.4 External Pros and Cons with M-commerce
4.4.1 Smartphone Features
Focus Group 1
In the first focus group, the majority of participants stated that encouraging factors in using the phone was due to it being quick, easy, and convenient. Participant 2(1) further elaborated that it is quick as they can skip the line, Participant 6(1) and Participant 7(1) agreed with this statement. Furthermore, Participant 2(1) said that having a credit card already connected to the phone is more time efficient, and making a quick and easy purchase. However, they also mentioned the downside to purchasing on smartphones. One disadvantage was due to a lack of details visible on the phone in comparison to a computer and the significantly smaller screen size. Participant 1(1) stated that using the smartphone when making reservations online was easier, because if there is a problem one can easily click the phone number and call the place
right away. It is therefore more annoying to use the computer as you have to re-type the number on your phone.

“I always have my computer with me, and it has a bigger screen” - Participant 2(1)

“If you maybe book a table at a restaurant or something, you can do it through an online forum. But if you have a problem with it it is often very easy because most of the web pages have like a special button where it is like oh call me, then you can call directly. So it's not like you need to retype it from your computer. So I do bookings on my phone as well, because if I need to contact them I can easily do this.” - Participant 1(1)

Focus Group 2
When the moderator asked focus group 2 about smartphone features and its disadvantages and advantages, participant 2(2) stated that the process of downloading an app or becoming a member on an app is a hindrance for purchasing on their phone. They also stated that due to a small screen size makes the purchase more unappealing. Participant 4(2) stated that having a membership on the computer one is always logged in, whereas on the phone they need to log in every time. Therefore, laziness prevents them from using their phone, Participant 3(2) agreed. The moderator thereafter asked a probing question in regard to what encourages participants to use their smartphone. Participant 2(2) stated that when they see an ad on Instagram, they can click on it easily because they think it is interesting. Participant 3(2) agreed, and stated that if they wanted to do a purchase immediately it is easier to use the phone. They also correlated back to the concept of laziness, and stated that if the computer was too far away, they use their smartphone. Participant 2(2) stated the disadvantage of a smartphone having small text and the problem of zooming.

“Usually that I need to download an app, that hinders me. Or becoming a member” - Participant 2(2)

“If you have a membership or something on the computer, you are always logged in, but on the phone you have to do it all over again and that takes extra time, laziness” - Participant 4(2)

“I think that's why I use the computer maybe, because sometimes you need to, you want to see what material it is and then you need to zoom in on the small screen” - Participant 2(2)
4.4.2 Internet Connection

Focus Group 1
The moderator started the discussion about network connection by mentioning that the usage of internet differs between devices. For example, smartphones typically use 4G and laptops typically use a wifi connection. The moderator after asked how this influences the choice of utilizing a device to make an online purchase. Participant 7(1) stated that when they are on-the-go or travelling they think it is a hassle to bring up their computer because there is no internet. Participant 4(1) followed up on this question and stated that even if they did use their computer they would need a hotspot therefore, they use their smartphone anyways. Other participants agreed in stating that that is why the smartphone is very convenient. Participant 6(1) continued on the topic of network connection by stating a counter response, expressing that if they experience a weak internet connection that they will just postpone the purchase rather than turn to the smartphone.

“If you are on the way and you buy like a ticket or train ticket you can’t bring up your computer because you don’t have internet” - Participant 7(1)

“If I am going to buy something but the internet connection is bad, I might just postpone the process of the purchase. Because then I will buy it later unless” - Participant 6(1)

Focus Group 2
When the moderator brought forth the topic of network connection, participants stated that they do not think about internet being a big influencing factor over what device they use. However, Participant 1(2) stated that if the smartphone uses 3G it is slower, and reinforced the concept that if the internet is slow on the smartphone, they will postpone their purchase. Participant 2(2) agreed with Participant 1(2) and stated that if they would conduct a purchase on the computer while on-the-go they would need to use a hotspot. Since wifi is available everywhere today, Participant 4(2) stated that due to that reason, the use of the computer has increased. The majority of the participant therefore stated that they would rather wait and use their computer when there was internet access as opposed to using their phone.
“If I wanted to conduct a purchase on my computer and I would have to share the Internet with my phone, then I would not have done it I think. I would have waited until I have wifi” - Participant 2(2)

4.5 Internal Pros and Cons with M-commerce

4.5.1 Motivations, Perception and Trust

Focus Group 1

In terms of psychological factors encouraging or preventing the use of M-commerce, participants in focus group 1 stated that it was very addictive, as using the phone, one can become highly obsessed. Participant 2(1) mentioned that when purchasing on the smartphone, money does not feel like money, therefore their perception of value is altered. This was a mutual agreement with the rest of the participants in focus group 1.

