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# Purchasing Processes in Mobile and Tablet Commerce

## The Case of Consumer Electronics

### Abstract

Smartphones and tablets are currently changing the way we purchase products we need or desire. While they have been used as a tool for finding information for a while, they are now also used for purchasing products and services. However, little research has been conducted on consumer behaviour in mobile and especially tablet commerce. In this thesis, a qualitative study among smartphone and tablet shoppers of consumer electronics, built on traditional decision making models as well as mobile and e-commerce empirics, is conducted. It was shown that lifestyle, the device itself as well as the shopping goal have strong influences on the purchasing processes. Findings also suggest that the possible ubiquity is not used to its maximum and marketing, apps and couponing are not as effective as expected. In general, a number of differences to e-commerce were found that deserve deeper analysis.

**Keywords:** Mobile Commerce, Tablet Commerce, Purchasing Process, Consumer Decision Making, Mobile Marketing

Author: Christian Siesenop
Tutor: Björn Axelsson
Discussant: Josefine Bengtsson
Examiner: Per Andersson
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# 1     Introducing Mobile and Tablet Commerce

*"Global mobile commerce revenues will reach $119 billion in 2015."*

*ABI Research (2010)*

## 1.1    A New Era in Shopping

Over the last years, smartphones have taken up an ever larger space in our personal lives and our shopping behaviour. New applications allow us to compare prices, receive promotions and coupons, read product reviews and information, locate a retailer or contact companies. Nowadays, there is also a much larger intercorrelation between channels than before. Customers use their smartphones in the store to compare prices, they use it in the subway to look at what products they will buy on their computer and they touch and feel products in the store, check prices on their phone to then buy it on their computer more cheaply (eMarketer, 2011a).

Lately, however, the smartphone is no longer only a tool that helps us make the right purchase decision at the point of sale, but it has become the point of sale for a variety of products and services itself. Having started out with music downloads, app sales and videos, customers are now using their phones to buy books, clothing and electronics. Thus, more and more retailers, especially in the U.S., have implemented mobile shopping sites, such as Sephora, Ralph Lauren or Amazon. Already in 2010, Amazon earned $1 billion on mobile sales (Dillard, 2010).

Most recently, consumers have started to adopt a new technology for shopping - the tablet PC. It is estimated that tablet commerce will, at some point, overtake smartphone sales. Substituting traditional e-commerce, tablets can be used like smartphones, but will more often be found in living rooms, offices and airports. Even though they are smaller in numbers, they already account for 21% of mobile traffic to retail websites and prove they can be the ideal mobile shopping companion. (Forrester, 2011)

Now that the smartphone and the tablet in particular are becoming tools for the purchase, the questions of how consumers make decisions before they purchase a product on their

mobile device as well as how marketers can influence this decision making become more and more pressing.

## 1.2   Relevance

Many studies today hint at the fact that mobile technologies will become the main channel for online communication within the next 5-10 years. In Germany, more people will access the Internet via mobile devices than from stationary computers by 2019 (Nationaler IT-Gipfel, 2009). In addition, 71% plan on using their smartphones more in the next 2-3 years. That dramatically increases the exposure to mobile media, marketing and shopping opportunities as well as the importance of the mobile Internet as a sales channel for retailers. What is more, shopping is already as much a smartphone purchasing factor as social media and music for Germans. (Google, Otto Group, tns infratest & Trend Büro, 2010) One can also take a look at current developments in the U.S. that can serve as a predictor of what will happen in technologically less developed countries in the upcoming years. In the U.S., more people now use shopping apps than communication or video apps (Nielsenwire, 2010). Globally, mobile commerce revenues are said to reach $119 billion in 2015, which constitutes an increase by 10,000% from 2009 (ABI Research, 2010).

In order to understand the consequences for retailers and to equip them with tools to exploit these trends, the consequences on consumer behaviour need to be studied and their implications for companies need to be deducted. However, such an analysis must not stop at smartphone commerce, but must extend to tablet commerce as well. Since most companies focus on the battle between the iPhone and Android phones, they neglect that tablets already account for half of all mobile purchases and thus only invest an average $14,000 on building a tablet-friendly website (Forrester, 2011). Thus, there is a gap in understanding how consumers behave in this particular area. This gap has to be closed in order to be successful in the marketplace (Blackwell, Miniard & Engel, 2006). In the next section, current research attempts are being looked at and it will be evaluated in how far these are sufficient to understand and impact current mobile commerce as well as tablet commerce developments.

## 1.3     Research Gap

While in popular media mobile commerce has gained considerable attention, scientific marketing literature has not followed the same path. Efforts largely focus on mobile marketing and on using the mobile device as a communication channel (Shankar & Balasubramanian, 2009; Shankar, Venkatesh, Hofacker & Naik, 2010; Varnali & Toker, 2009). Others investigate the adoption of mobile commerce by consumers (Khalifa & Ning Shen, 2008; Yang, 2010). In this realm, information is rather descriptive and less interpretative. For instance, Sumita and Yoshii (2010) focus on mathematical models for showing the effect of behaviour changes and the spread of mobile devices on e-commerce. Siau, Sheng and Nah (2004) as well as Park and Fader (2004) investigate the benefits of mobile commerce to consumers, also on a describing and mathematical basis. Lin and Wang (2005) have researched how to build customer loyalty in mobile commerce. None of these authors, however, have considered the purchasing process as a field of interest within mobile commerce, and traditional consumer behaviour literature has not considered mobile commerce to be of any interest, either. The problem is that traditional models can probably not function as an accurate explanation for mobile commerce consumer behaviour. All decision making models were developed within certain time frames, contexts and social situations. When they become applied in other contexts, they become forced and cause imbalance. (Burns & Gentry, 1990; Firat, 1985).

Moreover, consumers that have to deal with a high load of information and are overwhelmed or confused, tend to take alternative decision making routes (Burke, 1990). Therefore, in mobile commerce, a novelty for consumer decision making, other models apply than in traditional and known retail scenarios. In conclusion, there exists almost no scientific literature that examines consumer behaviour under the premise of decision making models that can accurately describe and explain actions in mobile commerce and even less so in tablet commerce.

## 1.4     Purpose of the Thesis

Based on the current trends in mobile retailing as well as the research gap present in this field, the purpose of this thesis is to examine consumer behaviour within mobile commerce with the goal of establishing a detailed micro model of a purchasing process.

This thesis will focus on the particular case of consumer electronics as a research object. In consumer behaviour research it is recommended to narrow down the focus on one particular product or purchasing process as much as possible to generate valid results (Rutschmann, 2011). The field of consumer electronics was chosen for several reasons. For once, there has already been some research on how services like apps and music are purchased on smartphones, and the contribution of this thesis would be limited (see Ahmet & Holmquist, 2010; Prata, de Moraes & Quaresma, 2012). Therefore, a physical product presents a higher level of novelty. The most popular physical products for mobile commerce are books, followed by consumer electronics (Fittkau & Maaß, 2011). According to other studies, consumer electronics are even listed as the product category most frequently purchased via mobile devices (Comscore & Millennial Media, 2011; PriceGrabber, 2010). Since books, in the form of ebooks, can nowadays be seen as services as well (Sansonetti, Simeoni, Tartaglia & Testa, 2011), and are often downloaded and not being shipped, there was no clear focus on whether a service or product purchasing process has to be applied. Secondly, studies do exist on the purchasing process of consumer electronics in e-commerce (see BBDO, 2008; Comscore, Searchandise Commerce & iProspect, 2010). These may be built on to generate initial insights and to create a more valid and reliable empirical analysis. In contrast to many services, consumer electronics are also a high-involvement product (Gu, Park & Konana, 2012). This type of product can be researched better, because consumers engage in a more extensive decision making process.

Another focus was chosen regarding the country of research. Since there are still notable differences in the extent to which mobile and tablet commerce are used in different countries, doing research internationally would disturb results and would lead to possibly contradicting insights. Moreover, validity would have been reduced. Therefore, also taking into account the researcher's origin, the German market was chosen. Therefore, results will be most helpful in building theories and practical plans in this geographical region.

For practice, this thesis will help marketers understand how consumers behave before purchasing products on their smartphone. They will be better equipped to allocate marketing resources to different stages in the buying process and thus increase sales. It

will also help them understand which customer types are likely to choose mobile devices for their purchasing and how they can be targeted better.

Theoretically, no models exist that empirically explain buyer behaviour in mobile commerce. Existing models are often too generic and out-dated to give satisfactory information on how consumers make decisions in mobile commerce. These models will be adapted and enhanced to be valid for mobile sales. Therefore, the theoretical purpose is to build a micro model explaining consumer behaviour in mobile and tablet commerce.

## 1.5    Delimitations

This thesis builds on the knowledge from traditional decision making models, particularly the one by Blackwell, Miniard and Engel. Although an effort has been made to include as many insights from other models and criticism of these, it cannot be granted that there is not a bias in research stemming from accepting these models as generally valid and as a primer for empiric research. Mobile commerce decision making may be entirely different from traditional purchasing processes and this may not be completely be reflected in the results. Another limitation is in the focus on certain stages in the purchasing process. Since consumer electronics of the same kind are seldom bought at a high frequency, long-term post-purchase behaviour takes time and can only be researched over a longer period. Therefore, only short-term post-purchase behaviour was considered.

Due to the high complexity of researching emotions, they are not a primary focus of the empirical studies. This does not mean they do not have an impact. In fact, recent research has shown that emotions become an ever more important factor in purchasing. The author is aware of the role emotions play and how they can influence decision making and makes an attempt to include them within the scope of this thesis. However, they cannot be covered in their entirety which presents another delimiting factor.

Research was conducted in Germany. This implies that results may only be valid for a certain geographic region. This may be a particular delimitation since, at this point, there still exist considerable differences in the level of advancement in the field of

mobile and tablet commerce between different regions and countries. Nonetheless, results may be representable for a large part of the European market.

## 1.6    Expected Contribution

For theory, this thesis presents an initial starting point for the examination of consumer behaviour in mobile commerce. Therefore, the expected contribution is not to establish a finalized model of decision making, but to build an initial framework that can be elaborated on in the future. Moreover, the results will only be valid in the area of consumer electronic purchases. Similar purchasing processes may be present in other categories, especially for high-involvement goods, but no accurate statement can be made about this relationship.

For practical application, this thesis can offer a first understanding of how consumers might find their way to the mobile store and at what points a company can influence their decisions. It can also help to evaluate current marketing activities in various fields, such as price, communications or retail infrastructure. However, since only a relatively small sample was selected, very specific customer groups may not be represented and an application of the findings may lead to undesirable effects.

## 1.7    Definitions

Since this thesis is built around a few concepts that may be quite novel and still very fluid in their meaning to different readers, they will be briefly explained at this point.

### Consumer Electronics (CE)

Since there is no scientific definition of the term Consumer Electronics known to the author, a definition gathered from a variety of non-scientific sources will be used. CE are electronic equipment intended for everyday use in a private setting. They include products such as TVs, DVD players, hi-fi equipment, cameras, telephones and computers. The domain of CE changes constantly to include more and different products. They, in this thesis, do not include small and relatively cheap accessories such as cables, bags and other tools that do not have a built-in electronic functionality.

**Mobile Commerce (M-Commerce)**

Mobile commerce is a complete subdomain of mobile business, since mobile business entails all corporate activities in the mobile sector. It is moreover partly a subdomain of e-commerce. It is not a complete subdomain since the mobile component is not included in traditional e-commerce. However, it is not part of the electronic business.
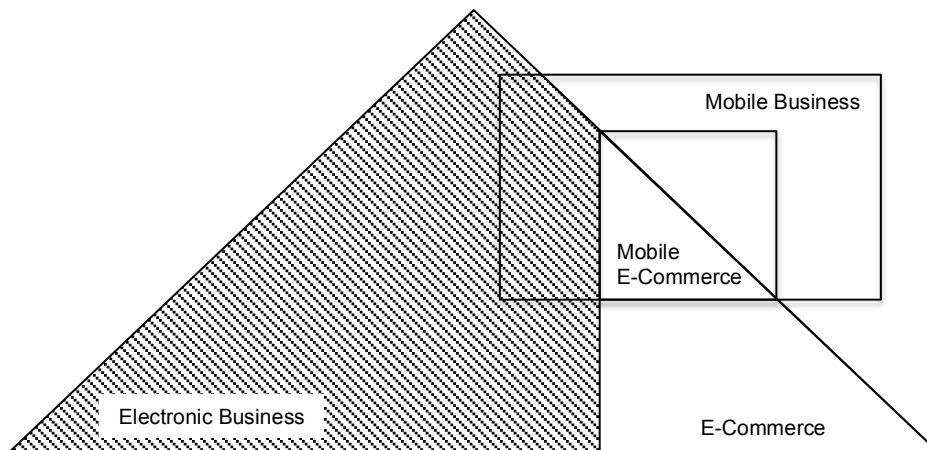


**Figure 1 - Classification of E-Business, M-Business and Mobile E-Commerce (Source: Illustration on the basis of Buse & Tiwari, 2006)**

In addition, it is described as "...services that extend beyond mere telecommunications and that utilize mobile devices and public mobile communications networks for the preparation and/or agreement and/or handling of service provision processes." (Wriggers, 2006). In this useful definition one has to add "sales of goods" to service provision processes as a goal of mobile commerce. In m-commerce, goods can be placed in one of four categories (Kisielowska-Lipman, 2009): premium rate services, e-tickets, digital content and physical goods. From now on, mobile commerce will be abbreviated as "m-commerce".

**Tablet Commerce (T-Commerce)**

Tablet commerce includes all features ascribed to m-commerce, with the difference of the tablet as the device used by the customer. Although it is not popularized as an official term, tablet commerce will be abbreviated as "t-commerce" for the purpose of convenience. Critics may rightfully mention that t-commerce is m-commerce as well, since both happen on mobile gadgets. Although this is true, recent media analysis shows that, with the popularization of tablets, the term tablet commerce is used more and more

often. At the same time, m-commerce has traditionally not included tablets due to their novelty, and continues to focus on smartphones, while tablets are treated as a separate entity. There are, moreover, differences in how both devices are used by consumers, which will be elaborated on later.

## 1.8    Disposition

Chapter 2 presents the current level of theoretical research in the fields of m-commerce, t-commerce and consumer behaviour and links these together. In addition, an overview of empirical data on the current situation in m-commerce and t-commerce is given. The information provided here is used in chapter 3, where the empirical research methodology is developed. Qualitative research and its details are outlined. In chapter 4, the results of the qualitative research are shown. In chapter 5, results are analysed and combined with the literature review in order to deduct practical and theoretical insights of the research. Finally, in chapter 6, a conclusion, a short discussion and managerial implications as well as recommendations for further research are given.

# 2 Theoretical and Empirical Review

This chapter will explore the main theories of consumer behaviour, look at the specifics of the CE market and will then combine the results with insights from electronic commerce as well as m- and t-commerce. Due to the novelty of the issue at hand, not all insights are generated from theoretical literature, but also from non-academic empirical sources in order to provide an up-to-date picture of relevant issues. The goal of this chapter will be the generation of research questions for the empirical study as well as insights for designing the study and its later analysis.

## 2.1 Consumer Behaviour and Consumer Decision Making

### 2.1.1 Traditional Decision Making Models

Consumer behaviour, in its broadest sense, belongs to the discipline of consumer science. "Consumer science includes the former discipline of home economics and refers to a discipline that evolves around consumer behaviour and decision making (...) in order to meet basic and higher order needs for physical, psychological, socio-psychological and financial satisfaction in a complex micro and macro environment" (Erasmus, Boshoff & Rousseau, 2001). In this context, the focus of research has been *consumption behaviour* as opposed to *buyer behaviour* (Schiffman & Kanuk, 2007). In this thesis, this focus will be maintained, but a knowledge transfer to managerial implications of *buyer behaviour* will happen in chapter 6. From a historical point of view, consumer behaviour became the object of interest in the beginning of the 20th century (Mowen & Minor, 2001). Some of the best-known consumer decision making models were developed in the 60s and 70s and were inspired by theories from other disciplines (Erasmus, Boshoff & Rousseau).

