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FIVE FACTORS INFLUENCING ONLINE BUYING FREQUENCY
A STUDY ON FINNISH AND GERMAN STUDENTS

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Ensimmäisen Suomen vierailun jälkeen palasin kotiin useita ystäviä ja mahtavia kokemuksia rikkaampana. Toinen kerta Suomessa meni ohi nopeasti. Nyt palaan kotiin maisterintutkinnon kera. Molemmilla kerroilla nautin ajastani Suomessa. Odotan innolla seuraavaa kertaa ja sitä kaikkea mitä tulen viemään mukani silloin...

The first time I went home with a lot of international friends and great impressions about Finland. The time in Finland went by for the second time very quickly. This time I am going to go back with a Masters Degree and huge university knowledge. Both times I enjoyed the time in Finland and I am curious about the next time and what I am going to take home than...

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Abstract

The main purpose of this study was to identify and examine the influence of different factors towards online buying frequency. In addition the introduction of the Electronic Commerce as a major prerequisite for this study was focused. Furthermore the purpose was to examine the influence of demographics, customer classification, transaction costs, personality and emotion among Finnish and German students' online buying frequency. Hypotheses were derived from the theory and have been examined in the empirical part of the study.

A cross-country survey was conducted to examine the hypotheses. The examination was done in a quantitative way and a deductive approach has been used. The survey consisted of 27 questions and was divided into five parts. The first part included demographic data and was followed by four others concerning customer classification, transaction costs, personality, and emotions. The data, consisting of 205 students, was analysed with SPSS 16.0 software for MAC using Pearson product-moment correlation and an independent-samples t-test.

The results indicated that 4 hypotheses were accepted and 5 were denied. The findings showed that the selected variables have an influence on the frequency of online buying among students. It can be said that only age, gender, uncertainty, recreational shopper, conscientiousness, and neuroticism showed a significant correlation with the dependent variable. This leads towards 4 accepted hypotheses (age, gender, uncertainty, personality) and 5 hypotheses, which were denied (income, purchase horizon, shopping orientation, asset specificity, emotion). Furthermore despite the factors emotion, gender, and income the two groups showed no significant difference.

Keywords: online buying, Electronic Commerce, students, buying influences

1. INTRODUCTION TO ONLINE CONSUMER BEHAVIOR IN ELECTRONIC COMMERCE

"We are on the verge of a revolution that is just as profound as the change in the economy that came with the industrial revolution. Soon electronic networks will allow people to transcend the barriers of time and distance and take advantage of global markets and business opportunities not even imaginable today, opening up a new world of economic possibility and progress."

Vice President Albert Gore, Jr. (Clinton & Gore 1997)

1.1. An introduction to the subject

One third of the population of the developed countries has been connected to the Internet. Governments declared that their intention is to connect people to broadband networks at low cost. This has an influence on conducting business as well.

As business is mainly depending on the amount of profit made through selling, the Internet and Electronic Commerce in particular is a key area to conduct business. Moreover quoting Safa Rashtchy, U.S. Bancorp Piper Jaffray's Electronic Commerce analyst "[...] Electronic Commerce has become a very respectable and important business" (Vogelstein 2002: none). The possibilities to use it are consistently increasing, furthermore traditional stores are already supplemented by electronic storefronts (Deitel, Deitel, Steinbuhler 2001: 7 - 8). The Internet holds a potential to develop the efficient service of marketing products and services online (Wikström 2002: 2).

Internet shopping is becoming an accepted way to purchase various types of goods and services (Donthu & Garcia 1999: 52; Wikström 2002: 2). Internet retailing has evolved as a popular shopping trend and is even growing faster in popularity than traditional store formats (McKinney 2004: 408). In 2007, online sales figures in the EU 27 rose from about 3 to 23 percent (Blog 2008; Eurostat 2007: 190 ff.). The developments,

which followed later make it worth to adapt services and products to ‘consumers’ capabilities, wants, and needs in an online environment. Furthermore Electronic Commerce is fundamentally changing the way consumers shop and buy goods and services (Li, Kuo, Rusell 1999: 1). Therefore, as more consumers engage in buying online the need to develop a thorough understanding of Internet consumers is necessary (McKinney 2004: 408). In the definition of Internet consumption, Goldsmith and Bridges (2000) include “gathering information passively via exposure to advertising; shopping, which includes both browsing and deliberate information search, and the selection and buying of specific goods, services, and information”. (Wikström 2002: 2.)