“It’s easier, or like the money doesn’t feel like money” - Participant 2(1)

The moderator posed the question of whether or not there is a smaller degree of trust in the smartphone compared to a computer. Participants of focus group 1 agreed that both the smartphone and computer were untrustworthy in terms of saving their bank details online. More specifically, Participant 6(1) stated that using valid bank applications such as PayPal felt more trustworthy. Participant 4(1) said that they trust the website, but is afraid of a third party member to hack the account and retrieve their details. Participant 2(1) stated that saving card details on an app feels safer than on a webpage and is often dependent on how frequently they purchase from a particular page. Participant 4(1) stated that with subscriptions they are skeptical because the company they are purchasing from might take their money straight from their account because of the risk that they forget to unsubscribe; and the webpage still have their details. Participant 2(1) also stated that by using online channels they can be exposed to fake websites selling fake products, which ultimately makes sites steal money.

“I would rather use like PayPal or something like that over leaving my card details, definitely. Because yeah, PayPal is like secured and I trust it” - Participant 6(1).

A probing question was asked by the moderator to see the difference in shopping online in comparison to traditional shopping. Participants in focus group 1 said that it felt safer to go to an offline store and buy the products as they get the product or service right away. Participant
6(1) further mentioned that there is a lesser degree of trust online because they do not know if they are communicating with a person or a robot, when they have problems with their product, whereas in a store they communicate with a real person. The remaining participants were in mutual agreement with the previous statement.

“Yeah but in the store you have a physical person to come back to and to complain to, and online it is just a robot basically” - Participant 6(1)

Focus Group 2
Furthermore, when addressing psychological factors encouraging or preventing the use of M-commerce, focus group 2 participants began by stating that they also do not see money as actual money, making it easier to spend carelessly. The moderator asked the question concerning how their previous experiences has influenced the way they perceive M-commerce today. Participant 1(2) stated that with their previous experience in the Zara.com app, it made them feel like they could not trust the smartphone and therefore they only purchase products like clothing on the computer. Participant 3(2) continued by saying that they try to shop on their smartphone but it usually leads to them being forced to sign up to membership pages, making the process more difficult. The majority of participants further stated that previous experiences with purchasing online through M-commerce is overall more complicated, and therefore they are more prone to use the computer.

“I think I tried to like shop on my phone, but it wanted me to fill in a lot of things, or like sending email when I need to become a member, and then when it is like becomes more complicated, then I want to use the computer.” - Participant 3(2)

Moreover, questions regarding the degree of trust participants associated with M-commerce were asked, by asking how they think about saving card details online were asked. Participant 2(2), Participant 3(2) and Participant 4(2) in focus group 2 stated that entering card details online, regardless of device, felt equally unsafe. Moreover, Participant 3(2) stated that the trust of saving the card details online increases if a bank application like Klarna or Swish is available. Questions regarding the trustworthiness in providing personal details in order to complete an online purchase on a smartphone in comparison to other devices was asked. Participant 3(2) stated that it does not feel unsafe to save personal details online, however, it is harder to fill everything on the smartphone because of the smaller screen. On the computer, however, this
process is much faster. On the other hand, Participant 1(2) stated that it feels safer on the phone, because they do not surf as much on their phone as on the computer.

“If swish is available or Klarna for example, it enhances me to conduct the purchase...” - Participant 3(2)

In focus group 2, probing question about the risk associated with M-commerce in comparison to traditional shopping. Participant 1(2) stated that clothing pieces can be tried on before purchase, decreasing the risk in returning the clothes. If the clothes are bought online, however, the risk of laziness might prevent them from returning clothes that do not fit. This was something that Participant 3(2) also agreed with. Participant 4(2) reinforced by stating that it has more to do with the reputation of the actual store rather than it being an online store. The remaining participants agreed that waiting for the money to return after returning clothes online can take a long time thus, preventing them from returning the clothes.

“It doesn’t have to do that it is online, it is more what store it is” - Participant 4(2)

4.5.2 The Problem of Adaptation with M-commerce

Focus Group 1

The moderator posed the questions of the difficulties in purchasing online, and if skill plays a role. Participant 4(1) stated that one needs to learn the skill to navigate online and also have experience in ordering online in order to fully successful M-commerce experience within retail. Without the skill to shop online, the Participant 4(1) believed that traditional shopping would be pursued instead. The moderator further asked if an individual's inability to adapt in technology plays a role in M-commerce. In focus group 1, Participant 6(1) stated that that question is only relevant for an older generation and their inability to know how M-commerce works. Participant 2(1) also stated that the question is relevant in terms of some consumers being too young to purchase online. Participants agreed but also stated that skill plays an overall role in M-commerce and an individual's ability to navigate online.