The first important model was developed by Howard in 1963. It was followed by the Nicosia model (1966), Howard and Steth's model (1969), Engel, Kollat and Blackwell's model (1968), the Andreason model (1965), the Hansen model (1972) and the Marking model (1968/1974) (Erasmus, Boshoff & Rousseau). The initial, the "grand" models, were similar, and differences lied in their emphasis on individual variables and their presentation (Walters, 1974). They all shared a dominant research perspective, positivism, to build generalizable models by using empirics (Blackwell, Miniard &

Engel, 2006). Moreover, their dominant perspective, the one that will also be applied in this thesis, is the focus on the *micro level*, looking at the actual steps undertaken by a consumer before the purchase. The *macro level*, on the contrary, would focus on innovation diffusion and repeat purchase patterns. (Sirgy, 1983, as cited in Erasmus, Boshoff & Rousseau) The aforementioned models have later been criticised due to their positivistic nature, leading to the assumption of a rational consumer, a lack of detail and further limitations (Erasmus, Boshoff & Rousseau). One of the most recognized and most accomplished models is the one by Engel, Miniard and Blackwell (Minor & Mowen, 2000; O'Connor & O'Keefe, 2000). It is shown below and will be used as a benchmark and guide throughout the thesis. This model is a process-analytical model.
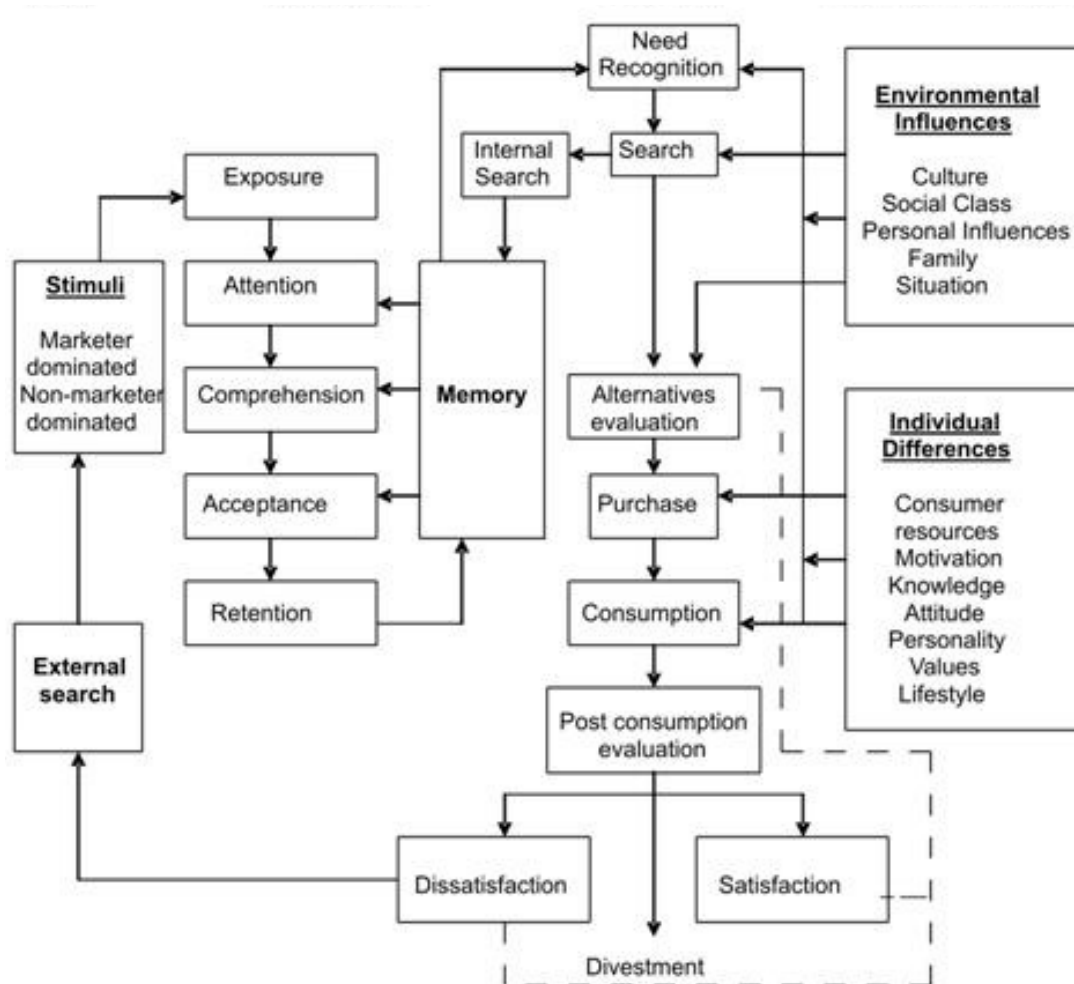


**Figure 2 - Engel, Miniard & Blackwell Consumer Behaviour Model (Source: Illustration on the basis of Engel, Blackwell & Miniard, 1995)**

The core decision process is shown in the centre, consisting of need recognition, search, evaluation of alternatives, purchase, consumption and post-consumption evaluation.

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This process is more detailed than in previous models like those by Engel, Kollat and Blackwell, Schiffman, Dahlhoff or Solomon, Bomossy and Askegaard (2008). However, although terminology may differ, all these models share the same core process of an information phase, agreement phase, execution and after-sales phase. This holds also true for prominent analyses of interaction patterns between transaction partners (Korb, 2000).

### 2.1.2   Aspects of Consumer Decision Making in Detail

Engel, Miniard and Blackwell also explain how a certain initial *need* is developed. On one side, memory is responsible for that. Mental processes influenced by internal and external search as well as *stimuli* - information input - shape this *memory*. On the other hand, other variables - environmental and individual influences - impact need recognition. *Environmental influences* are comprised of culture, social class, personal influences, family and situational factors. They influence need recognition, search and evaluation. According to Erasmus, Boshoff and Rousseau (2001), in different situations, different decision making strategies are chosen, something that is not yet reflected in classic consumer decision making models.

*Individual differences*, on the other hand, concern consumer resources, motivation and involvement, knowledge, attitudes, personality values and lifestyle. Individual differences not only influence need recognition, but also the purchase itself. For instance, the lifestyle determines the time of day when a product is bought. Moreover, the consumption is partly based on these individual and internal factors. The particular factor of motivation is seen as a strong influence on the overall pattern of the decision making model by some authors (Ambaye, 2005). For instance, convenience motives may lead to the purchase via a smartphone. According to Keeney, two more concepts are important, especially in the world of e-commerce: protection of privacy and personal safety (as cited in Dach, 2002).

One aspect that will not be covered in detail is information processing. It lies outside of the scope of the thesis and is not the primary focus of this research. Rather, it will be researched to which extent external search or stimuli are responsible for generating a certain need. Once a need is formed and recognized, goals are developed that guide the

whole decision making process as well as the perception of the process and the customer's satisfaction with it (Puccinelli et al., 2009).

When examining consumer decision making regarding a particular product, one has to keep in mind that different types of products can evoke quite distinct purchasing processes. There are different dimensions along which products have been categorized by researchers. One is that of Weiber and Adler (1995) which divides product characteristics into search characteristics, experience characteristics and credence characteristics. Before the purchase, search characteristics can be evaluated while experience and some credence characteristics can only be judged after the purchase (Korb, 2000). This influences decision making and information search in particular. In the age of the Internet, however, products can be present in different categories. Especially search goods with open qualities can now be much closer to experience goods with hidden qualities (Korb). In terms of Weiber and Adler's categorization, CE goods are generally regarded search goods, but with the advent of the Internet, can adopt more experience characteristics (Kim, Albuquerque & Bronnenberg, 2009). They are still quite low in credence characteristics, due to the fact that most electronic products can be tried out before the purchase and their quality can relatively easily be evaluated.

Another popular distinction is made between high and low involvement products. Jeck-Schlottmann divides this construct into three parts: person-specific, object-specific and situation-specific elements (1988). In the case of CE, most products can be classified as high involvement goods. For that reason, extensive information search by customers is expected. High involvement in this instance most probably stems from object-specific factors, and in some cases from situation-specific factors like an emergency need. Person-specific factors may be less important, since electronic products do not as much satisfy a need of self-fulfilment. This leads to the conclusion that CE customers often conduct a lot of internal information search (see Solomon, Bamossy & Askegaard, 2008). There is conflicting information, though, on how extensive customers' information search can expected to be. While Erasmus, Boshoff and Rousseau say extended buying behaviour is the norm, Srinivasan believes product search to be much less elaborate than always stated (1993; Solomon, 2011). Engel, Blackwell and Miniard propose a compromise by saying that every consumer reacts differently to high

involvement decisions (1995; see also Nottenburg & Shoben, 1980). Nonetheless, scripts that customers use for such decision making are also influenced by their environmental influences, creating *shared scripts* that may be very similar across a target group regarding the most significant decisions. Another factor to keep in mind is the perceived differentiation of alternatives. These may vary depending on what CE product is bought. A Gameboy often only differs in colour while smartphones can differ quite substantially.

The emotional side of consumer behaviour has also gained considerable attention in the last decades. Primarily, they become an issue in the experiential perspective on consumer behaviour (Holbrook & Hirschman, 1982). In this thesis however, they do not play a major role. For once, in the area of long-winded purchasing processes the researchability is difficult to conduct to a satisfactory extent and outside of the scope of this thesis, and secondly, CE can still be understood to not necessarily be part of the experiential perspective since Holbrook & Hirschman mainly target their model at entertainment, arts and leisure. This is confirmed by Lofman (1991) who says that affective processing plays a role mainly in hedonistic shopping. A more accurate estimation of what level of emotionality can be expected is shown by Freundt and Hölscher (2006) who researched the purchasing of consumer durables in Germany. They found that emotions play a relatively big role when the purchase is considered, but decline in importance rapidly during the search process and only rise again when loyalty is being built after the purchase. Cognitive activity follows the exact opposite trend and is the highest when the product is purchased.

Nonetheless, it is important to notice that emotional stimuli will certainly be a part of many CE purchases and that they may influence the process, especially since traditional models underestimate the role of emotions (Ratchford & Vaughn, 1989). Some authors assume moreover that there is a hierarchy of effects that moves from cognitive towards affective evaluation where emotions increase during the purchasing process (Barry, 1987). This course of events was challenged by Zajonic (1980) by saying that emotions can also precede cognition. This is supported by Eichenbaum (2002, as cited in Rosenbaum-Elliott, Percy & Pervan, 2011) who says, memory can be built by emotions, even if they are not processed consciously. The ideal hierarchy of effects follows an

extensive problem-solving act, mostly found in the purchase of high involvement products like CE.

Regarding the decision making process as a whole, concerns over the linearity of the process were voiced and it became obvious that consumers can skip certain steps (Dhar, 1992; Erasmus, Boshoff & Rousseau, 2001; Olshavsky & Grabois, 1997). It was also discovered that customers can return to earlier stages and follow a newly emerging path. This phenomenon is called *backward loop*.

## 2.2    Empirics of Consumer Electronics Purchases

In general, what are the empirics of CE purchasing behaviour? First, general consumer preferences will be described: The main drivers for home electronic purchases are having a reputation for reliability, effectivity, good customer service, design and innovativity. Minor factors are previous brand experience, environmental impact, low price, reviews and social recommendations. Younger customers pay special attention to customer service, which may mean that in m-commerce, having a relatively young target group, service is of particular importance. (BBDO, 2008) Regarding the decision making process, 66% of U.S. customers start their information search online, but convert to offline channels at later stages (Comscore, Searchandise Commerce & iProspect, 2010). This pattern may be similar in m-commerce and even more so in t-commerce which may more closely resemble classic e-commerce. A good overview of which steps are undertaken in which phase is provided in the following chart.
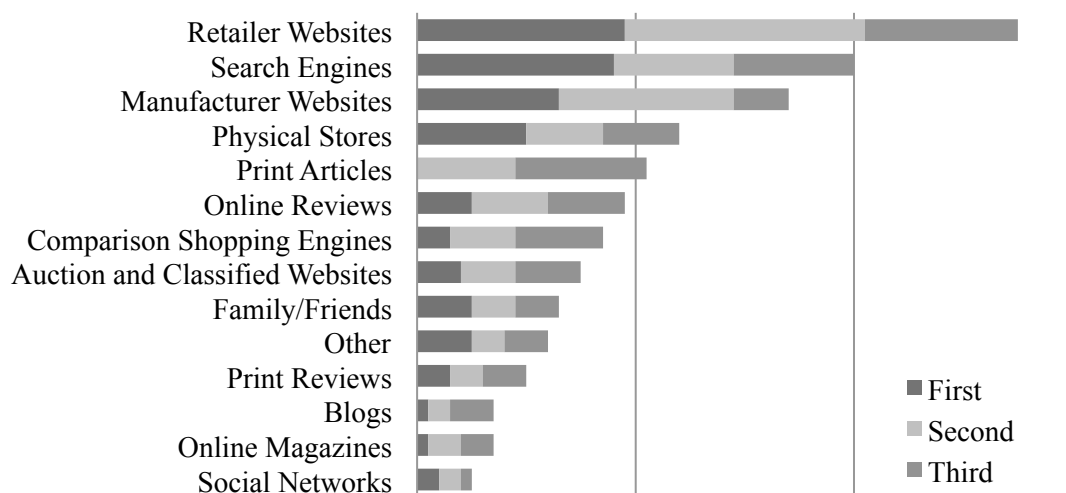


**Figure 3 - Steps Taken Before the Purchase in Each Phase (Source: Own illustration on the basis of Comscore, Searchandise Commerce & iProspect, 2010)**

It becomes obvious that retailer websites, from start to finish, remain the most popular source of information. Customers use the sites mainly for comparing information, reading descriptions and reviews. When customers enter the site, they use the search box almost twice as much as browsing the landing page for information. After using the search function, customers mostly click on no more than five products. Search engines are most important in the beginning, most probably for gaining orientation. Manufacturer websites are most vital after initial information has been gathered, but do not play a big role shortly before the purchase. Physical stores are already much less important than online channels. Print articles do not play a role at all in the beginning of the search process, but become one of the most important factors the closer the customer comes to the purchase. Reviews online are relatively unpopular, but gain slightly in importance before the purchase, which also holds true for product comparison sites. Here, one has to keep in mind, though, that reviews are often accessed via retailer sites. This means that initially, opinions of other customers do not guide the product selection, but customers seem to have an idea of which product or brand to buy, delimit their choice on the retailer's and manufacturer's website and are more interested in product specifications than in reviews and comparisons. Other channels such as friends, blogs, online articles and social media play only a minor role in selecting the right product.