Understanding the behavior of online consumers and the mechanisms of virtual shopping is a priority for practitioners competing in the fast expanding virtual marketplace (Constantinides 2004: 112). Factors, which influence the consumer, have long been in the focus of consumer research. Therefore characteristics of consumers are taking greater attention, as buying online becomes a realistic possibility for increasing proportions of the population (Brown, Pope, Voges 2003; Chisnall 1985; Goldsmith & Flynn 2004; Goldsmith & Horowitz 2006; Parsons & Conroy 2006; Pearce 1982). There might be special characteristics and orientations about the shopping motives, which could be different to the already known ones (Economist 2004; Hoyer & MacInnis 2007; Li et al. 1999; Vogelstein 2002). Moreover recognizing the needs of the target audience and matching those with relevant content is seen as a success factor (Deitel et al. 2001: 7 - 8). Markin (1974; Robertson & Kassarian 1991) states that motivation is one, but not the only influencing factor of consumer behavior. Markin (1974: 164) speaks about a “complex psychological phenomena like *motivation* – man wishes to understand [...] so that he can best deal with it”. The issue is to find the external and internal facilitator and influences of online buying frequency (Hoyer & MacInnis 2007: 330 - 358, 392 - 415; Robertson & Kassarian 1991: 319 - 320).

Yet human characteristics and values are driven by underlying influences and if one can understand influences, one might understand the behavior towards buying online (Markin 1974: 179). This can be seen as the basic pattern of the study. Influences towards online buying frequency will be discussed and highlighted in the study.

1.2. Purpose, objectives and limitations

The study takes the major thoughts of former research about consumer behavior into account. The objective is to identify influences, which the consumer experiences in an online buying situation. The major aim is to examine five different types of influences. The types seem to have a relation to online buying frequency or could be adapted to an online environment.

This research focuses only on the influences in relation to online buying and Electronic Commerce. These influences have been selected on the basis of previous reading in the related literature. To further structure the thesis, the following objectives are underlying the research.

Theoretical purpose:

1. Analyse and specify Electronic Commerce in more detail.

As Electronic Commerce is a widely used, but often not specifically defined, it is seen as a major prerequisite to introduce the Electronic Commerce term in more detail, than only to provide a brief definition. This includes the whole concept, the area, and development of tangential areas, which is taken into account.

2. Identify and explore the influence of
 - a. Demographics,
 - b. Customer categories,
 - c. Dimensions of transactions,
 - d. Personality, and emotiontowards online buying frequency.

Empirical purpose:

3. Examine the influence of
 - a. Demographics,
 - b. Customer categories,
 - c. Dimensions of transactions,
 - d. Personality, and emotionamong Finnish and German students' online buying behavior.

The thesis is theoretically and empirically bounded. According to the chapters, which are related to the influences, hypotheses are drawn. They are tested in the empirical part. According to the outcome of the examined hypotheses it is possible to interpret the findings related to the theory. However the main unit, which is discussed, consists of Finnish and German students it might be possible to generalize the findings.

It needs to be said that this study conducts only a limited view of influences towards Finnish and German students. The influences have been chosen to provide an overall view of possible influencing factors, which have been derived because of their previous repetitive appearance in the literature.

According to the Electronic Commerce environment it needs to be said that only a business to consumer perspective has been chosen for further examination, due to the focused group of students. The structure of the sub-chapters, which describe Electronic Commerce more detailed, have not been taken from previous literature.

Later on the influences have been derived from the literature. The overall aim of this study was to include a wide area of influences. Therefore the groups, which have been made, encompass demographical, emotional, personal, and rational aspects of a buying situation.