“You need to learn the skills to shop online I feel. Especially when it comes to the size of clothes or shoes, there are some skills. And I don’t think it is easy. For example, if it doesn’t fit I would rather go to the shop and try it on.” - Participant 4(1)
Focus Group 2
In focus group 2, the same question about skill and its importance when purchasing online was asked. All the participants agreed that skill was an important factor in order to purchase products and services, and an individual's inability to adapt also plays a role. More specifically Participant 4(2) expressed that one's level of skill is dependent on the device they are used to utilize. Participant 1(2) further argues that when going into websites like Nelly.com or Zalando.com they know how to navigate across the page more and are fast on these websites. They later compared this to how their grandma, on the other hand, cannot navigate fast, correlating the question back to the problem of age in terms of skills. Participant 2(2) filled in and stated that they also think skills in online shopping depends on age and the generation between 18-34 are more capable. And lastly, Participant 3(2) stated that they do not think that conducting an actual purchase requires skills, for example typing in card details. They continued with stating that they thought that the older generation use bills instead when paying for something they bought online.

“I think if you use your computer more, and have more skills in doing things fast on the computer, you use your computer. But, if you are faster using your phone, you purchase on your phone. I’m faster on my computer so therefore, I purchase on my computer. But some people are fast on their phone and, so then they use their phone instead.” - Participant 4(2)
4.6 Category Summary

The table below presents three columns; selective coding, axial coding and open coding. The selective codes were extracted from the axial codes which were created from the open codes. Lastly, the existing open codes were taken from the data collected from the two focus groups (refer to appendix B & C).

Table 4.0 Category Summary (owned by authors, 2018)

<table>
<thead>
<tr>
<th>Selective coding</th>
<th>Axial Coding</th>
<th>Open coding</th>
</tr>
</thead>
</table>
| Experience with M-commerce | • Online activities  
• Smartphone usage  
• Purchasing habits  
• Convenient purchases | M-commerce, E-commerce, train tickets, bus tickets, accessibility, beneficial, easy, quick, smartphone, services, app, Zalando.com, online shopping, online fashion brands, Facetune, purchasing, under developed web pages, Zara.com, computer, complicated, shopping cart, pre-purchasing activities, researching, mobile BankID, Swish, effortless, Uber, development, password |
| Frequency of M-commerce Usage | • Time of year  
• Regular purchases  
• Habitual purchases | Christmas, New Years, tickets, payment, products, services, money, transaction |
| External Pros and Cons with M-commerce | As stated below between chapters 4.4.1 - 4.4.2 |
| Smartphone Features | • Smartphone characteristics  
• Smartphone usage  
• Smartphone experience  
• Inconvenient features | Quick, easy, convenient, credit card, time efficient, details, smaller screen size, reservations, phone number, calling, computer, bigger screen, special buttons, bookings, smartphone features, downloading, app, membership, purchasing, unappealing, smartphone, laziness, small text, zooming |
| Internet Connection | • Internet availability  
• Internet options | 4G, 3G, wifi, internet, hotspot, slow, on-the-go, convenience, network, connection, fast, weak internet, direct, quick, easy, postpone, access |
| Internal Pros and Cons with M-commerce | As stated below between chapters 4.5.1 - 4.5.2 |
| Motivation, Perception, and Trust | • Risky payments  
• Lack of trust  
• Bank applications  
• Smartphone activities | Psychological, addictive, money, perception, value, untrustworthy, saving, bank details, personal details, PayPal, Klarna, trustworthy, afraid, nervous, skeptical, security, subscription, steal, hacked, robot, careless, Zara.com, membership, difficult, complicated, card details, card number, Swish, smaller screen, risk, laziness, reputation |
| --- | --- | --- |
| The Problem of Adaption of M-commerce | • Problem of generation  
• Problem of navigation  
• Skillfulness | Skill, navigate, inability, adapt, technology, generation, websites, Nelly.com, Zalando.com, capability, card details, bills, online shopping |
4.7 Chapter Summary of Empirical Investigation

This chapter summary consists of a presentation of the key findings derived from the data collection in relation to the concepts found in the empirical investigation.