Another aspect of interest is the chronology of the various steps taken by one individual shopper. Those who begin their search on retail sites either purchase directly on that site or visit the manufacturer site for further information. Then they either visit a search engine or a physical store. Of these, almost 50% buy in the store, while 40% buy the product online. Of those customers who first use a search engine, 37% move to a retail site. Nearly half of all CE customers end up buying on the retail site. Of the 13% who begin the search on a manufacturer website, 39% move to a retail site, again with about 50% purchasing on that site. 34% visit a search engine or a store after visiting the retail site. (Comscore, Searchandise Commerce & iProspect) Below, the two most common processes are outlined.
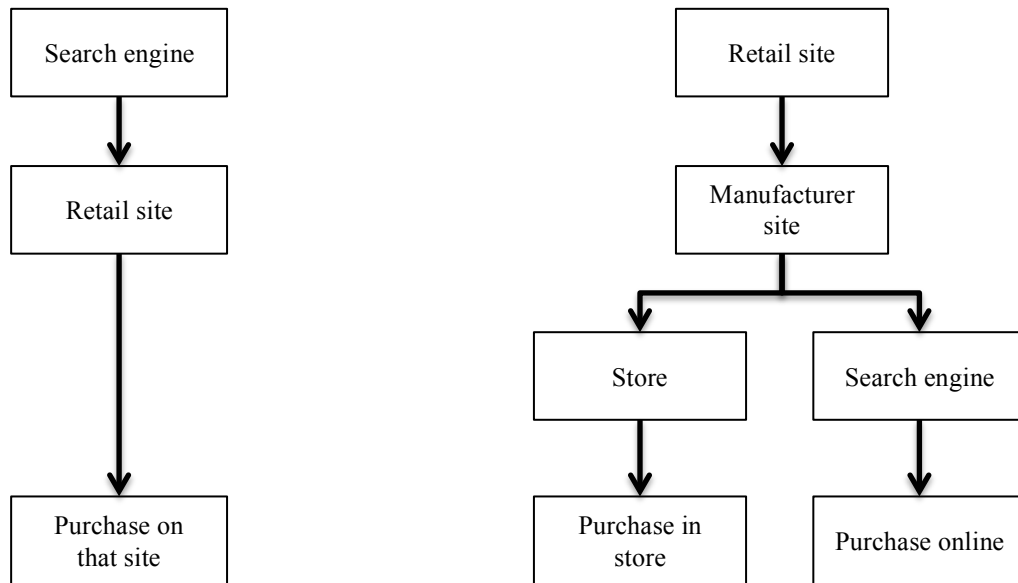
**Figure 4 - Representative Purchasing Processes for CE (Source: Own illustration on the basis of Comscore, Searchandise Commerce & iProspect, 2010)**

In total, CE are purchased in physical stores slightly more often (47%) than on online retail sites (43%). Manufacturer websites (14%) and online auctions/classified websites (11%) are a lot less popular. Only 9% of customers do not finalize their purchasing process at all once they have started it. When researching consumer behaviour, it is also important to understand why certain channels have been used. The figure below shows the most important reasons for shopping online.
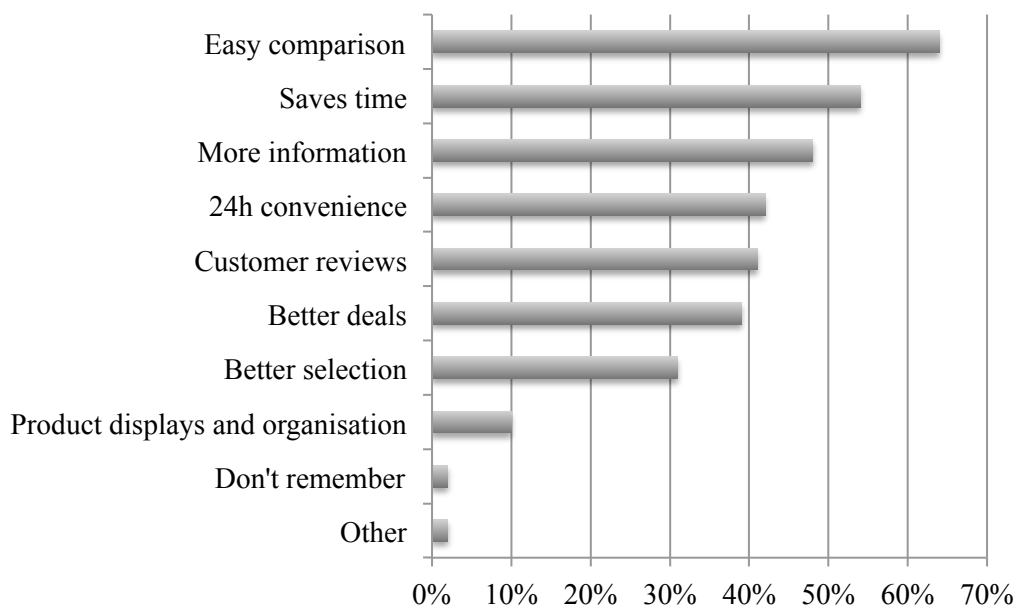


**Figure 5 - Reasons for Buying CE Online (Source: Own illustration on the basis of Comscore, Searchandise Commerce & iProspect, 2010)**

It becomes obvious that there are a few relatively important reasons for buying CE online. They mostly centre around the theme of convenience, such as saving time, being able to order at any time and easy comparison. However, accessing better and more information as well as financial benefits also play a role. To find valuable conclusions, the reasons for shopping offline are briefly contrasted below.
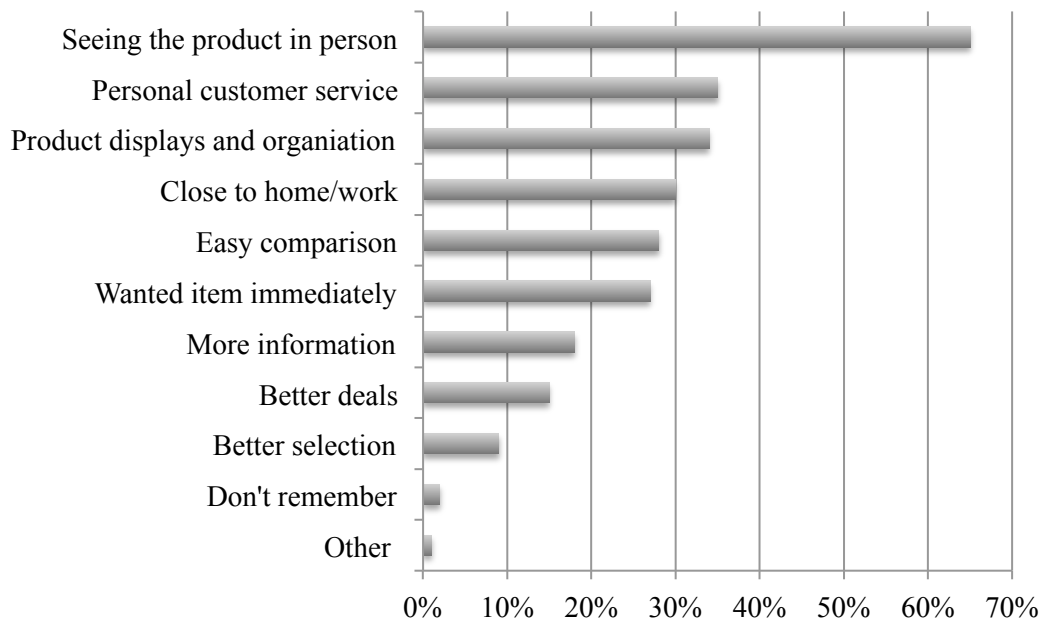


**Figure 6 - Reasons for Buying CE Offline (Source: Own illustration on the basis of Comscore, Searchandise Commerce & iProspect)**

Here, the focus is on the personal aspect of the business. Seeing the product and talking to sales staff are most important. Convenience plays a smaller role than online, and the pure gathering of more information is also less important. These outcomes may explain why customers shift from online to offline channels. Gathering information that is easily accessible is more important in the beginning of the process while in later stages, buyers actually want to see and feel the chosen products before the purchase, reducing experience and possibly credence characteristics of the purchase. Peck and Childers (2006) add that not being able to touch merchandise decreases confidence and increases frustration with the buying scenario. At the same time, being able to touch products greatly increases the willingness to buy and the possibility of impulse purchases. These effects are more intensive towards the evaluation phase where they can influence attitude, which influences evaluation behaviour (Puccinelli et al., 2009).

Regarding the length of the purchasing process, 33% of CE customers only need one week or less, and 40% need 2-4 weeks. 27% need 5 weeks or longer. (Comscore, Searchandise Commerce & iProspect)

It has to be noted that the "consumption" of a CE product is too much focused on the long term and will therefore not be included in the empirical study.

## 2.3     Consumer Behaviour in Mobile Commerce

In this chapter, mobile commerce empirics will be presented and it will be shown how new technologies can change the traditional purchasing process. In the first step, current research on e-commerce will be presented because it is believed that m-commerce and t-commerce follow similar patterns (Kollmann, 2009). This is supported by Martin's observation that consumers use scripts in order to use learned behaviour for simplifying future purchases (1991). For instance, 90% of iPhone users shop online via stationary computers. The content accessed on their mobile is almost identical with that looked at on their computer (Google, Otto Group, tns infratest & Trend Büro, 2010). Therefore, processes are probably similar, learned and guided by experience (Interone, 2010).

Starting out it can be said that there are decision making models specifically for e-commerce. However, these differ only slightly, if at all, from traditional models and often are not based on actual empirical research (see Butler & Peppard, 1998; Gommans et al., 2001; Hoffman & Novak, 1996; Patwardhan & Ramaprasad, 2005; Rowley, 2000). Even Blackwell, Engel and Miniard have suggested additions to their model in the area of e-commerce. However, these also seem more anecdotal than empiric (Ambaye, 2005).

Nonetheless, they may still be valid since, according to Ganesh, Reynolds, Luckett & Pomirleanu (2010), there are more similarities between online and offline shoppers than previously thought. Nonetheless, as expected, there are some differences in every phase of the purchasing process. In general, one factor that has changed, according to research, is that every time of day is used to find information and to shop. In a lead user study,

Interone[1] has found that esspecially work time is used to include colleagues in the search process. In m-commerce, this trend might continue since ubiquity is even greater than in e-commerce. During the search, the web allows for deeper, more nonlinear searches than offline sources due to the vast amounts of information available and the ability to switch between sources of information much more quickly (Ambaye). In addition, for some consumers, purchases that were prior more instrumental, can become more experiential, since the Internet provides them with a new experience and higher convenience (Kulviwat, Guo & Engchanil, 2004; Rowley, 2000). Also in the information phase, transaction costs are lowered, mostly in the fields of search costs and access costs (Korb, 2000). For instance, product recommendations on sites like Amazon are used frequently (Interone).

Compared to stationary purchases, the e-commerce customer is moreover more interested in information about the functionality of search goods and information about the supplier in experience goods (Korb). When it comes to product involvement, it can be noted that for highly standardized goods, the Internet effectively serves as a new distribution channel, while for professional, high involvement goods, the Internet functions more as an information resource (Hsieh, Chiu & Chiang, 2005; Laing, Lewis, Foxall & Hogg 2002) During and after search, the problem of imperfect information is largely minimized. Therefore, the passing through the stages is easier than before and combined with the reduced information need, is accelerated. Zellwegger (1997) adds that the backward loops that were found in the traditional models as well, have become increasingly important and relevant with the advent of the Internet, since restructuring the process, online and offline, has become much easier. In addition, the telephone remains the preferred way of contacting suppliers and retailers before and after the purchase, but is now complemented by the Internet (Korb).

Purchase abortion occurs most frequently during the product selection phase for German customers. When they are currently looking at information on a retail site, they are most likely to cancel the process while looking at different products. During the payment and registration process, only relatively few customers still abort the process

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[1] The Study *The Age of On* by Interone (2010), due to the appropriateness of their study for this thesis as well as its quality is referred to a lot. Therefore, its methodology is briefly explained. The iPhone usage behaviour of 8 smart natives was observed for 14 days. In addition, interviews at their homes were conducted. The findings were validated by a quantitative study among 1,000 iPhone users in Germany.

(iBusiness, 2010; Statista, 2011). Reasons include not being ready for buying the product, further comparison on other sites and too high shipping costs (Forrester, 2009).

In addition to literature on e-commerce, a considerable amount of theory has been gathered on m-commerce directly. Here, its key findings on consumer decision making are presented.

The main target group of m-commerce are young consumers. Regarding *individual differences*, age and previous e-commerce experience as well as attitude towards m-commerce are the main predictors of an m-commerce decision. Gender, income and education are not important. (Bigne, Ruiz & Sanz, 2007; Lee, 2005) They do not use their mobile for surfing, but for very specific tasks, which may also reflect in their shopping behaviour (MRM Worldwide & TU Darmstadt, 2010). Also, they are enabled by a well functioning smartphone to buy online, which is why financially well-off customers should be in the lead-user group for mobile purchases (Infas, 2010). Their financial context may further influence their purchasing decisions. Both these statements are in contrast however to research by Bigne, Ruiz and Sanz and may not hold true in future research.

It is unlikely that the whole purchasing process takes place on the mobile (Broeckelmann, 2010). This is a difference to e-commerce where often a whole chain of activities can be undertaken online. The small screen of the mobile can be seen as a hindering factor, but mostly as a matter of convenience, since comprehension rates are as high on small as on large screens (Duchnicky & Kolers, as cited in Cyr, Head & Ivanov, 2006; Google, Otto Group, tns infratest & Trend Büro). In addition, the phone is often used in public spaces where no long and intensive information processing takes place. Nonetheless, this is the one strength of m-commerce. It can be used anywhere, anytime. Features not included in an e-commerce experience are ubiquity, personal identity and localization (Kannan, Chang & Whinston, 2001; Lee, 2005). Due to the mobile characteristics, the operating environment is very different to e-commerce (Siau, Lim & Shen, 2001). In the case of high involvement goods like CE, relatively high uncertainty is even increased by unfamiliarity with the channel. This can lead to changes to other channels with lower uncertainty (Broeckelmann). Nonetheless, information need itself seems not to be a hindering factor for using mobiles for

purchases. Therefore, mobiles might actually not be discarded when a high involvement good is needed (DMC, 2009).

During the information phase, mobile devices present more diverse opportunities than stationary computers. For instance, barcodes can be scanned or augmented reality tools can be used (Klopfleisch, 2009). This means that not only can the customer use more variety in his search, marketers can also influence the process in completely new ways. As for traditional information sources, iPhone users are more prone towards using personal recommendations, newsletters, manufacturer websites, retail sites, online and offline media and online advertisements for their search than others their age. They are less prone towards offline advertisements and store presentations (Interone). Overall, iPhone users consult more information sources than other people and use all the possibilities that technology provides them with. This may mean that the purchasing process is much less linear than in e-commerce and includes more backward loops. In this context, it is also interesting to know the overlapping spheres of context in which mobile interactions take place. The time of day, as well as the setting, can have significant influence on the information search (Savio & Braiterman, 2007). It is also more likely that the phone is integrated into talks with friends since information can be shown to them easily. Moreover, using the phone in stores to look for reviews while looking at products may be a field of use.

At the relative end of the purchasing process, after the product selection has been made, iPhone users search for coupons for that particular product when they shop online (Interone). With the high availability of coupons in m-commerce, they will probably expand this behaviour when purchasing mobile. While in e-commerce in general shoppers often convert to offline stores for the purchase, mobile lead users do not follow this trend and may therefore more often buy products on their mobile after having started their information search there (Interone). As for the actual purchase, German customers buy mobile when they can make a bargain, save time or have already had positive experiences with the seller (DMC, 2009). Of iPhone users, a higher proportion is driven by impulse when purchasing online (Interone). Since phones are more readily available and present more opportunities for marketing (e.g. via coupons) than computers, this trend may be more prevalent in m-commerce. As for the contrast between m-commerce websites and m-commerce apps, although 33% of mobile internet

shoppers use apps, there is a 30% higher conversion rate of apps compared to websites (Comscore, 2011; Eads, 2011).

As for the influence of marketing tools in the interest phase, fun activities, information services and coupons, seem to be most successful. The most popular way of receiving coupons is via text messages or emails (eMarketer, 2011a). New technologies like QR codes or check-ins are relatively unimportant (MRM Worldwide, 2010). During the purchase, information services and lotteries are important, but couponing becomes less successful (Proximity Germany, 2005). This stands in contrast to iPhone users' statements that coupons are often searched during the purchase. 22% of U.S. mobile-phone users have also already purchased a product or service after viewing a mobile advertisement (eMarketer, 2011a). According to Broeckelmann, in Germany, SMS are very ineffective - contrary to the U.S. (ExacTarget, 2011) -, as are Facebook and Twitter, two channels whose influence on the purchasing process has been greatly overestimated by popular media. Instead, customer forums, price comparison sites as well as search engines are the most important influencers, after the social environment, on mobile lead users. (Interone) Overall, German users have a comparably positive attitude towards mobile advertising, especially among 16-24 year olds (Aeneas Strategy, 2009).

Abortion of mobile purchases often takes place when a website is not optimized for smartphones and buying a product is easier on stationary computers (Dragon, 2011; Kisielowska-Lipman, 2009). Other reasons that possibly lead to an abortion are error messages, log-in problems, waiting times or confusing and insufficient information (eMarketer, 2011b; Strangeloop, 2011). 43% of smartphone users said they would abandon the transaction and buy on a computer after one of these things had occurred (eMarketer, 2011c).