Customer categorisation and personality are two chapters, which might be seen as belonging together. One might say, that a personality is made up of categories of

specific behavior. This cannot be refused. However in this study it was seen as essential to the researcher that personality was distinguished not according to customer categories. The focus in the group customer categories was to distinguish different customer types, despite personality. Therefore customer categories (purchase horizon, shopping orientation) were examined separated from personality as such. This separation makes it possible despite examining the personality of the customer to distinguish separated customer categories, which have been used before in the literature. This means that the study does not need to interpret different forms of personality in terms of buying and shopping. In addition it needs to be said that an overall shadowing concept (convenience), was found. It is included in the theoretical part of the study, but was not examined in the empirical part. This is because the concept of convenience was not in the focus of the study, but was found to complete the chapter of customer categorisation.

Another limitation, which should be mentioned concerns emotional influences. Emotional influences are not separated in the empirical as well as in the theoretical part. For the empirical part only positive emotions are taken into account, as an assumption. This means that no differentiation between positive and negative emotions can be made, however an idea if emotions play a role can be derived.

1.3. Literature review

The search for previous studies related to the subject, has mainly been conducted by using different electronic databases provided by the library of the University of Vaasa and by the “Katholische Universität Eichstätt-Ingolstadt”. The databases used have been e.g. Business Source Premier (via EBSCO host), Nelli, Blackwell Synergy, ScienceDirect, Abi/Inform (Pro-Quest), and SpringerLink and other Internet sources. Further sources have been used from the Tritonia Academic Library of Vaasa and the University Library Eichstätt-Ingolstadt (Universitätsbibliothek Eichstätt-Ingolstadt). The following keywords examples have been used to collect reliable material among the

sources mentioned above: asset specificity, attitude, buying, characteristics, consumer behavior, conversion, demographic, e-commerce, e-business, Electronic Commerce, emotion, experience, Five-Factor model (Big-Five), online, frequency, online shopping, personality, purchase, purchasing, trust, transaction cost, trait, price, sensory stimuli, influence, irrational, involvement, rational, motivation, motives, need for cognition, uncertainty, and many more.

The main sources, which have been used in this research paper, are introduced shortly in the following.

Brown et al. (2003) examine the segmentation of Internet shoppers and the effect of this orientation on the purchase intention. Within this context prior purchase, gender, and product type are taken into account as antecedents. Five hypotheses are drawn and tested with a cluster analysis and a four-way analysis of variance. It turned out that the two largest orientations were recreational shopping-oriented and price-oriented shoppers. As a managerial implication the authors suggest that online vendors need to employ tactics to meet the needs of the customers. Brown et al. (2003) give a detailed list of suggestions for each shopper type. Overall the findings indicate similar shopping orientations in online buying as well as in physical shopping. The findings have been in contrast to previous research, which leads to the suggestion to treat the online environment as an enlargement of the existing physical environment.

Devaraj, Fan, and Kohli (2002) researched consumer's satisfaction related to Electronic Commerce measured by transaction cost analysis, technology acceptance model, and service quality. Based on the three models a separate model was constructed to examine the determinants of Electronic Commerce satisfaction related to the sample. The study consists not of a random sample (students & community) and further did not check multiple instances of the same product purchased. Satisfaction was measured after a purchase in an electronic and as well in a physical environment. A correlation analysis was used to test the relation between the three models concerning Electronic Commerce satisfaction. The study showed that the technology acceptance model is important in examining consumer's Electronic Commerce satisfaction, because of perceived ease of

use and usefulness. Ease of use was also found in the transaction cost analysis. In conclusion it can be said that Devaraj et al. (2002) found general support that satisfaction can be seen as one determinant of online channel choice.

Dittmar, Long, and Meek (2004) examine two studies concerning gender differences in attitude related to online and conventional buying. The first study consists of 113 respondents and focuses on the buying attitude dimensions. The second study consists of a sample of 240 mainly female respondents and relates to the functional, emotional-social, and identity-related buying motivations in both environments. The findings did not differ from the outcomes of previous studies concerning conventional shopping differences between the genders. Men are more functional and women are more social-experiential, emotional, and identity-related in shopping. The environment influences women, which are likely to change their attitude towards functional concerns and even towards the attitude of their male counterparts.