Table 5.0 Chapter summary (owned by authors, 2018)

<table>
<thead>
<tr>
<th>Concepts</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5.1 Focus Groups</strong></td>
<td>• Participants tend to use the computer when conducting online purchases.</td>
</tr>
<tr>
<td></td>
<td>• Benefits with online purchases is that it is; quick, easy, and convenient.</td>
</tr>
<tr>
<td></td>
<td>• Smartphone usage is for communication and entertainment.</td>
</tr>
<tr>
<td><strong>5.2 Experiences with M-commerce</strong></td>
<td>• Participants tend to buy tickets such as, train and bus tickets, on the smartphone.</td>
</tr>
<tr>
<td></td>
<td>• Uber and other services are commonly purchased on the smartphone.</td>
</tr>
<tr>
<td></td>
<td>• Purchases on the smartphone are seen as quick and easy.</td>
</tr>
<tr>
<td></td>
<td>• The use of M-commerce depends on how well developed the app is and/or how well the webpage is adapted to the smartphone.</td>
</tr>
<tr>
<td></td>
<td>• Buying products and services on the smartphone is a lot harder in comparison to the computer.</td>
</tr>
<tr>
<td></td>
<td>• Pre-purchasing decisions are most commonly conducted on the smartphone.</td>
</tr>
<tr>
<td><strong>5.2.1 Frequency of M-commerce Usage</strong></td>
<td>• Purchases on the smartphone is dependent on the time of the year (i.e. Christmas or New Years).</td>
</tr>
<tr>
<td></td>
<td>• Purchases can range from 8 - 20 times a month, depending on the participant.</td>
</tr>
<tr>
<td><strong>5.3 External Pros and Cons with M-commerce</strong></td>
<td>As stated below between chapters 4.4.1 - 4.4.2</td>
</tr>
<tr>
<td><strong>5.3.1 Smartphone Features</strong></td>
<td>• The smartphone however lacks details, has smaller screen size and it is tedious to download apps.</td>
</tr>
<tr>
<td><strong>5.3.2 Internet Connection</strong></td>
<td>• Slow internet connection on the smartphone, the purchase will be postponed to be later conducted on the computer with better internet access.</td>
</tr>
</tbody>
</table>
5.4 Internal Pros and Cons with M-commerce  

As stated below between chapters 4.5.1 - 4.5.2

| 5.4.1 Motivation, Perception and Trust | • Smartphone usage is highly addictive.  
• When purchasing on the smartphone, money does not feel like money, altering the perception of value.  
• Lack of trust in saving personal details online.  
• Saving card details on both smartphones and computers is regarded as untrustworthy.  
• Harder to fill in credit card details on the smartphone due to small screen size. |

| 5.4.2 The Problem of Adaptation with M-commerce | • Age plays a role in having the skills to pursue M-commerce.  
• Conducting an actual purchase does not require skills (i.e. typing in card details) but navigation across websites on the smartphone requires skills. |
5. Analysis

This chapter illustrates the use of M-commerce among consumers. M-commerce is further examined through the literature review together with the findings from the empirical investigation, in order to explore the external and internal barriers preventing consumer purchases on smartphones.

5.1 Experiences with M-commerce

By analyzing the data one can see that the participants primary purpose of conducting purchases on the smartphone is due to quick and easy ways to complete transactions. Participants discussed that since they always have their smartphone, conducting purchases on this device is effortless and enables them to have all their information, such as their tickets, in the palm of their hand. This relates to the concept of ubiquity in M-commerce, more specifically, portability and mobility, which are two elements of ubiquity showing the physical elements of the smartphone being light enough to bring anywhere (Okazaki & Mendez, 2013). Since the concept of ubiquity is portable and mobile, it is evident that this is a key reason why participants engage in M-commerce. Moreover, the increased use of smartphones have lead to shopping habits becoming more modern taking place online (Maruyama & Wu, 2014). Participants reinforced their experiences with M-commerce being convenient because they use banking apps, such as Mobile BankID and Swish, almost everyday, allowing them to make fast transactions. It is argued that the regular use of such apps makes habit one of the strongest factors in customer acceptance towards M-commerce (Ashraf et al., 2017). Thus, the increase of smartphone technology used habitually encourages a greater use of M-commerce.

However, despite the aspect of purchases on smartphones being convenient, only 15% of consumers use their smartphone for online shopping, and rather 63% of consumers use their computer (Investpcro, 2017). From this, it is also made known that consumers do purchase on their smartphone, but not necessarily because of the functions it offers, but due to laziness. For example, if there is no computer nearby, consumers tend to use their smartphone for as a substitute. By analyzing this, it is clear that the low percentage of online shopping on smartphones is due to existing barriers preventing such purchases.
Although M-commerce is viewed as quick and easy, participants further commented on existing barriers. Participants of the focus groups mentioned that web pages, which are usually accessed on a computer, are not typically well adjusted to the smartphone. For example, the information presented on fashion retail websites on the smartphone may be more difficult to navigate in comparison to a computer due to the excessive amount of information displayed. This correlates to Ozok and June (2010) stating that a challenge today is presenting content on a smartphone in a simplified manner. Since participants were unhappy with unadjusted web pages on smartphones, the ability to create websites on a smartphone in a more suitable manner will ultimately deliver a greater consumer experience in M-commerce. Consequently, if web pages on smartphones remain unadjusted to the smartphone, consumers may be compelled to avoid making purchases on the smartphone, turning to other alternatives such as the computer.