After the purchase of a product on a computer, iPhone users more often than others try to get feedback from friends, write online reviews and post something on Facebook. Backwards rationalisation is also more frequently used by iPhone users (Interone). Overall, they more openly talk about their purchases and have extended post-purchase behaviour. When purchasing on mobiles, the target group may be similar and these behaviours may be observable. As for loyalty, there seems to be a larger path coefficient

from enjoyment to m-loyalty than from usefulness to m-loyalty. Such enjoyment can be created via design aesthetics. (Cyr, Head & Ivanov, 2006)

## 2.4    Consumer Behaviour in Tablet Commerce

So far, only a minimal body of research consists on purchases via tablets. Gladly, more parallels can be drawn to e-commerce than in m-commerce, since usage environments seem to be more similar. Tablets are used less during the day than smartphones, but more in the own house. Nonetheless, one cannot assume the same patterns as in e-commerce since only 22% of consumers say they would use an iPad to replace their netbook and see it more as a substitute for their iPod Touch (Comscore, 2010). The priority is not always targeted search, but casual commerce where intuitive shopping and impulse purchases are common (Fresenmayr, 2011). Often, users pick up their tablet first and then decide what to do with it (Bonnier, 2011). The two drawings below show stereotypical situations in which a tablet is used.



**Figure 7 - Stereotypical Purchase Situation on a Tablet (Source: Kittler, 2011)**

In this situation, inspiration and visualisation are very important. Depending on whether the purpose of usage is browsing or goal oriented search, visualisation may be more important than the availability of information. Nonetheless, few shops offer tablet-optimised sites so far. In this situation, parallel usage of technologies may be an important factor, too. 64% of Germans already go online while watching TV (Delphi Studie, 2009, as cited in Google, Otto Group, tns infratest & Trend Büro, 2010). This trend may intensify when using tablets, especially since 71% of tablet owners already use dual screen technology to stream content while they shop (Shopzilla, 2011, as cited in McNary, 2011).

**Figure 8 - Stereotypical Purchase Situation on a Tablet 2 (Source: Kittler, 2011)**

In this situation, a quick scan of possible clothing combinations, reviews, or prices online are important. Here, visualisation is just as important, but not more so than actual information content. In this situation, the tablet is used by more than one user. This situation also depicts how tablets can be seen more as a substitute for an iPod Touch than an actual computer.

Taking into account all the insights generated in chapter 2, as well as the initial questions in the introduction, the following research questions should guide the methodology and empirical research. It has to be noted, though, that these present the broad strokes and frames in which the actual interview guide will be developed:

1. In how far is the traditional decision making model by Blackwell, Miniard and Engel still valid in the fields of m- and t-commerce?
2. How are the individual aspects of the model exemplified in m- and t-commerce and what marketing factors are influential for mobile and tablet customers?
3. What new developments in the decision making of mobile customers have to be considered important for research and practice?
4. What does a micro-model of a decision making process in m- and t-commerce regarding CE look like?
5. How can marketers influence mobile and tablet customers in their decision making?

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# 3    Methodology

In this chapter, the research approach, along with the design of the studies as well as the participant selection and research conduct are explained. Moreover, the research quality of the used measures is evaluated.

## 3.1    Research Approach

This thesis uses a qualitative study to develop its insights. The literature review exposed the traditional decision making model to probably not be completely applicable to m-commerce. Therefore, it has to be understood how a new model should be constructed (Ambaye, 2005). Corbin & Strauss (2008) suggest that qualitative methods can be used to obtain the intricate details about phenomena such as feelings, thought processes, and emotions that are difficult to extract or learn about through more conventional research methods, which is advisable in the field of consumer behaviour (Blackwell, Miniard & Engel, 2006). Blackwell, Miniard and Engel add that purchasing decisions are hard to explain, even on the part of the subjects themselves, which also hints towards qualitative research. In general, qualitative research is said to be inductive and is designed to build a theory, rather than to evaluate it (Gibson & Brown, 2009). To gain an understanding of the relevant issues of m- and t-commerce in order to better design the qualitative research, a literature review was conducted. However, no actual hypotheses were formed as a result of this review. Below figure explains the overall research approach.
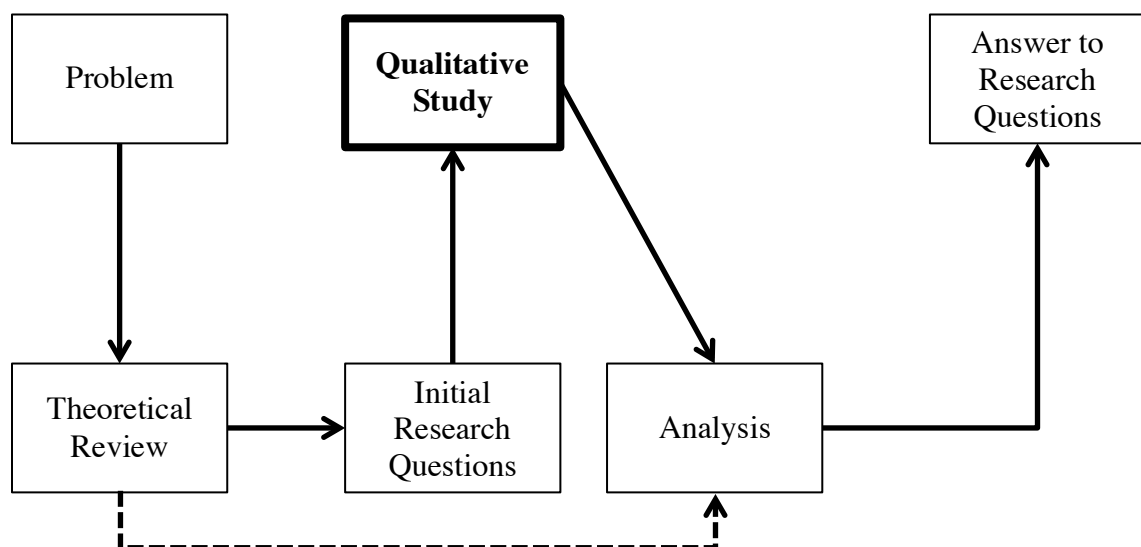


**Figure 9 - Research Process (Source: Own illustration)**

## 3.2    Research Design

In the study interviews were seen as an appropriate method for extracting the insights needed. The interview mode used were online conversations in order to access lead users that can provide the necessary knowledge. Details about participant selection can be found in chapter 3.3. Regarding the interview type, semi-structured conversations were conducted in order to adapt questions to the situation and the context of each respondent's purchasing decisions. Some processes happen on a very subconscious level and may be lost in a too structured approach. In addition, insight extraction was increased by breaking down barriers imposed by too stiff interviewer and interviewee roles (Gibson & Brown, 2009). Nonetheless, some guidance is necessary to make sure theoretical concepts are included and high-quality questions can be asked. This also includes partial analysis during the data gathering process. The interviews were conducted online via Skype in order to increase the pool of possible interview partners. Interviews were recorded via the Skype recording software Ecamm. After they were recorded they were transcribed. Transcription was verbatim in most aspects, but clearly unimportant sections such as repetitions or research-unrelated sentences were paraphrased or left out. Transcripts were not translated from German to English due to convenience and the researcher's ability to understand the original language and to include them in the thesis without having to rely on word-to-word translations.

Regarding the types of questions asked, interview guidelines by Kvale and Brinkmann (2009) were applied. The questions were based on the literature review and on the insights gained about consumer behaviour and characteristics in m- and t-commerce. In general, recommendations for qualitative consumer behaviour research by Rutschmann (2011) were followed. All interviewees were asked prior to the interview about what type of product they had bought in the last two weeks. Following that, the questions in the interview guid that seem general at forst, were all focused on the purchase process for that particular product. If an interviewee had bought two CE products recently he was asked which decision making process he remembers better. In the interviews, the focus was narrowed to one consumer and one purchasing decision, constituting an inductive approach. This consumer's activity chain was then drawn, and the resolution was increased to find patterns in his behaviour. These patterns were extracted and partly compared to reference patterns from the literature review. Once a somewhat

generalizable overall pattern was identified, it could be mapped as an overall consumer behaviour pattern, although not generalizable for the whole population, due to the limited sample size. Good results are supposed to occur when there are 20-30 identified activity steps. A large portion of the questionnaire was based on the steps of the traditional decision making model. There were two rounds of interviews conducted, one for m-commerce and one for t-commerce. Both studies were similar, but differed in details that had to be adapted for each device.

Due to the limited scope of the thesis and recommendations by the supervising tutor no quantitative study was conducted that might test and generalize hypotheses formed from a first qualitative study. Moreover, the topic of consumer behaviour, especially in a field as dynamic and novel as m- and t-commerce, quantitative research would be hindering since its methods do not allow to grasp the full scope of the field of research. However, it must be noted that some sources (e.g. Bryman & Bell, 2007) recommend increasing research quality of qualitative studies by adding quantitative research.

On a side note, observations are frequently used as part of qualitative studies of online and mobile consumer behaviour, but were not considered suitable in this study. When studying purchasing processes of high-involvement goods, interviews are better suited since decision making processes take too long to form and are too deeply rooted in the emotional contexts and scripts that people use in their consumption to be replicable in a laboratory context. Similarly, a large part of these processes are part of non-observable decision making behaviour (see Kroeber-Riel, Weinberg & Gröppel-Klein, 2009). This is also why recency was an area of focus, as proposed by Engel, Blackwell and Miniard (1995).

## 3.3    Participants

The main difficulty when selecting participants for this study was the novelty of the examined issues. In Germany, m-commerce and especially t-commerce are still not a mass phenomenon and finding participants who have practical experience with either one is a challenge. Therefore, interview participants were recruited from pools of lead users - smartphone and iPad online forum users. Lead users, *smart natives*, are shown to have used their phone 25% more often for obtaining product information and can

therefore be seen as an approximation of the average user of the future (Google, Otto Group, tns infratest & Trend Büro, 2010). To recruit participants for a face-to-face interview conducted online via Skype, small monetary and pro-bono incentives were offered. The reward were either a 5€ donation to the red cross or one of four 20€ Amazon vouchers. This way, respondents could be incentivised to undertake a considerable effort by setting up the Skype contact, being available at a certain time and spending time answering questions. This also increased relative representativeness by letting involuntary participants respond (Bosnjak, 2001; James & Bolstein, 1992). While a limitation to a particular group of customers may have been desirable, the low number of possible interviewees, no selection of willing participants was conducted. The limitations to sample size was the fact that a CE product was in fact purchased via the smartphone or tablet in the last two weeks. One problem that may have arisen is the limitation to a particular part of the target group, which is fostered by the selection by chance. In this case, larger samples only partly increase statistical representativeness and type I errors can occur (Hauptmanns & Lander, 2001). These forums, on the other hand, include the risk of finding a heterogeneous sample, which can increase type II errors (Lynch, 1999). However, homogeneity regarding their lead-user status and their predictability for the future mass market were ensured. Therefore, type I errors due to a too homogenous sample seem more probable, but should not be overestimated. It has to be noted that due to participants' anonymity which was guaranteed to enhance the quality of research, no names can be given and due to their missing traceability, no references to single interviewees are given in the list of references, following recommendations by APA. However, interview dates, along with the products purchases are given in Appendix III to make the research process more understandable.

In alignment with recommendations by Kvale and Brinkmann (2009), a sample of 10 respondents per study was seen to be sufficient. Regarding their demographics, the mean age of m-commerce respondents was 23.5 years with a range from 19 to 27. For t-commerce, the mean age was 25 years, with a range from 23 to 30. In m-commerce, 80% were male and 20% female. In t-commerce interviews, all respondents were male. M-commerce respondents were well educated as all of them were college students. For t-commerce, 80% were students with two having already graduated from college. In conclusion, respondents were young males with a university education.

## 3.4    Research Quality

The quality of research must be evaluated taking into account the research approach and design. Different methods of research call for different criteria. Below, the concepts of validity and reliability are discussed for the empirical study.

### 3.4.1   Validity

The validity will be evaluated by how well the research has measured the characteristics it was supposed to measure. Five main types of validity will be taken into account: content validity, construct validity and criterion validity (Carmines & Zeller, 1979), as well as the two related concepts of external and internal validity.

Content validity measures the extent to which an instrument captures the different facets of a construct (Vickery, 1998). Since the domain was narrowed down to a particular area of focus, and research participants were chosen randomly from an equally small universe, representativity for the entire construct is supposed to be high.

Construct validity, the traditional measure of validity, describes how well what was supposed to be measured was actually measured. It was explained in 3.1 and 3.2 that the qualitative approach is appropriate for studying consumer behaviour. Validity is further increased by the absence of a social desirability bias due to anonymity and the fact that no opinions were asked for and no answer seemed to be socially more desirable. The use of literature before empirical research enhanced the adequacy of the interview questions. One issue that might have impaired validity was the sole use of semi-structured interviews. Validity is decreased by intertwined data gathering and analysis, sympathy and unplanned interaction. These concepts were used to increase the amount of insights generated. However, leaving out personal questions about characteristics of the interviewee that could be positive or negative helped to increase validity. (Schuler, Stehle & Barthel, 1990) Also, the qualitative study increased triangulation by using multiple sources of information. In both studies, low gratification helped to increase validity, since "fun answers" to earn money were made less likely (Batinic, 2001).

Criterion validity is harder to measure and not an appropriate validity concept within the research approach used and is therefore not evaluated. Similarly, internal validity is

a concept of lower importance, since the present empirical study does not, in the first step, examine a causal relationship, but explains "how" a certain decision making process is constructed.

Another perspective in evaluating the soundness of qualitative research in relation to validity has been brought up by Lincoln and Guba (2006). To them, credibility, transferability and confirmability are important and constitute the concept of trustworthiness. Credibility, like internal validity, is hard to evaluate, but can be measured somewhat by examining the methods used to increase richness of data (Patton, 2002). Due to two fields of research, m-commerce and t-commerce, a higher knowledge of conducting interviews as well as interrelating information could be gathered, such as correlation between external influences and internal decision making. In addition, thorough research and consulting with a tutor have increased the analytical abilities of the researcher. Transferability is attempted to be maximised by providing thick descriptions of study methods and the context of the study. It is thought that these accounts allow a sufficient transferability to other contexts, but it is possible that the results only hold true for the specific situation studied in this thesis. The confirmability may be questioned since only one author was responsible for the research at hand. A complete confirmability audit lies outside the scope of this thesis and therefore, confirmability can not be judged in its entirety. It was attempted, however, to not include personal judgments and to not influence interviewees in ways that other researchers would not.

External validity, however, is important in that it answers "the question whether the results of a study can be generalised beyond the specific research context" (Bryman & Bell, 2007). However, the goal of the qualitative study was less the generalisability of results and more the gaining of new insights. Of course, one has to accept that the study results are only valid for the particular market and timeframe set in the research. However, since there is such a narrow focus, validity for this area increases. One factor to keep in mind is the self selection of participants from a particular group of lead users and early adopters, which means, results may only be valid for a wider population once the technology has spread further (see Bryman & Bell).

### 3.4.2   Reliability

Reliability is concerned with whether the results of a study are repeatable (Bryman & Bell, 2007). In qualitative research, multiple interpretations of reality exist and not one can be seen as absolute (Lincoln & Guba, 2006). That means no fixed references can be given that ensure complete repeatability of a qualitative study. Stenbacka (2001) even argues that a qualitative study that is set up with reliability as a criterion, is no good. Instead, according to Lincoln and Guba, one should ensure dependability which emphasizes the need to account for the ever changing context within which research occurs. Different measures can be taken to enhance dependability (Goetz & LeCompte, 1984). One is to enhance dependability using an "inquiry audit" where the process and the product of research are reviewed for consistency. In this thesis, the author attempts to thoroughly describe his decisions and methods used in his research. These are supposed to raise dependability within the scope of the thesis to let external auditors validate the findings. Another technique is to clarify the assumptions and theories the research is based on and how participants were chosen. Although it is hard to clarify all assumptions the author has, special care was taken to describe the link between literature and empirics and  how the interviews and participant selection were conducted.

# 4    Results

In this chapter, the results of the empiric research are presented. First, the qualitative study on m-commerce is presented, followed by the results of the study on t-commerce. The respective products bought by m-commerce customers and t-commerce customers are found in Appendix III.

## 4.1    Results for Purchases via Mobile Phones

This section includes the interviews conducted for m-commerce customers. A total of 10 interviews were conducted. The interview guide can be found in Appendix 1. It has to be noted that the interview guide was only a guide and not all questions were necessarily asked in that order, nor was there a strict form of how the questions were asked. All of the respondents were people who have bought a CE product via their smartphone in the last two weeks.