The habitual use of the smartphone entails that consumers use their phone for a wide variety of things, for example participants mentioned that their experience with M-commerce is commonly associated with pre-purchasing experiences. Such as, doing research on potential products and services which they later buy when they are on their computer. Gupta and Arora (2017) stated that users tend to research on their smartphones, but at the actual point of purchase, they switch for devices with larger displays (Gupta & Arora, 2017). Ghose and Park (2013) conclude that consumers are hesitant to purchase niche products on devices like the smartphone, due to their smaller screen. According to the findings stated in the empirical investigation, participants normally purchase familiar products or services on their phone a few times a month and therefore not niche products. The products or services that participants tend to purchase are bus and train tickets, which could be seen as products that they are familiar with. This can be explained through theory presented by Wang et al., (2015) who state that consumers purchase products that they are familiar with on the smartphone. It can therefore be assumed that consumers tend to purchase familiar products or services on their smartphone in which not much effort or thought goes into the process. The purchases are therefore habitual, implying that they are quick and easy which are the main reasons why consumers purchase on their smartphones. Thus, they avoid the use of the smartphone when purchasing unfamiliar products (Wang et al., 2015). The reason for this behavior could also be explained by consumers feeling less secure in making unfamiliar purchases on the smartphone because of the small screen size and their inability to navigate properly across different websites.
5.2 External barriers with M-commerce

Small screen size
A reoccurring barrier mentioned in the focus groups was the small screen size of the smartphone. Theory suggests that the small screen leads to more steps in processing pages in comparison to a computer (Lu & Yu-Jen Su, 2009) which leads to the problem of with the act of zooming as discussed in the empirical investigation. The participants suggested that with this problem there is a significant lack of details displayed on the smartphone, in comparison to the computer. Along with that, the participants mentioned that due to a smaller screen size, the purchase experience becomes more unappealing. This notion is supported by researchers Lu and Yu-Jen Su (2009) as they state that lacking details on the display contribute to a limited experience. It is therefore assumed that the extra steps needed to be taken when conducting a purchase on the smartphone leads to frustration. This sense of frustration derives from consumers experiencing a prolonged purchasing process as they have to search for the information, rather than having it all displayed at once, which is what the computer offers. Therefore, the small screen size makes it more difficult to navigate across a web-page and the simple task of conducting a transaction is made all the more difficult. This prevents consumers’ willingness to pursue M-commerce, as certain smartphone characteristics have a direct negative impact on consumers experience with purchasing on their smartphone.

Inconvenient Internet Connection
As previously mentioned, the ability to purchase goods and services online, regardless of device, requires access to the internet. The smartphone offers 4G, 3G, and/or wifi whereas the computer offers wifi as it needs to be connected to a hotspot. Participants in the focus groups mentioned that if there was a slow internet connection on the smartphone, as 3G tends to be slow, they will postpone their purchase until they use their computer where the internet access is usually more reliable. This issue illustrates that wireless network accessibility is a big challenge for M-commerce which is supported by the research presented by Lu and Yu-Jen Su, (2009) and the findings from the focus groups. Together with the research from Groß (2016) and the findings from the empirical investigation it can also be assumed that consumers lack of control in terms of network accessibility is a major barrier preventing the adoption of M-commerce. This can be caused by the potential inability to secure a network connection causing lagging and delays in purchasing on smartphones. Therefore, without a convenient M-shopping service network system, the environment of M-commerce will be unstable as one may be
disconnected without warning, preventing consumers from purchasing online on their smartphones. Participants state with wifi being accessible almost everywhere, the ability to use the computer on-the-go has increased. Thus, the need for smartphones utilizing 3G/4G to be connected to the internet is seen as less of a priority. Therefore, wifi can be viewed as a barrier in preventing smartphone purchases, as consumers lean towards using the computer instead.

5.3 Internal barriers with M-commerce

Incentive to purchase

Through the analysis of the data collected, it was identified that participants found it more difficult to fill in information, as the smartphone has a small screen. Whereas the process is faster on the computer due to the use of a bigger screen. This correlates to the research of Babin et al., (1994) and Li et al., (2012) suggesting that consumer consumption involves a decision-making process, in which consumers prefer to complete a task efficiently, known as utilitarian motives. This can be viewed as a barrier preventing consumer purchases on the smartphone, as it is often regarded as less efficient in comparison to devices with bigger screens. This demonstrates the physical context being the screen size has to the concept of motivation.