### 4.1.1    Individual Differences

Some individual differences, in the context used by Engel, Miniard and Blackwell, have been outlined in the methodology already. The age of respondents was 23.5 years, with a range from 19 to 27. All of the respondents had a college degree or were studying at a university. Regarding income, they were not very far from the German average income, as compared to data given by Statista (2012), but exact numbers were not always available. This is attributable to the fact that most of them were students and only two already worked in jobs that were averagely well paid for their level of education. Most of the respondents also lived in urban areas and said they follow trends in terms of technology and society quite a lot. Looking at customers' motivation and involvement, most of them spoke about an extensive problem solving task and were motivated by finding the best product in terms of functionality and price. Aesthetics were only a minor factor, as were emotional benefits or social impact. Regarding their motivation to shop via mobile phones, respondents said they had no major objections against doing so. Security concerns were almost non-existent. They were rather concerned with the small screen and the information they were able to extract, as well as with the fear that they might make an impulse purchase without actually wanting to buy the product. They were also, overwhelmingly, motivated by the convenience offered by the smartphone.

Their attitude towards m-commerce was positive and all of them said they had done it before and will definitely do it again in the future.

In general, m-commerce customers liked to shop, online and offline, even though they were no enthusiastic shoppers when it comes to high-involvement goods. Only a few respondents mentioned they do not enjoy shopping at all. They also mentioned they take sufficient time to shop, with some remarking they only shop seldom. Again, only two respondents said they take a lot of time for shopping. Interestingly, there was no clear pattern as to how many per cent of their shopping activities are conducted online. About half of the respondents said they shop online quite a lot, but the other half only makes half their purchases or less online. They also mentioned that online, they buy high involvement goods as well as low involvement goods and that they could not see a clear pattern as to which products they usually buy online. Nonetheless, all of the respondents had high knowledge of online transactions and were familiar with the major functionalities of e-commerce. They also said they had good knowledge of how to use their mobile phone in different situations and how to employ new technologies like checking in and scanning barcodes.

### 4.1.2 Environmental Influences

Culturally, interviewees were influenced by the area they live in. Since the majority lives in larger cities, urban trends are a major influence on their behaviour. Most of the respondents were moreover influenced by their rather high social class. Even though many of them were students, they said they were able to finance a comfortable lifestyle, also influenced by their parents' income. The respondents that were already working also revealed they feel as if they belong to a higher social class. This may influence their behaviour in how often they buy products, whether they own a smartphone and whether they own a tablet as well that may strengthen their mobile affinity. Personal influences are mostly composed by peers as well as information sources like magazines. Interviewees expressed that they are quite interested in mobile applications and trends and also read online magazines on that topic. They are moreover active in internet forums dealing with mobile phones. Therefore, they are naturally surrounded by others who have a strong interest in the same topic and may further enhance their proneness to use shopping via the mobile web: *"... my friends have more than once shown me new*

*posiibilities of how to better utilize my phone"* (personal communication, November 20, 2011).

Regarding the influence of their family, or their marital status, none of the respondents thought this had any influence on their consumption behaviour, especially when focusing on m-commerce. Situational factors may well have played a role in their purchasing. They said that a lot of times, free time was a reason why they used their mobile phone for information search. However, regarding the product itself, situational factors were relatively unimportant as most products were bought out of a long term need.

### 4.1.3   Need Recognition and External Stimuli

Before looking at how a certain need evolved, it is interesting to see what products customers bought via their mobile phone in general. These ranged from notebooks to egg boilers, and were in the price range from 20€ to 700€. It was revealed that customers buy all kinds of CE and are not deterred by high prices. For the majority of interviewees, the initial need emerged in everyday situations where the product was needed. Often, an old product was broken or there was a clear functional need for the product, such as a hard disk with a higher capacity. No respondent mentioned a very emotional attachment to his needs and none of the products, apart from a notebook, might generally be placed in the category of *experiential purchases*. One respondent noted *"I think it all started with an advertisement of the product in an Amazon newsletter I received"* (personal communication, December 5, 2011). Two respondents read online media articles of PC magazines and thus became interested in buying the products. One respondent moreover said he saw the product on a retailer website while surfing and thus bought it. The time between becoming aware of the need and starting an active search process was between one week and two months long, with most respondents having waited for a bit longer than a week.

### 4.1.4   Information Search and Evaluation of Alternatives

The search process was started at very different places. While four of the respondents started their search at a shopping site, others went to search engines, price-comparison sites, manufacturer sites, review sites or blogs and articles. None of the respondents

searched in a store first. One respondent mentioned *"... therefore I talked to some friends about the topic [...] but I am not sure if that was really the first thing I did"* (personal communication, December 5, 2011). In general, almost all interviewees went online as their first destination. Respondents also mentioned that their initial search destination was not influenced by the product, but by their decision making habits that have formed over the years. Regarding the device where information was searched first, most respondents used their smartphone to do so. A few also used the PC first, while one initially used his tablet. Two interviewees who went online via their phone answered that they went to a retailer site because it was easier to access than other sites. The length of web sessions on the phone was estimated to be at around 5 minutes per session.

After an initial, still very sketchy picture of available products and categories was drawn, customers said they first looked at customer reviews to find a suitable product within a certain category. This happened via review sites, but also via online shopping sites such as Amazon where reviews are one of the functions. Also very popular were price comparison sites. Most respondents said their focus was narrowed down by either the price or customer reviews, with price being more important. Manufacturer websites were not as important, nor was the media. Customers expressed the impression that the information content was not sufficient or not targeted at their needs. After first information was gathered, though, the focus expanded to manufacturer sites as one of the most important sources: *"At this point I really had a better feeling about the fact that I could understand and interpret their information"* (personal communication, November 24, 2011). Nonetheless, customer reviews and especially price comparisons, now mostly on separate websites, were still more important. After customers had advanced quite far in their information search, they focused on reviews and especially prices even more. Now, manufacturer websites were not as important anymore, since quite an advanced knowledge of the products' functionality has been attained and comparison became more crucial. Media has now risen in importance, too, although it has only been relevant for two respondents. The reasons for consulting media were tests as well as general articles about the product category. So far, no respondents said they looked at any information in physical stores. When asked why, they said there was no need since they knew what the products looked like from pictures and their functional features can much more objectively and more comprehensively be researched online.

As for marketing activities by companies, respondents felt they were still not influenced by them. A good presentation of the product may have lured them to a particular site, but no advertisements or the like were considered influential.

Once customers stepped into the evaluation phase, focus shifted almost completely to prices and almost all interviewees now compared prices intensively. They used price comparison sites and shop-internal price comparison. Thus, online shops also rose in importance again. Customer reviews decreased in importance. Manufacturer websites as well as media remained relatively unimportant and were mostly used to support decision making, but not in crucial ways. Also now, for the first time, customers went to physical stores, mainly to compare prices. Interviewees expressed a lack of convenience regarding these stores, but said that not paying shipping costs was an advantage. None of the respondents said they looked for coupons for physical stores on their mobile. Looking at the course of the evaluation phase, customers first decided on the product they wanted to buy, based on their former search process, and then decided on which shop to use, based mostly on price comparisons - and other factors described later - which often happened on specific websites. Overall, most sources were consulted 4-6 times, with price comparisons being the most popular, having been consulted roughly 10 times.

Regarding the *location* where respondents looked for online information, most of the time, even though they accessed the mobile web, they did so from home. Other popular places were the subway or the bus, as well as university and the workplace. Only rarely did they go to physical stores to check information, and even more rarely did they use their phone in these situations. In addition, not the whole search process was completed on the phone. The computer was also a very popular device used. Half the respondents said they regularly used their computer instead of their phone to look for information. Especially when the purchase came closer and they felt more serious about their endeavour, customers switched to the computer.

There were almost no backward loops in the information searching process that lasted about two weeks on average. Two respondents explained that they became insecure about their purchase at the very last moment, so they went back to customer reviews as well as price comparison sites to check whether they actually made the right decision.

However, they did not change their mind about which product to buy and what retailer to buy it at.

### 4.1.5  The Purchase

As is known, the purchase was finalised on the mobile phone. This was not the intention, though, since most respondents initially wanted to buy the product on their PC. When asked why they changed their mind, meaning why they purchased it via their phone, convenience was by far the most important reason. Most customers said they already knew what they wanted to buy since they searched for information online, and only had to make the purchase. For most, the smartphone was ideal for that purpose since one can use time that would otherwise have not been used for productive purposes. It was also said that the customer *"had no internet connection on any computer or so on, so the mobile phone was the best possibility I had for ordering the product"* (personal communication, December 20, 2011). For two interviewees, their in-store search at the very end of the purchasing process was the last step before they bought the product, thus they could easily finish the process on their phone after leaving the store. When asked why they chose a specific online shop, respondents had very different answers. Most respondents did not only have one explanation why they chose a particular store. Price was the most important factor for most interviewees. However, former transactions with that retailer, trust and shipping times were important, too. Other reasons that were not mentioned as often were the mobile functionality, recommendations from friends or other customers or the rare availability of a product.

Regarding the detailed course of action shortly before the purchase, few respondents were very quick to buy the product. As far as they could remember, most respondents looked at the product they wanted to buy, then looked at possibly cheaper bundle offers, some even looked at used goods. They took a last look at the reviews, mostly at the positive ones to reaffirm they were buying a good product, and then purchased it.

Respondents overwhelmingly answered that they purchased the product at home. Other less important locations were public transport, the university or the work place. One person bought the product in the store right after having compared prices there.

### 4.1.6    Post-Purchase Behaviour

After the purchase, all customers were generally happy with the product they bought. Customers mostly did not contact customer service, write reviews or the like: *"I do not really do that. I do not do it when I buy something on my PC and I do not do it here, either"* (personal communication, November 8, 2011). There were three respondents, however, who said they contacted customer service via their smartphone. In all cases, they contacted the manufacturer and not the retailer. Also, all issues were related to the functionality of the product and possible defects. Interestingly, three of three contacted the manufacturer via the phone, and not the web.

## 4.2    Results for Purchases via Tablets

In this section, the results for t-commerce respondents are presented. Again, there was a total of 10 respondents, and the interview guide can be found in Appendix 2. The structure again follows the traditional decision making model by Blackwell, Engel and Miniard. Moreover, a few basic observations that were made in chapter 4.1 will be left out to focus more on the details of t-commerce.

### 4.2.1    Individual Differences

Regarding age, there was a range from 23 to 30 years with a mean of 25. All respondents were male and 80% had a college education. The income was quite high. All respondents said they earned above average salaries. The resource "time" was relatively available since many respondents were still students and the others had jobs that allowed them to live a life outside of their office as well. Basically all respondents enjoyed surfing online via their tablet and they seemed very comfortable with all the functions available. No security concerns were voiced. Shopping on the tablet was perceived to be enjoyable and it was also said the tablet could be used in a variety of settings even if the product is bought through another channel. Most respondents perceived shopping processes very similar to those in e-commerce. Regarding shopping in general, interviewees enjoyed shopping quite a bit, with only a few saying they are neutral or do not like it. They had quite substantial amounts of time available to them when it came to shopping. One respondent noted: *"I can easily go to the city after I finish work in the evening, I definitely have enough time for that"* (personal communication, November 9, 2011). As in m-commerce, there was a very wide spread

in how much was shopped online, from very little to more than 80% of products purchased.

### 4.2.2   Environmental Influences

Most respondents lived in large urban areas which, as in m-commerce impacts their culture, their social surroundings, etc. From what they explained, their environment seems a bit more hedonistically oriented than that of the respondents from the m-commerce interviews: *"My friends are all quite well off [...] they do go out quite often and then I often join them"* (personal communication, December 10, 2011). They nonetheless share most environmental influences with the respondents from the m-commerce survey, especially since all of them own a smartphone as well and expressed high levels of comfort and knowledge in that field as well.

### 4.2.3   Need Recognition and External Stimuli

As in m-commerce, customers bought products of different price ranges, from 10€ to 400€. Also, products stemmed from different categories. The need developed mostly in everyday situations where the product was needed. However, surfing on online shops and manufacturer websites were relatively important reasons as well. One respondent noted he *"... talked to friends about new phones and some of them had Casio cameras, so I naturally became interested in those"* (personal communication, December 10, 2011)  The time between need recognition and the beginning of the search process was quite long and took more than two weeks for most respondents. However, a substantial amount also answered they did not waste any time between recognizing a need and starting the search. There was not such a clear pattern as to how the need was motivated. A few times, the purchase was seen as a purchase based on situational factors and functionality of the devices was not always the main criterion for why they were desired by the customer in the first place. As for external marketing-moderated stimuli, no interviewee mentioned this as a reason for an emerging need. What was interesting, though, was that three respondents said they were made aware of a product on a couponing website like Groupon, which can essentially be seen as a marketing-moderated stimulus.

### 4.2.4  Information Search and Evaluation of Alternatives

For most customers, the start occurred at online shops, manufacturer websites and customer review sites. Price comparison played almost no role, as did physical stores. Friends were a minor source of initial information. After having collected first insights, the focus broadened to price comparison sites and media as well as blogs. Customers now felt that they needed to find more information from different sources. Nonetheless, customer reviews and online shops remained the most important source of information. Interviewees said that, at this stage, there was still not a clear focus on a single product or brand, only on the online shop, where the product should be bought. After having collected a lot of information already, focus shifted more towards price reviews, although never very strongly. Instead, looking at products in stores and in the media became more important. Interviewees expressed the need, after having basically decided on a few products of higher interest, to double check with other sources whether the products fit their requirements, price-wise and technology-wise. Especially blogs were popular and a lot of time was spent reading them. The three interviewees who first noticed the product on a couponing website also conducted further search activities. In fact, these were just as extensive as those of other customers, with the only difference that the product of interest was known from the beginning. In addition, they used the same sources in approximately the same order as other customers.

In the evaluation phase, shortly before the purchase, online shops rose in importance again, although price comparisons did not. Instead, the prices of different sellers on retailer websites like Amazon were seen as sufficient for tablet owners. Other concerns at this stage were time of delivery and possible shipping costs. In addition, physical stores as well as customer review sites were consulted.

In general, most types of sites were visited quite often and for longer periods of time. For instance, respondents said that they probably visited at least six blogs or media articles, with few respondents saying they visited about 15. The same numbers came up when asked how often customer review sites were accessed or how often online shops were visited. Only price comparison sites were visited only a few times, mostly for shorter periods and rather towards the evaluation phase: *"I looked at those later because first I wanted to make sure I find the right product for me [...] I looked at the prices*

*quickly to make sure I actually chose the right online store"* (personal communication, December 10, 2011). Interviewees said that they moved back and forth between different channels of information a lot. Not only did one individual move from one channel to the next through time, but different sites were opened at the same time and different types of information were looked at almost simultaneously. When asked for backward loops, no respondent could recall having aborted the process and having gone back to an earlier phase in the decision making process. For most, it seemed to be a very linear process that lasted about two weeks.

Regarding the device which was used to find information, the tablet was most popular. Almost all interviewees spent a long time searching for information this way. Computers were also important, but were used in addition to the tablet, not as a substitute: *"... Sometimes it was just more convenient to go online via the PC because it is easier to type and it is faster ..."* (personal communication, December 15, 2011). Friends played a minor role, and so did research via the mobile phone or stores. However, three interviewees have said they visited stores to look at and feel the product. In this situation, they also used their tablet to check up products online. They used the store to look at products they had previously seen online and vice versa. The tablet was used to note down the products and their features as well as to look at customer reviews, but less at prices. They were also compared to other products online. These respondents were also open to buying the product in the store and have even looked for coupons for CE stores in their vicinity on their tablet as well as their phone. They moreover contacted stores about the availability of a product. Even though they did not compare prices directly in the store, price was one reason they did not buy a product through that channel. Another was that they had no time or patience for going back to the store to buy the product or the product was only available online.

In regards to what place the information was searched at, almost all respondents used their tablet at home most of the time. Only a few used it at work or the university and only one used it in public transport. It seems like there were not a lot of parallel places where the tablet was used and the home was the most popular place. Respondents also noted that they used it as a substitute for their laptop and iPhone since they could watch TV at the same time or talk to others living in their home. The widespread usage at home also explains the duration of an information searching session: *"I think that I*

*usually go online quite long, probably for 10 or 15 minutes"* (personal communication, November 8, 2011). However, respondents also said they would sometimes get distracted from looking at information about the product since e-mails were read or sports or the weather were checked in between. Information search happened mostly via the mobile web and not via apps. The device's internet capabilities were sufficient to make it easy to navigate the web, respondents said.

### 4.2.5  The Purchase

The *purchase* was planned to happen on the tablet for most customers. A few also said they initially wanted to buy it on their computer, but then found it more convenient to buy it on their tablet. Also, some respondents planned to buy it in the store and one said: *"... I like to use the time I have while commuting so I simply used that time to also buy the smartphone"* (personal communication, December 15, 2011). The reason the products were bought on the tablet were mostly tied to convenience and habituality. Some were simply used to doing most of their leisure online activities on the tablet, and others have looked up information on their tablet and their computer and only needed to order it. In addition, few respondents saw the product they wanted in a store and ordered it on their tablet afterwards.

The choice for a particular shop fell mostly because of positive prior experience with the shop, its delivery policies and the shop having a good overall reputation. Price played a role which however was minor. A few respondents explained that it was more important to them to receive the product fast and to not have to bother with bad customer service afterwards than to make a bargain. When one looks at the details of the purchase on a web store, although some respondents had a hard time remembering the exact course of events, it is observable that most respondents went through a linear process. They looked at the product in question and essentially immediately bought it. One issue they then considered for a moment was the shipping method, but all of them eventually decided on regular and cheap shipping.

### 4.2.6  Post-Purchase Behaviour

Overall, customers were satisfied with their choice. Four of the interviewees have contacted customer service, and all of them have done so via the web, more specifically

by e-mail or a chat-program on the manufacturer website. The main issues were general questions regarding the functionality of a product. In general, they were not very active in convincing friends or other peers to buy or not buy the product in question: *"I did not feel like I needed to convince anyone, it is just nothing I really do"* (personal communication, November 8, 2011). Two respondents wrote online reviews on Amazon.de, but the rest was not interested in doing so.

# 5 Analysis and Discussion

## 5.1 Individual Differences

As for their age, t-commerce users are slightly older, which may be explained by the higher price of the device. Both age groups are in line with most previous literature that emphasized the young age of mobile shoppers. However, the mobile user classification by IFAK (2009) as well as research by Menhorn (2009) in Germany hint to a much older mobile shopper, aged around 30 years. Differences may be explained by the small sample size or the recruitment from online forums. Another interesting factor is the high education. Although the lead user status may have an influence on that, future m-commerce users may have similar levels of education. Research by Bigne, Ruiz and Sanz (2007) can thus be partly confirmed. Education may have an influence on whether m-commerce is used in the first place, but in this study, it had no influence on differences in the actual purchasing process or decision making. This contradicts research by Duncan and Olshavsky, however, who state that education leads to extended external search (1982). Income was also confirmed to not influence decision making.

Since the sample consisted mostly of male respondents, gender effects could not be observed sufficiently, but did not account for differences in consumer behaviour in the interviews, either. One interesting observation is that on average, female smartphone users are more active than males, but play almost no role in the lead user group (Bitkom, 2010). In the mass market, either females will also show behaviour observed here, or high smartphone usage does not correlate with extended shopping behaviour. Prior e-commerce shopping experience or e-commerce usage were also found to not have any influence on the purchasing process or the dominant device used. This, again, contradicts research by Bigne, Ruiz and Sanz. This may hint at the fact that m-commerce is unexpectedly dissimilar to e-commerce in how it is used and by whom it is used. Potentially, convenience or other factors related to the device are a much higher influence than thought. In fact, convenience motives can be seen as a strong motive to shop via the smartphone and to design the purchasing process in the way it is formed by customers.

When compared, t-commerce shoppers explained that they are more prone to impulse purchases and enjoy surfing the web more and develop needs more strongly while on retail sites than m-commerce customers. Moreover, they enjoy shopping more in general. This can all be linked to a more hedonistic lifestyle that may explain certain shopping decisions. In fact, m-commerce customers are afraid of impulse purchases as they are very functionally driven. Nonetheless, the device itself may play a big role, too, and no matter what lifestyle group one belongs to, the tablet incentivises surfing and browsing (see Fresenmayr, 2011).

The issue of personal safety, brought up by Dach (2002), seems to be less important than in e-commerce for the observed group. Since lead users may have a different attitude and prior experience, though, this may only partly be true for the mass market. However, in the long run, mass market behaviour may move closer to a more carefree view at privacy.

## 5.2    Environmental Influences

Both m-commerce and t-commerce customers were influenced by their urban surroundings and the culture that comes with it. It can be said that this type of customer is present in cities to a much higher extent than in more rural areas. Similarly, both customer types to a high extent see themselves as belonging to a higher social class. Therefore, the belonging or rather the perceived belonging to a high social class seems to increase m-commerce proneness. Nonetheless, neither in m- or t-commerce it had any influence on the actual purchasing process. Neither did those who saw themselves in a higher social class than others purchase more expensive products, nor did they move through the purchasing process faster. Therefore, involvement of a CE purchase is equally high between these groups.

What did however have an influence on the purchasing process was the hedonistic orientation of the social environment. T-commerce customers said their peers enjoy shopping more, spend more money on leisure and follow societal trends more. This may influence the decision to buy a tablet in the first place and to use it in a less targeted way. However, also among t-commerce customers, differences in response to this factor were observable. Customers with a more hedonistic surrounding were more prone to

impulse purchases and to developing needs after having surfed the web. In addition, the length of the purchasing process was significantly shorter than that of other customers. It can therefore be said that in t-commerce, a hedonistic environment has a clear effect on the purchasing process. For m-commerce, this effect can only be speculative.

Regarding personal influences, their lead user status means that magazines and educated peers greatly influence their knowledge and attitudes towards mobile usage. Since basically all respondents seemed highly involved in the topic of mobile applications, the influence on the purchasing process could not be researched. Nonetheless, it can be said that adoption of m-commerce is, at this point in time, partly dependent on the influence of peers.

Regarding the influence of situational factors, m-commerce customers did not respond to them well. Decisions seemed very calculated and well planned, hinting at the high involvement present. In t-commerce, the situation was different. Momentary factors such as products seen while surfing were important need inducers. This may either be influenced by the features of tablets in general or the hedonistic orientation of t-commerce shoppers.

## 5.3    Need Recognition

M-commerce customers overwhelmingly are influenced by everyday needs that have to be satisfied. Interestingly, emotions were minor influences at this stage of the process. In literature, emotions are supposed to be highest at the start of the CE purchasing process. Apparently, m-commerce customers adopt a different way of looking at their purchase and even with highly-priced items see their purchase mainly as a business transaction for fulfilling a functional need. This is coherent with the fact that advertisements and friends, emotional triggers, do not play a great role - a parallel to App purchases (AdMob, 2009; Adwhirl, 2009). It also reflects research by MRM Worldwide and TU Darmstadt who found that the mobile is used for specific tasks and not for surfing (2010). Rather, situations where functional needs become apparent are influential. As for the influence of media articles, their extent seem natural for any kind of CE need recognition and is not seen as a factor that requires interpretation. They do

however show that PR can be more important in instilling a need in peoples' minds than advertising.

In t-commerce, it becomes obvious that the tablet is used more as a tool to spend time than the phone. Surfing becomes more important and functionality no longer is the only factor when starting a purchasing process. Also, the time between need recognition and starting the search is much longer, which may be explained by the casualty of the situation and the fact that immediate rational needs are less of an influence. There is a divide between those that started the search immediately and those that waited. A closer analysis shows that those driven by functional needs started right away, and those influenced by situational factors waited longer. Thus, it makes sense that some respondents stated couponing websites as a need-inducing factor, since these are sites that are not often consulted when having a functional need, but rather a desire to surf the web. These findings are in line with the higher hedonistic orientation of t-commerce users and the fact that the tablet allows for greater influence by images. They are also in line with Kittler (2011) who describes surfing and situational factors to be of greater influence in t-commerce. Moreover, they can be explained by the statistic that 71% of tablet owners use dual screen technology, to stream content while shopping (Shopzilla). This means they are less focused on the task, targeted search is difficult and observed products are not immediately researched.

In general, it can be said that for both m- and t-commerce, environmental influences, personal differences and memory are important factors in shaping a need. Therefore, this part of the Engel, Miniard & Blackwell model could be confirmed. In t-commerce, environmental influences and marketing-related stimuli seem to play a bigger role, and in m-commerce, memory is a stronger factor in recognizing a need.

## 5.4    Initial Search

In general, all purchases observed featured some form of external search. No respondent only engaged in internal search. That means, although respondents answered to be knowledgeable in CE, none could complete a purchase only based on long-term memory. Either the knowledge was not seen as sufficient or m-commerce customers are very careful about making wrong choices. This mirrors the statement by other

researchers (Interone) as well as this study that impulse purchases are something iPhone users are afraid of. Other reasons stated in literature, such as dissatisfaction with prior purchases or unfamiliarity with the purchase process can be ruled out. The beginning of the search process resembles the one in e-commerce quite a bit. E-retailers and search engines were popular in m-commerce as well. However, physical stores seem to be much less popular in the first stage of the search process. This may be attributable to the fact that mobile customers have a better understanding of electronic products and are more driven by functional needs, not as much by the feeling of a product. Alternatively, these lead users may have past experience with electronic products that former e-commerce customers have not had to the same extent. Instead, blogs and reviews have risen in importance. This may mean that m-commerce customers have more trust in these sources and are more knowledgeable as to how to use and interpret them. The little use of physical stores could also be seen as a rise in experience and possibly credence characteristics. This would be in line with research on e-commerce trends by Korb. On the other hand, the reduced need to use stores hints at the fact that search characteristics can be more easily assessed online and m-commerce customers do not see CE products as experience goods as strongly as other customers. No evidence was found for the suggestion by Peck & Childers (2006) that the inability to touch products reduced confidence or satisfaction. Apparently, characteristics of CE products are known and trust in online sources is high in the lead user group.

The start of the purchasing process in t-commerce was similar to m-commerce in which information sources were used. However, t-commerce customers relatively quickly decided on which store they would use to buy the product. This means that prior experience with an e-retailer was an important factor in choosing the POS very early in the process. Moreover, it was revealed that this experience seems much more important than price differences for these customers.

The fact that both customer groups said their initial behaviour stemmed from learned scripts explains the perception that their behaviour must be very similar to their e-commerce behaviour. Changes in this context would probably require time and further exposure to mobile shopping. In that sense, differences between m- and t-commerce behaviour may not necessarily stem from the differences in the devices, but the differences in the customer groups' scripts, meaning they follow two different ways of

information search altogether. This is supported by ideas from Martin (1991) and Nottenburg and Shoben (1980). It also requires one to question whether browsing behaviour is tablet-exclusive or simply exercised by a certain customer group, no matter what the device.

## 5.5    Into the Search Process

Once the search process has advanced, price became the number one factor for decreasing product selection by m-commerce customers, followed by customer reviews. This may not be in line with prior CE purchasing behaviour, but with m-commerce behaviour in other categories, as stated by Interone (2010). In fact, these two factors remain most important throughout the whole search process, strengthening the image that decentral information sources, price comparison sites and customer reviews, become more trusted. Other sources like manufacturer sites and media are only used sparingly in more advanced stages of the process. This also reflects research by other authors on m-commerce (Interone), but contradicts prior CE-commerce-research by Comscore, Searchandise and iProspect (2010). This means m-commerce scripts may in fact be influenced more greatly by m-commerce in general than by particular product categories, hinting at a greater generalizability of these results.

In t-commerce, the focus was not on price, but on customer and media reviews of the products in question. This again shows that tablet shoppers remain less price sensitive throughout the process. This contrasts assumptions that t-commerce is relatively close to e-commerce. In e-commerce, price information was revealed to be the most important factor in all product categories (Korb). However, they are not completely emotionally driven or driven by an impulse. They, too, show signs of high involvement throughout the search process. The only difference is that they focus on the quality and opinions of products more than on price. One more reason why they frequent articles and blogs more than mobile users may be the larger screen. While blogs can be hard to read on smartphones, on tablets this becomes much easier. However, this contradicts the fact that t-commerce is more similar to e-commerce, since there, blogs and articles were found to be quite unimportant for CE purchases (Comscore, Searchandise Commerce & iProspect). Therefore, another explanation can be found in the hedonistic motivation of tablet shoppers. Dawson, Bloch and Ridgeway (1990) have found that hedonistic

shoppers consider a wider set of retail attributes and a larger number of inputs for their decision making. In addition, the tablet may lead to a more experiential buying process which is exemplified by watching TV at the same time (confirming findings by Shopzilla, 2011) and the usage of articles which could also, as a second motivation, be read for leisure purposes (see also Kulviwat, Guo & Engchanil, 2004). Fresenmayr (2011) found a more casual search, which goes hand in hand with experiential shopping to be a reason for more impulse purchases on tablets. This assumption could not be confirmed based on the extensive information search customers showed. However, the high use of articles and blogs hints at the fact that t-customers can be influenced by PR much more than by marketing efforts to guide their purchasing process.

Physical stores remain unimportant due to prior knowledge of the product. The only reason they become important for m-commerce shoppers is the fact that they might be cheaper. This again strengthens the insight that prices remain important throughout the process. Moreover, a lack of convenience was stated as a disadvantage of physical shops, which means m-commerce customers pay more attention to saving time and travel distance than e-commerce customers, even though they can more easily surf the web while travelling. Since t-commerce shoppers are more visually attracted, it is not surprising that some of them actually used their tablet in a store to compare products. This means also that convenience is not necessarily the highest priority when the feeling for a product is lost. Interestingly, price was a factor why tablet shoppers did not shop offline, while in their search process prices play a minor role. Perhaps they expect a certain price level from their predetermined online store and do not think that other online sources will be much cheaper, but offline sources may be too expensive.

In comparison to e-commerce sales of CE, manufacturer websites were relatively unpopular throughout the process. This may underline the notion that decentralized and customer-created information is seen as more trustworthy by the customer groups in focus. If this can be seen as a trend for the future, has to be questioned, though.

The low importance of friends and social media throughout the whole process can be explained by the functional focus of most m-commerce customers. Friends can simply not satisfy the detailed and also broad information needs by these customers. This is in fact in line with e-commerce research by Comscore, Searchandise Commerce &

iProspect. In t-commerce, one would have expected more interaction, especially online, because this is one of the features that sets the tablet apart from the phone. Perhaps, again, the product category is the determining factor for this behaviour.

Another interesting observation is how uncommon the usage of shopping apps is. In the U.K., 40% of those using their mobile for shopping use apps (eMarketer, 2011e). Perhaps in Germany, there does not yet exist the habit of using apps or the Internet is seen as more easy to navigate, as some respondents noted. Therefore, there may be an increase in this number in the future.

Looking at the overall purchasing process, barcode scanners and other new technologies were used more rarely than prior research on smart natives suggests (see Google, Otto Group, tns infratest & Trend Büro, 2010). This may stem partly from the product category at hand as well as the overall decision making process. Barcode scanners are most common in stores, street-advertisements and magazines. None of these sources are of great importance for the respondents. However, customers with a lower focus on online media in the early and late majority may use these technologies in the future. In addition, the information retrieved from Barcode links is mostly tied to manufacturer advertising. Since respondents seem to not be influenced by this during decision making much, confirming findings by Interone (2010), their willingness to scan barcodes is decreased.

Considering the differing length of web sessions, 5 minutes for m-commerce and 10 minutes or more for t-commerce, it stands out that smartphone sessions are much shorter than the German average which is also 10 minutes (Google, Otto Group, tns infratest & Trend Büro). This may be explained by the efficiency with which lead users are able to find the information they are looking for. Since the phone was used at home a lot of times, there may also be fewer situations where the user simply sits down for extended periods and surfs, but often uses his phone while doing something else, like cooking. However, while the average smartphone user goes online 3 times per week, the constant usage by smart natives hints at a different attitude towards their mobile phone altogether.