Consumers are however motivated to use their smartphone for communication and entertainment. For example, participants from the focus groups expressed that their main reason for using their smartphone is to engage in apps such as messaging, calling, social media, and music. Researcher O'Brian (2010) argues that this motivation, known as hedonic motivation, is usually associated with having fun. Concluding that there is a correlation between consumers use of the smartphone and hedonic motivations as opposed to purchasing on the smartphone. Therefore, such motivation contributes to an additional barrier to making purchases on the smartphone.

Perceived usefulness

Another barrier that became clear in the focus groups was the concept of perceived usefulness. Sun and Chi (2018) argue that when consumers perceive technology as challenge free they accept and use it more. This was expressed by participants from the focus groups as they stated that engaging in purchasing activities online through on the smartphone is often more complicated, leading them to use the computer. Thus, if a technology is harder to use, the perceived usefulness decreases, in turn making the technology less useful, more specifically M-
commerce. Chong (2013) further states that completing a transaction on a smartphone is perceived as more difficult. For example, findings from the focus groups suggested that participants often found that purchases on smartphones lead to them being forced to sign up onto different apps and membership pages. Thus demonstrating the sense of M-commerce being perceived as complicated and the likelihood of consumers adopting M-commerce remains low. Furthermore, when consumers buy products and services at a store, participants stated that they complete a transaction and directly get something in return. However, on the smartphone the transaction is not as clear, as they often do not see the product or service, for example when they order clothes online, making it easier to spend carelessly. Therefore, it can be assumed that consumers perceive the use of smartphones to complete a transaction as more difficult, thus making this an internal barrier of purchasing on the smartphone.

**Lack of security**

Participants argued that both the smartphone and computer are regarded as equally untrustworthy in terms of saving bank details and personal information online. Sun and Chi (2018) state that trust in M-commerce is the willingness consumers have in providing financial and personal information to complete a transaction on their smartphone. Participants stated that they feel more secure using bank applications, such as PayPal, Klarna, and Swish, as it makes the experience of M-commerce feel more trustworthy. Another factor in regard to security is the risk of saving card details online, participants expressed fear of saving such details and the possibility of being hacked. Through existing theory and data collected, trust can be seen as a critical factor in M-commerce, as hindrances of trust may occur as consumers hesitate to deliver personal and/or financial information on the smartphone (Sun & Chi, 2018).

Furthermore, despite the use of financial apps, M-commerce is still perceived as a risky option when pursuing a transaction in comparison to traditional shopping, which is stated by Danny Tengti (2009). Participants expressed the comfort in interacting with an employee at a traditional store because they know they are interacting with a real person, contributing to a greater degree of trust. Conversely, online participants do not know who they are interacting with, as it might not be a real person, such as a robot. Suggesting that ensuring trust in M-commerce is important as it increases levels of security. With high levels of security consumers are more likely to engage in M-commerce, otherwise the lack of trust is seen as another barrier.

**Lack of skill**
Skill also plays a role in the adaption to M-commerce. Research suggests that there are many users that lack enough skill to navigate properly online when pursuing online purchases on the smartphone, resulting in not accepting M-commerce (Lu & Yu-Jen Su, 2009). Participants continued to state the important role skill has, especially in terms of the older generation. Lu and Yu-Jen Su (2009) argue that consumers may be reluctant to use their smartphone as they distrust their own ability to effectively execute a transaction, making skill a key factor in M-commerce. Concluding, that the more skill people have within smartphones, the more accepted M-commerce will be. Consequently, with the lack of skill to shop online, it results in traditional shopping methods pursued instead. Participants also emphasized that the ability to successfully adapt to M-commerce has to do with being able to properly navigate on the smartphone. This alludes to the important role familiarity has in relation to M-commerce. The more skillful one is, the greater ability one has to adapt to new technology. Hence, the lack of skill to effectively navigate in M-commerce, becomes another barrier of purchasing on the smartphone.
5.4 Chapter Summary of Analysis

Presented below is a visual representation of the external and internal barriers that prevent consumer purchases on smartphones.

*Figure 1.0 Summary of the analysis (owned by authors, 2018)*

---

**The Barriers that Prevent Consumer Purchases on Smartphones**

**External Barriers**
- Unadjusted webpages for the smartphone
- Small screen size
- Inconvenient internet connection

**Internal Barriers**
- The inability to complete a task efficiently on the smartphone
- Consumer motivation to use the smartphone other than purchasing, such as research, communication and entertainment
- Technology perceived as difficult
- Security concerns and lack of trust
- Lack of skill
6. Conclusion

In this chapter, the purpose will be addressed by linking it to the findings of this investigation. Furthermore, subchapters include: theoretical contribution, limitations and future research.