## 5.6    Evaluation Phase

The impression that prices are the guiding factor for mobile shoppers strengthens, since the closer they come to the purchase, prices are compared. Until the end, there is no clear retailer loyalty, since prices are compared on external sites and in some instances, even in physical stores. This is a clear distinction to t-commerce shoppers. Towards the end of the process, t-commerce customers almost exclusively relied on the information given by retailers, strengthening the notion that price, even shortly before the purchase, is not critical for them. Surprisingly, the findings contradict Interone (2010) in that no mobile user tried to find coupons at the end of the purchasing process. This may be associated to the high involvement characteristic. Possibly, coupons are more popular for small purchases since a higher availability is expected.

Regarding the length of the process, no differences between m- and t-shoppers could be noticed. Therefore, the higher proneness towards articles and physical stores of tablet users does not mean they need more time than the rather quantitatively oriented smartphone shoppers. This may be explained by the length of web sessions. These are significantly longer on tablets. Therefore, the search is more intensive and less disrupted. Thus, even a number of long articles can easily be researched in two weeks. In comparison to traditional CE purchases, the whole process is rather short, which may be explained by a higher basic knowledge, higher efficiency in information handling, or lower information needs. Most likely, the ubiquity of information availability and the lower importance of stores that need to be visited explain this phenomenon (see also Buse & Tiwari, 2006).

Backward loops were also, surprisingly, non-existent. In contrast to literature that advocates these loops as a relatively new phenomenon of e-commerce (see Zellwegger, 1997), a very linear process was found. Of course, customers switched between information sources many more times than in traditional purchases, but this happened at stages where no clear favourite product was yet discovered. So the source of information, in m-commerce, does not necessarily hint towards a certain stage in the process. Also it may imply that m- and t-commerce shoppers follow a very structured and advanced search process and do not jump to quick and hasty conclusion, but think in a very rational way about all alternatives. Nonetheless, taking into account the short

length of the process, it may also mean that they use shortcuts to finding a sufficient, but not necessarily perfect product and do not care about not making the absolutely right choice. This may be influenced by their relatively high income that allows them to make wrong purchasing decisions. However, their high education would not fit this kind of shopping behaviour. It can therefore be concluded that a thorough and efficient decision making process is present, more so than in e-commerce. However, one may also need to update the definition of a linear purchasing process.

When looking at single respondents' decision making processes, no noteworthy pattern could be observed as to whether a source in the first phase benefits the usage of a particular source in the next phases. It has to be accepted that every information search is unique, takes a different path and only aggregated statistical frequencies of source usage in different stages can be given.

Concerning the device used, it is interesting to see that both customer groups actually use the mobile device not only for their purchase, but also for the search process. This shows that, for lead users, mobile devices can actually satisfy their needs for convenient information search, confirming speculations by DMC (2009). It also shows that the respondents have significant prior experience with mobile technology (Broeckelmann, 2010). This hints at the fact that in the future, m-commerce will also be used by customers who spend significant time on their mobiles, but are not present in this research (e.g. young women). However, m-commerce customers used computers more than their t-commerce counterparts. This hints at the fact that tablets are rather seen as substitutes for computers, and mobiles are additions that are not quite as easy to use. Again, this mirrors research by Broeckelmann who says the purchasing process will not solely be completed via the mobile phone. However, his reason, that uncertainty has to be reduced, could not be confirmed. While lead users have particular skills in using their mobile, future generations of customers should have similar abilities in using their mobile, especially with sites becoming more customer friendly. Once on the mobile, apps played almost no role. While most companies nowadays focus on developing signature apps to lure in customers, lead users actually largely neglect these efforts. Explanations were that they are too restrictive, take time to load and do not allow switching between sites as well as the web.

One of the most interesting observations is that in both groups, the mobility of their device was not actually used to its full potential. Most searches were conducted at home where a computer would probably have offered a more convenient alternative. The reason the mobile devices were used are mostly distraction or multitasking. While the tablet was often used in front of the TV, the smartphone was often used in the kitchen or even in the bathroom. A computer would have been less convenient in these situations. The different usage situations can also explain the different session lengths. In front of the TV , the customer has much more time to search and browse than while cooking. Nonetheless, every situation where an individual can sit down or wait is used to search for information. However, the situation rarely influences the information search. For instance, colleagues at work were not consulted, neither were friends. This contradicts prior e-commerce research.

A lot of research nowadays focuses on advanced technologies and usage in stores. However, this study found that these topics seem highly overrated and only few CE customers utilize these technological opportunities. Most of the search process still happens in familiar locations with some moments spent during times of mobility.

## 5.7    The Purchase

It is interesting to see that even the purchase was most often completed at home by smartphone users as well as tablet users. The explanation given is principally the same as why the devices were used at home in the search process.

When it comes to the particular store, insights from the information search are reflected as well. Still, the price is most important, but now other issues arise as well, like shipping times and experience. That means prices seem to be relatively similar in most stores, so that once the purchase happens, other factors can be considered as well. Since t-commerce customers have had a store preference from the start, often regardless of its price level, this means that there are stores that seem to satisfy all the non-price related needs of these customers. A prior speculation that customer service might be a deciding factor for customers was not found to be true, however. Convenience may be another reason why no further search for better suited stores is undertaken. Convenience can also be seen as the number one reason why the mobile device was chosen for the

purchase. Most respondents and especially those who prior searched on a computer expressed this. This means that a purchase process can be started and conducted on a computer and offline, but may be completed on the mobile device. This also broadens the customer base that might be willing to purchase via their mobile device. This is because one does not necessarily need a thorough understanding of how to look for information via the mobile, but only an understanding of how to purchase goods. However, these results only partly correlate with those of an earlier survey from France. eMarketer (2011d) has found flash sales and especially the unavailability of a better internet connection as main reasons for the mobile purchase. Perhaps customers in Germany do not yet feel as comfortable with buying products outside their home since they feel they cannot focus on the task as much. They may moreover be less prone to impulse purchasing of reduced price items.

A distinction of tablet shoppers is the proneness to channels other than the mobile device. Physical stores are considered a viable option for the purchase. Here, stores are mostly visited shortly before the purchase. For some, the feeling and trying out of the product may be the final trigger for making the purchase decision. This would make the process that was conducted in a relative rational way more impulsive and emotional for these customers. This would also be in line with prior research that found a higher probability for impulse purchases after touching products (see Peck & Childers, 2006), but in contradiction to Freundt and Hölscher's assumption that emotions are the lowest during the purchase when buying consumer durables (2006).

## 5.8    After the Purchase

Both groups did not engage in extensive post-purchase behaviour on their mobile device regarding writing reviews and the like. What is interesting is that this study contradicts insights by Interone (2010) that depict iPhone users as people who use their social circle to backwards rationalise their purchase. Such behaviour was only stated in a few cases and does not seem to be strong. So virality is not something that can be expected from m-commerce or t-commerce customers.

One difference is that tablet users seem more prone to doing so than smartphone users. In addition, though, did they not only not write reviews via their tablet, but also not via

their computer. This means this is not necessarily an issue related to the mobile device used in the purchase, but the general attitude of these customers.

However, one crucial distinction can be made. Tablet users are much more inclined to using the mobile web to contact customer service instead of their phone. This clearly stems from the greater usability of the device. Although all mobile users contacted customer service via their phone, this seems not to be more convenient for tablet users. That is because their phone is usually only a few centimetres away an could be easily used for this purpose. These insights reflect research by Korb (2000) who says the telephone is the preferred way of contacting customer service, but is complemented by the Internet. While for some people, service hotlines are too expensive to use, tablet shoppers seemed less price sensitive and should not see this as a reason to switch to the mobile web. Therefore, a high knowledge of interaction processes via the mobile web and higher convenience are the primary reasons for doing so.

Regarding channel loyalty, most respondents showed loyalty to and satisfaction with the purchasing channel and are estimated to remain this way in the future. No respondent was inherently dissatisfied with his choice and especially t-commerce customers said they quite enjoyed the purchasing process, for reasons stated before. This means, according to Cyr, Head and Ivanov (2006) that a large path coefficient to tablet loyalty should be present, more so than m-commerce loyalty for smartphone users who focus on usefulness.

# 6     Conclusion

## 6.1     Summary of Findings

In this thesis, the micro-level purchasing processes of CE in m- and t-commerce have been researched. Based on a literature review, a qualitative study among smartphone and tablet shoppers has been conducted. It was shown that m- as well as t-commerce decision making processes in CE purchases share commonalities with traditional purchases and e-commerce processes, but also present crucial differences. Following, the most interesting and impactful findings are presented in a summary.

**The role of "traditional" e-commerce**

Customers exhibit learned behaviour by using memory scripts. Therefore, behaviour is similar to that in e-commerce, which is especially true in the first search phase. However, physical stores have become much less important than in e-commerce, and in t-commerce, price is less of an influence. This may mean behaviour is learned, but changes with time and adapts during the search process. Therefore, the role of e-commerce may slowly decrease. In fact, frequent online shopping does not correlate with mobile shopping, thus the impact of e-commerce is not completely determined.

**The influence of lifestyle**

Tablet users seem more hedonistically oriented and more influenced by an urban and hedonistic environment. This leads to surfing and casual commerce which includes increased media consumption as well as a wider set of inputs used for decision making. However, it also means enjoyment is more important during search, retailer information on prices is often seen as sufficient and a greater path coefficient exists to loyalty. A less hedonistic lifestyle in m-commerce users leads to functional need emergence and more rational search behaviour. Lifestyle also influences convenience motives which are strong predictors of mobile and tablet usage in the search process and the purchase of CE.

**The stereotypical purchasing process**

Below, the two representative purchasing processes are summarized. They stem from the generalized data extracted from the respondents. They present an approximate

stereotype of the two decision making processes, but only serve as a summary and cannot necessarily convey the detail of the whole analysis in chapter 5.
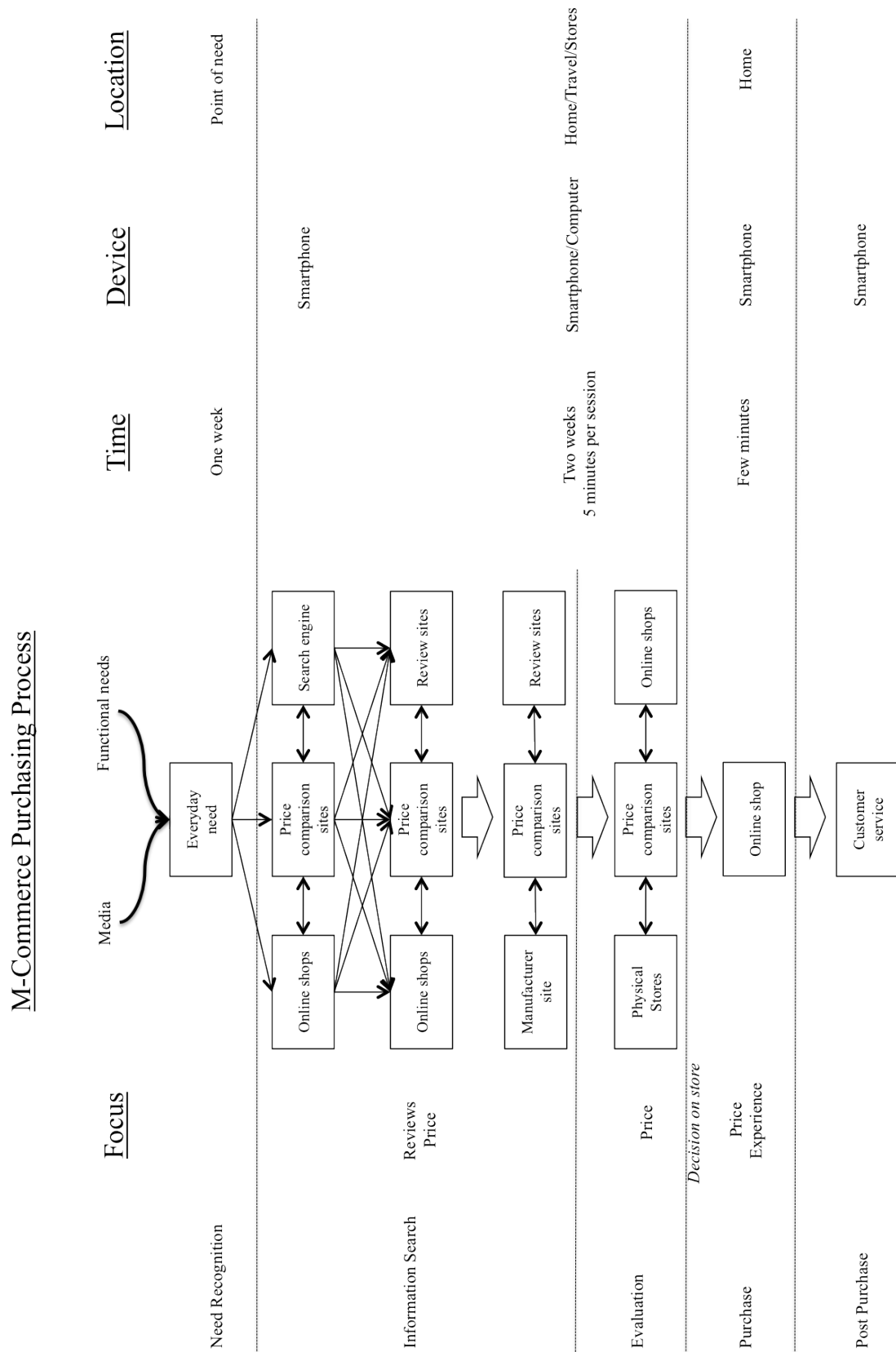


**Figure 10 - M-Commerce Purchasing Process (Source: Own illustration)**
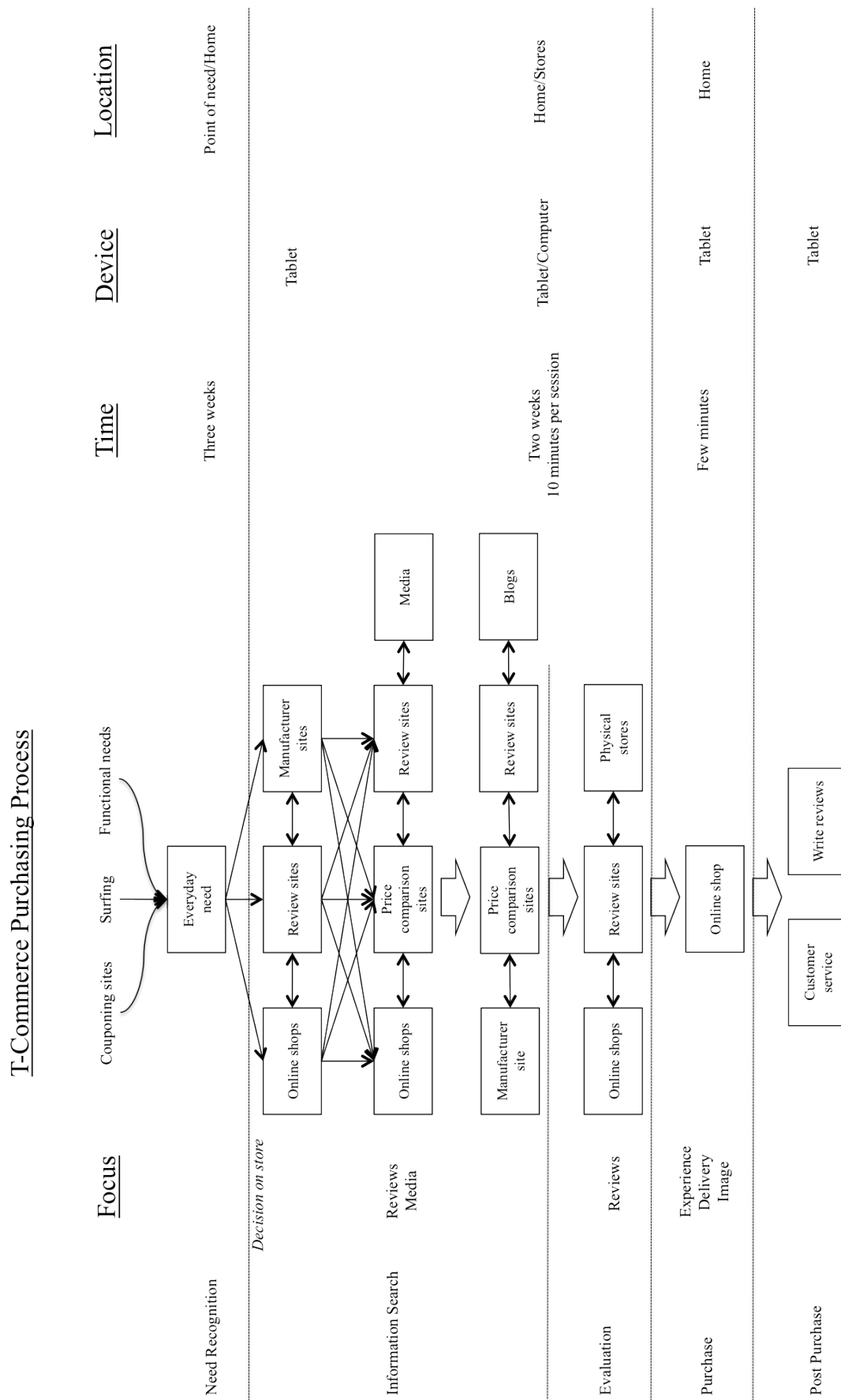
## T-Commerce Purchasing Process

**Figure 11 - T-Commerce Purchasing Process (Source: Own illustration)**

Here, the broad strokes of the main purchasing process are visible, showing the focus and consulted sources in the different phases, as well as the timeframe, the device used and the location of usage. Overall, the purchasing process by Blackwell, Miniard and Engel could be confirmed since all variables have maintained their relative influence, including the ones not depicted here - Individual differences, environmental influences, stimuli and memory. One change to traditional purchasing are the rapid change and parallel usage of information sources and the shorter timeframe. Throughout the process, high involvement was present guiding the information search.