The researchers of this thesis aimed to explore the external and internal barriers preventing consumer purchases in M-commerce. Based on the literature review, together with the empirical data collected, this research gained insight to such barriers. Three external barriers in M-commerce were explored. The first external barrier, is the unadjusted webpages for the smartphone making purchases in M-commerce unappealing, creating a prolonged and more difficult experience. The second external barrier, is the small screen size, in comparison to other devices such as the computer, evoking frustration among consumers as extra steps are needed to pursue M-commerce. The third and last external barrier is inconvenient internet connection, as the environment of M-commerce is viewed as unstable being disconnected without warning. Thus making consumers often choose the computer to conduct transactions as opposed to engaging in M-commerce.

Furthermore, five internal barriers were uncovered in this thesis. These are; the inability to complete a task efficiently, consumers motivation to use the smartphone other than purchasing, such as for research, communication and entertainment, technology perceived as difficult, security concerns and lack of trust, and lastly lack of skill. The inability to complete a task efficiently makes M-commerce less efficient in comparison to other devices, such as computer, which possess bigger screens. Along with that, consumers motivation for using the smartphone deviates from conducting transaction and is rather a device associated with having fun, such as messaging, calling, using social media and playing music. Furthermore, the technology involved with M-commerce is perceived as difficult, therefore making it less useful for consumers making it seem complicated. Security concerns with M-commerce involves the risk of saving personal and financial information on the smartphone, without high levels of security, in such cases the lack of trust is an additional internal barrier. Last but not least, lack of skill is an additional internal barrier, the more skillful consumers are the greater chance they have in adapting to new technology. However, if skill is not present this becomes another barrier. One can therefore conclude that these existing external and internal barriers prevent consumer purchases in M-commerce.
6.1 Theoretical Contribution
This research contributes to the field of M-commerce, more specifically exploring external and internal barriers preventing consumer purchases in M-commerce. Previous research of barriers has been successfully applied together with the empirical investigation to provide new insight to the barriers of M-commerce. However, research typically focused on barriers as a whole, whereas this thesis divided the barriers into two categories; external and internal. This contributed to theoretical insight of M-commerce and what factors in M-commerce that could hinder transactions on smartphones. This investigation could be beneficial as only 15% of consumers use their smartphone to conduct online purchases (Investpcro, 2017), thus shedding light on certain underlying reasons.

6.2 Limitations and Future Research
This thesis had certain limitations. Firstly, since this study used an exploratory purpose the method used for collecting data was qualitative. In comparison to a quantitative approach, a qualitative approach is more subjective. In other words, the subjective nature of this study could have influenced the validity and reliability of the study. Due to the sample size being significantly smaller than that of an explanatory purpose, this study may therefore be harder to replicate. It focuses on the participants thoughts and beliefs about a certain topic gathering deep and rich data, creating the problem of lower generalizability. The problem of lower generalizability may lead to the inability to apply the findings to a population as a whole.

Secondly, the focus group conducted as a pretest and also the actual focus groups were held in English. This could be seen as a limitation as none of the individuals who participated in the focus groups were native English speakers. This could contribute to the risk of language barriers and misunderstandings in the questions asked. Moreover, the participants might therefore have given responses that have been incomplete due to problems with expressing themselves. In relation to this, since this study looked at individuals aged 18-34 it can be suggested that future research should include a wider range of ages in order to study populations in the older and younger generation to gather more insight.

In regard to future research, the authors of this thesis believe that it would be interesting to investigate the relationship between the external and internal barriers in M-commerce. This would contribute to new knowledge as this thesis focuses on the factors that consist within either external or internal barriers, implying that the relationship between the two approaches
have yet to be explored. Future research may therefore explore the influence the relationship between external and internal barriers have on M-commerce. Therefore this thesis could be used as a foundation to future research, investigating barriers in M-commerce. In continuing to explore new factors within the barriers of M-commerce, new paradigms might emerge and change our future habits of shopping.
References


### Part 1

**Initial Questions**
- What device/s do you use to make actual purchases online?
- What characteristics do you find beneficial when conducting an actual online purchase?

### Part 2

**M-commerce**
- What do you know about M-commerce?
- What are your previous experiences with M-commerce?
- In which context do you prefer making actual purchases on your smartphone?
- How often do you interact with M-commerce?

### Part 3

**External Barriers**
- Why do you/do not use your smartphone to make purchases online?
- What characteristics of the smartphone prevent/encourage you to purchase online?
- Devices utilize internet differently (for example smartphones w/ 4G and the use of wifi with laptops and smartphones), how does this influence your choice of utilizing a device to make an online purchase?

### Part 4

**Internal Barriers**
- How has your previous experiences influenced how you perceive M-commerce today?
- What perceived advantages and disadvantages do you feel in regard to M-commerce?
- What perceived advantages and disadvantages do you feel in regard to purchase online on your laptop?
- When purchasing on the smartphone is there a smaller degree of trust in technology compared to a laptop?
- If yes, why?
- What is your opinion in regard to saving your card details online? Is there any device/s you feel more secure about saving your card details on?
- What are your thoughts on the difference in providing personal details in order to complete an online purchase, on a smartphone in comparison to other devices?
<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you associate M-commerce with a greater degree of risk?</td>
</tr>
<tr>
<td>- If yes, why does risk prevent you from making actual purchase</td>
</tr>
<tr>
<td>decisions on your smartphone?</td>
</tr>
<tr>
<td>Does skill play a role in online shopping? Elaborate.</td>
</tr>
<tr>
<td>Does an individual's ability to adapt to new technology play a role in</td>
</tr>
<tr>
<td>M-commerce?</td>
</tr>
</tbody>
</table>
## Appendix B - Coding Table - Focus Group 1

<table>
<thead>
<tr>
<th>Security</th>
<th>Purchases</th>
<th>Research</th>
<th>On-the-go</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Big text</td>
<td>Information</td>
<td>Save time</td>
</tr>
<tr>
<td>Password</td>
<td>Bigger screen</td>
<td>Subscription</td>
<td>Easy</td>
</tr>
<tr>
<td>Unsafe</td>
<td>Comparable</td>
<td>Hand-held devices</td>
<td>Quick</td>
</tr>
<tr>
<td>Don’t trust</td>
<td>Difference</td>
<td>M-commerce</td>
<td>Convenience</td>
</tr>
<tr>
<td>Skeptical</td>
<td>Control</td>
<td>Phone</td>
<td>Handy</td>
</tr>
<tr>
<td>Nervous</td>
<td>Details</td>
<td>Service</td>
<td>Fast</td>
</tr>
<tr>
<td>Age</td>
<td>Online shopping</td>
<td>Mobile</td>
<td>Direct</td>
</tr>
<tr>
<td>Skill</td>
<td>E-commerce</td>
<td>Communication</td>
<td>Discounts</td>
</tr>
<tr>
<td>Less trust for mobile security</td>
<td>Website</td>
<td>Social Media</td>
<td>Mobile</td>
</tr>
<tr>
<td>Avoid purchasing smartphone</td>
<td>Clothes</td>
<td>Snapchat</td>
<td>Price</td>
</tr>
<tr>
<td>Card number</td>
<td>Purchases</td>
<td>Instagram</td>
<td>Money</td>
</tr>
<tr>
<td>Card details</td>
<td>Expensive Purchases</td>
<td>Entertainment</td>
<td>Payments</td>
</tr>
<tr>
<td>Information search</td>
<td>Laptop</td>
<td>Photos</td>
<td>Cheap purchases</td>
</tr>
<tr>
<td>App</td>
<td>Computer</td>
<td>Camera</td>
<td>Habit</td>
</tr>
<tr>
<td>See all options</td>
<td>Details</td>
<td>Music</td>
<td>Convenience</td>
</tr>
<tr>
<td>Easy to navigate</td>
<td>Fashion</td>
<td>Alarm clock</td>
<td>Mobile apps</td>
</tr>
<tr>
<td>wifi</td>
<td>Computer</td>
<td>Weather</td>
<td>Smaller Screen</td>
</tr>
<tr>
<td>Surfing</td>
<td>Physical store</td>
<td>Bus tickets</td>
<td>Always have phone</td>
</tr>
<tr>
<td>Physical store</td>
<td>Extra time</td>
<td>Flight tickets</td>
<td>In a hurry</td>
</tr>
<tr>
<td>Actual item</td>
<td>Tickets in general</td>
<td>Scrolling</td>
<td>Substitute to computer</td>
</tr>
<tr>
<td>Full information</td>
<td>Transport</td>
<td>Return fee</td>
<td>Underdeveloped apps</td>
</tr>
<tr>
<td>Physical person</td>
<td>Travel</td>
<td>Laziness</td>
<td>Skills are required</td>
</tr>
<tr>
<td>Small text</td>
<td>Wallet</td>
<td>Complicated</td>
<td>Advertisement</td>
</tr>
<tr>
<td>Conducting purchases on laptop</td>
<td>Calculator</td>
<td>Membership</td>
<td>Disconnect</td>
</tr>
<tr>
<td>Sending Emails</td>
<td>Calendar</td>
<td>Calling</td>
<td>Paying for apps</td>
</tr>
<tr>
<td>Free returns</td>
<td>Micro-purchases</td>
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