**Price vs. quality goals**

In m-commerce, price seems to be the most determining factor of a purchase decision. Customers, from the beginning, seem to pay attention to prices and choose the store mostly according to its price, basically in the last moment, while trust and shipping times are also important. T-commerce customers on the other hand choose a store due to prior experience and its overall reputation. This means they can choose a shop very early in the search process and only change the product or brand they are buying.

**The role of marketing and shopping apps**

In m-commerce, marketing influences may play a much smaller role than previously thought. Need recognition often seems to be not a consequence of a marketer-related stimulus, but might be a result of PR in the media. Also during the search process, marketing influences the process only insignificantly. In t-commerce, however, it can be part of the emergence of a need. Especially couponing seems to be an influential factor when starting a purchasing process. However, again, during the purchasing process, marketing is less important, but PR can be very influential. Offline marketing, on the other hand, seems to be much less important than online advertising. When it comes to shopping apps as a channel, their influence can be questioned. Web-based search is more important when buying CE, since apps are not convenient enough.

**The influence of the device on the process**

Mobiles and tablets influence the user in different ways. For once, mobiles lead to task-oriented usage while tablets encourage browsing and casual commerce. Thus, needs are created in different scenarios. In tablets, needs can be created while browsing the web, while this is much harder on mobiles. Casual surfing also increases the time until a

product is researched after need recognition. This creates a longer timeframe for influencing the customer. On tablets, search sessions are shown to be longer. That way, more text- and image-rich sites that take time to comprehend, are looked at, which creates possibilities for marketing and PR. On the mobile, m-commerce session length is below the average for searching shopping information in general. Location wise, mobiles and tablets are seemingly used at home very often while mobiles are also used during everyday travel. Both devices are often used while multitasking so the full attention of the consumer may never be granted. The tablet allows greater enjoyment while shopping. Since, again, enjoyment was shown to lead to loyalty, tablet users may be more loyal and lucrative than smartphone shoppers.

**The role of physical stores**

In general, physical stores as well as using the mobile and tablet in them, apparently, is not too important. Especially for smartphone shoppers, stores are seen as a way to reduce prices, not as a source of inspiration. However, for tablet shoppers, this is different. They do travel more to stores, even if it seems inconvenient, because they want to feel the product and are even open to buying it there. Stores also, after all, can add emotions as well as an aspect of impulsiveness to the purchase, if consulted in the evaluation phase.

**The social aspects of the process**

Friends and social networks play a very minor role. They neither evoke a need, nor are they consulted during the decision making process. They may be seen as not sufficiently knowledgeable. After the purchase, shoppers do not try to convince friends or write many online reviews. This shows that word-of-mouth marketing as well as virality may, taking into account this study, not be something to expect from mobile and tablet shoppers in CE.

## 6.2   Managerial Implications

The findings of this thesis have implications for retailers of CE products, manufacturers, as well as advertising agencies. It will guide managers in determining which marketing activities to focus on and which channels to prefer for communication as well as retail, depending on which goal to achieve. These recommendations should be read with a

certain care, since this study did not aim for generalizability and results may be proven to be less valid than expected in the future.

**Effects of word-of-mouth marketing**

Managers should not overestimate the viral marketing generated by mobile CE shoppers. They seem to be less interested in voicing their opinion than previously thought. Two strategies seem recommendable. One should either try to increase word-of-mouth effects by giving incentives or reminding customers, or plan for the case that people do not engage in this behaviour and set up a strategy that allows firms to neglect this factor.

**Functional shopping in m-commerce**

Mobile shoppers have a very functional approach to purchasing CE, from a functional need to a strong focus on price to the need for quick information. Therefore, a few rules should be followed. Price promotion seems to continue to be an important aspect of marketing, similar to e-commerce. Further, a functional and rational presentation of products and their features may be important. Another focus should probably lie on convenience and time saving. Mobile shoppers use their mobile to find information quickly and are very impatient when sites do not fulfil their needs. Therefore, clean, efficient and fast mobile web sites are of importance in this field.

**Casual shopping in t-commerce**

It was shown that tablet users browse the web a lot and feel enjoyment when they do so. Marketers might exploit this fact by guiding the process of browsing and shopping to their brand or store. Imaging as well as interactivity are important factors in catching tablet users' attention. Therefore, videos, quizzes and all kinds of marketing enhancing enjoyment seem to be great ways to market to tablet users.

**Marketing channels**

It was shown that certain marketing channels work better in m- and t-commerce than others. Managers should use them accordingly. Apps were shown to be not nearly as important as expected by literature and high investments in this area do not seem recommendable at this point. If apps are utilized, a focus on tablets may be more useful to providing a more enjoyable surfing environment. However, due to the general popularity of Apps, in the future, they may prove to be of higher importance for CE

retailers. Augmented reality and barcodes seem to not be important in CE commerce. They do however have a place in the physical store where a purchasing decision can be made, especially by tablet owners. Also related to stores are mobile coupons. These seem somewhat important in t-commerce, but should probably not be used extensively in CE m-commerce due to the high convenience-focus of mobile shoppers. Instead, online marketing and online PR in particular seem more important. PR needs to be used to instil a need in mobile shoppers and to convince tablet shoppers during the advanced stages if the information search.

**Investments in m-commerce marketing**

In contrast to mobile marketing, m-commerce marketing is targeted directly at mobile shoppers. Managers, however, should not overestimate the current potential of m-commerce and t-commerce. While this market will grow substantially in the future and present unique challenges, this may not be the case yet. Most customers were inclined to buying the product on their computer, before the mobile device seemed more practical. That means the mobile device serves as an information channel, but the purchase could just as well be completed via the stationary web, decreasing the current differences to e-commerce marketing and the associated marketing strategies.

## 6.3    Limitations

The present thesis adds new insights and a variety of implications for theory and practice to the field of consumer behaviour in mobile and tablet commerce. However, there are still several limitations this study contains that need to be considered to interpret its findings.

For once, the sample chosen may present a limitation. The group consisted mostly of young lead users that probably do not represent the mass market. In addition, the sample size was rather small, which means generalizability may be limited. Moreover, all interviewees were current mobile and tablet shoppers. Therefore, no information could be extracted regarding abortion rates, reasons or points of interest for cancelling a purchase. In addition, non-customers in general are not represented. Therefore, reasons to not even consider buying via the mobile device could not be discovered. However,

they are certainly present on different levels, such as *individual differences* or the aspect of *stimuli* and *memory*.

The study itself presents a limitation, too. Quantitative measures would have greatly increased generalizability. Although they lie outside of the scope of this thesis, they, in the future, could make findings of this study more reliable.

Other limitations lie in the conduct of the qualitative study. The level of detail was attempted to be maximized within the scope of the thesis, but can still be seen as not sufficient for some. This means single aspects like the detailed effect of a single marketing channel could only be researched on the surface. This also holds true for single components of the decision making model by Blackwell, Miniard and Engel. For instance, memory as well as external search after dissatisfaction with a purchase were not researched. Another factor not present in the model that was, to a great extent, neglected were emotions. Their influence becomes more and more apparent, but could not be researched to a satisfying extent under the given circumstances. These circumstances also included relying on the memory of interviewees. Observations that cover the whole purchasing process would of course have been more insightful and accurate.

In general, this thesis presents an exploratory study that still had to make a number of assumptions that were not necessarily completely scientifically founded.

## 6.4    Further Research

While this thesis discusses a number of fields of m- and t-commerce, there are still many opportunities to either explore more aspects of this topic or to dive deeper into single variables that were discussed.

A first area that should be considered in future research is the field of emotions in mobile shopping. It was shown that emotions definitely play a role, also in seemingly rational mobile purchases. Especially in t-commerce, emotions seem to be important and have the possibility to generate needs and trigger a purchase decision. A second area that deserves focus is the detailed impact of marketing activities on the purchasing

process. These can be profound, but have only been touched on a surface level here. Many marketing-related factors can be processed subconsciously and could not be revealed with the interview method used. A different approach may conceal their real impact.

Regarding the respondents of the study, researchers should widen their focus to non-users to more holistically understand m-commerce consumer behaviour and to give more accurate advice to marketers. They moreover should focus on more "average" consumers that might have a higher representability for a mass market. Representability for m-commerce and t-commerce as a whole can also be increased by researching products or services other than CE.

Technology is increasingly changing the way we inform ourselves and the way we buy the products and services we need or desire. The importance of m-commerce and particularly t-commerce will grow and reveal its real impact in the upcoming decade. Companies have to plan ahead and realize that profound changes and challenges for their marketing and retailing may lie ahead. This study should provide marketing professionals and academics with a first look into the consumer of the near future and to show them that there exists a need to adapt and to conduct research to fully understand its characteristics.

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## Appendix I - Interview Guide Mobile Commerce

## Interview Guide

## General Information

Male ☐        Female ☐

Age:

Education:

Income:

## Interview Questions

1. How much time do you have for shopping?
2. How many per cent of your shopping do you do online?
3. Do you enjoy shopping on your mobile?
4. Do you feel secure and comfortable when buying on your mobile?
5. How much time do you spend on the mobile web per day? Do you feel comfortable with it?
6. Do you have many friends who also spend a lot of time in the mobile web?
7. How would you describe your cultural environment?
8. Do you own a tablet as well? Which device do you rather use for shopping?
9. Which product have you bought on your mobile?
10. Before searching for information, have you had any knowledge about the product?
11. When did you first realize that you needed or wanted the product? What triggered the recognition of that need?
12. When it was an advertisement, where did you see it?
13. How long did the whole process, from that moment onwards, take?
14. In the first step, where did you look for information? what kind of information did you look at?
15. What were the next steps?
16. How long did you probably spend on each information searching session on your phone/tablet/PC/in the store?

17. Did you look for a category/a brand/a product?

18. Did you use any customer forums/review sites/price comparison sites? At what stage did you use them?

19. Did you use any blogs/online media? At what stage did you use them?

20. Did you consult friends or colleagues? At what stage?

21. Did you look up information on retailer and manufacturer websites? At what stage?

22. On the retailer website, how did you look for information?

23. Did you use your phone in a store at some point? When/why/how?

24. Have you contacted or localized a store with your phone? Have you looked for store coupons

25. Where were you when you looked for information?

26. Did you feel, at some point, that you were quite far in the process and then went back to an earlier stage? Why?

27. How fast did you focus on only a few products that were particularly interesting? How did you narrow them down?

28. At what point did you make the decision to buy the exact product you bought?

29. Why did you buy that particular product?

30. At what point in the process did you find out about the exact product you bought?

31. Did you check different retailers for that product?

32. What made you choose that particular retailer?

33. Where were you when you bought the product?

34. Did you feel that it was an emotional purchase?

35. Did you redeem any coupons?

36. Did you buy from a website or an app?

37. Were there any problems that forced you to abandon the process and return later?

38. Why did you buy the product on your smartphone and not your PC or a store?

39. After the purchase, did you use your phone for any product-related purposes?

## Appendix II - Interview Guide Tablet Commerce

## Interview Guide

## General Information

Male ☐       Female ☐

Age:

Education:

Income:

## Interview Questions

1. How much time do you have for shopping?
2. How many per cent of your shopping do you do online?
3. Do you enjoy shopping on your tablet?
4. Do you feel secure and comfortable when buying on your tablet?
5. How much time do you spend on the mobile web per day?
6. Do you have many friends who also spend a lot of time on their tablets?
7. How would you describe your cultural environment?
8. Do you own a smartphone as well? Which device do you rather use for shopping?
9. Which product have you bought on your tablet?
10. Before searching for information, have you had any knowledge about the product?
11. When did you first realize that you needed or wanted the product? What triggered the recognition of that need?
12. When it was an advertisement, where did you see it?
13. How long did the whole process, from that moment onwards, take?
14. In the first step, where did you look for information? what kind of information did you look at?
15. What were the next steps?
16. How long did you probably spend on each information searching session on your phone/tablet/PC/in the store?

17. Did you look for a category/a brand/a product?

18. Did you use any customer forums/review sites/price comparison sites? At what stage did you use them?

19. Did you use any blogs/online media? At what stage did you use them?

20. Did you consult friends or colleagues? At what stage?

21. Did you look up information on retailer and manufacturer websites? At what stage?

22. On the retailer website, how did you look for information?

23. Did you use your tablet in a store at some point? When/why/how?

24. Have you contacted or localized a store with your tablet? Have you looked for store coupons

25. Where were you when you looked for information?

26. Did you feel, at some point, that you were quite far in the process and then went back to an earlier stage? Why?

27. How fast did you focus on only a few products that were particularly interesting? How did you narrow them down?

28. At what point did you make the decision to buy the exact product you bought?

29. Why did you buy that particular product?

30. At what point in the process did you find out about the exact product you bought?

31. Did you check different retailers for that product?

32. What made you choose that particular retailer?

33. Where were you when you bought the product?

34. Did you feel that it was an emotional purchase?

35. Did you redeem any coupons?

36. Did you buy from a website or an app?

37. Were there any problems that forced you to abandon the process and return later?

38. Why did you buy the product on your tablet and not your PC or a store?

39. After the purchase, did you use your tablet for any product-related purposes?

# Appendix III - Interviews Conducted and Products Bought

**Interviews conducted with M-Customers**

1. 30.10.11 - Samsung SMX-F50 - Camcorder
2. 1.11.11 - iPod Nano - MP3 Player
3. 2.11.11 - Asus X53V - Notebook
4. 4.11.11 - Grundig 32 VLC 6110 - TV
5. 8.11.11 - HTC Desire C - Smartphone
6. 20.11.11 - TomTom Go Live 1015 - GPS System
7. 24.11.11 - Canon Ixus 115 - Compact Camera
8. 26.11.11 - Severin EK 3051 - Egg Boiler
9. 5.12.11 - Philips BDP3200 - Blu-ray Player
10. 20.12.11 - Canon 1100D - DSLR Camera

**Interviews conducted with T-Customers**

11. 5.11.11 - iPod Touch - MP3 Player
12. 8.11.11 - Fantec Alyplay - HD Player
13. 9.11.11 - Sharp R-898 - Microwave Oven
14. 30.11.11 - Samsung Galaxy S Plus - Smartphone
15. 2.12.11 - BenQ G2420 - Computer Screen
16. 6.12.11 - Sony CMT-EH25 - HiFi System
17. 10.12.11 - Casio Exilim EX-ZS6 - Compact Camera
18. 10.12.11- Scott DJX 10i - DJ Mixer
19. 11.12.11 - Logitech Z120 - PC Speakers
20. 15.12.11 - HTC Desire C - Smartphone