Donthu and Garcia (1999) presented a study in their article 'the Internet shopper'. The article is used throughout this whole study. The findings of Donthu and Garcia (1999) have been collected through a telephone survey (790 respondents) and can be used because of the brought findings, which include a wide spectrum of independent variables. The specificity of the study is the differentiation between an Internet non-shopper and an Internet shopper. This makes the study interesting for the present study, because the indicators of differences were used to identify the influences towards online buying frequency. Donthu and Garcia (1999) chose 11 different motivational indicators, which have been researched according to the two groups of buyers.

Gianluigi, Capestro, and Peluso (2007) researched the reaction of individual characteristics and environmental stimuli in consumers' pursuit of hedonic and utilitarian shopping values. The reaction of telic and paratelic shoppers towards environmental stimuli showed different levels of arousability and the optimal stimulation. The sample, which was conducted, consisted of 240 Italian undergraduate students with an age between 19 and 28 all single and without children, from which 35

were expelled. Hypotheses were drawn to test the theoretical findings. The findings revealed a positive relation with personality traits (extraversion and agreeableness).

Moe and Fader (2004) develop a model of conversation behavior, which forecasts the probability of an purchase based on historical data. Moe and Fader (2004) created an survey, which consisted of 10.000 samples collected over an period of eight month. The results, which have been found relate to the influence of a purchase visit, the evolving effect of purchase visits, and to the effect of past purchases. The study takes different reasons for visiting among customer groups into account. The study found evidence that conversion probabilities are decreasing over the time. Moe conducted several other articles regarding the online environment before.

Teo and Yu (2005) presented a model of transaction cost economics for understanding online buying behavior. The main purpose for Teo and Yu (2005) to conduct a study in Singapore was the increasing amount of new Internet users. Furthermore they (2005) focused on frequency, trust, and uncertainty, which is related to transaction cost economics. The study needs to be seen as an extension to previous research, which has been using traditionally western samples. The major findings were that the transaction cost economics is applicable to a non-western sample and that it was found to be robust. The model revealed that frequency, uncertainty, and trust are associated with transaction costs.

1.4. Structure of the study

The structure of the study is divided into six chapters, which are constitutive on each other.

In the first chapter the subject is introduced, limitations are discussed as well as the purpose and objective of the study. Furthermore the structural framework is developed and the basic literature is introduced.

The second chapter shows the introduction to Electronic Commerce in more detail. A definition of Electronic Commerce is given and the term is delimited between similar sometimes interchangeable used terms. Areas of Electronic Commerce are brought up and linked to developmental issues and spotlighted further critically. In addition the emphasis is on the online shopping relation to Electronic Commerce.

Chapter three will give an insight to the focus of the study regarding online buying. Demographic influences will be discussed. The second influential factor is shopping orientation and purchase horizon. Moreover the transaction cost theory is linked to online buying in electronic environments and it reviews the dimensions of transactions. Last but not least the personality of the shopper is discussed. The last part of chapter three examines the theory regarding emotion related online buying frequency.

In the fourth chapter the methodology and research strategy of this study are presented. The variables used in the empirical part are operationalized. The sample unit of the study and the method how the data was collected are introduced. Furthermore the validity and reliability of the study are reviewed.

Chapter five examines the empirical results, which have been raised. This includes the discussion of the hypotheses including their verification or refusal. The chapter is divided into four subchapters. These are divided into demographic data, customer classifications, dimensions of transactions, and personality and emotion and their relationship between online buying frequency.

Finally, in chapter six a summary is drawn and the gap between the theoretical and empirical part will be closed. The objectives of the study are reviewed again and a conclusion is made according to the purposes. The managerial implications, which the study provides are included and furthermore an outlook for future studies is conducted. The structural framework can be seen in figure 1.

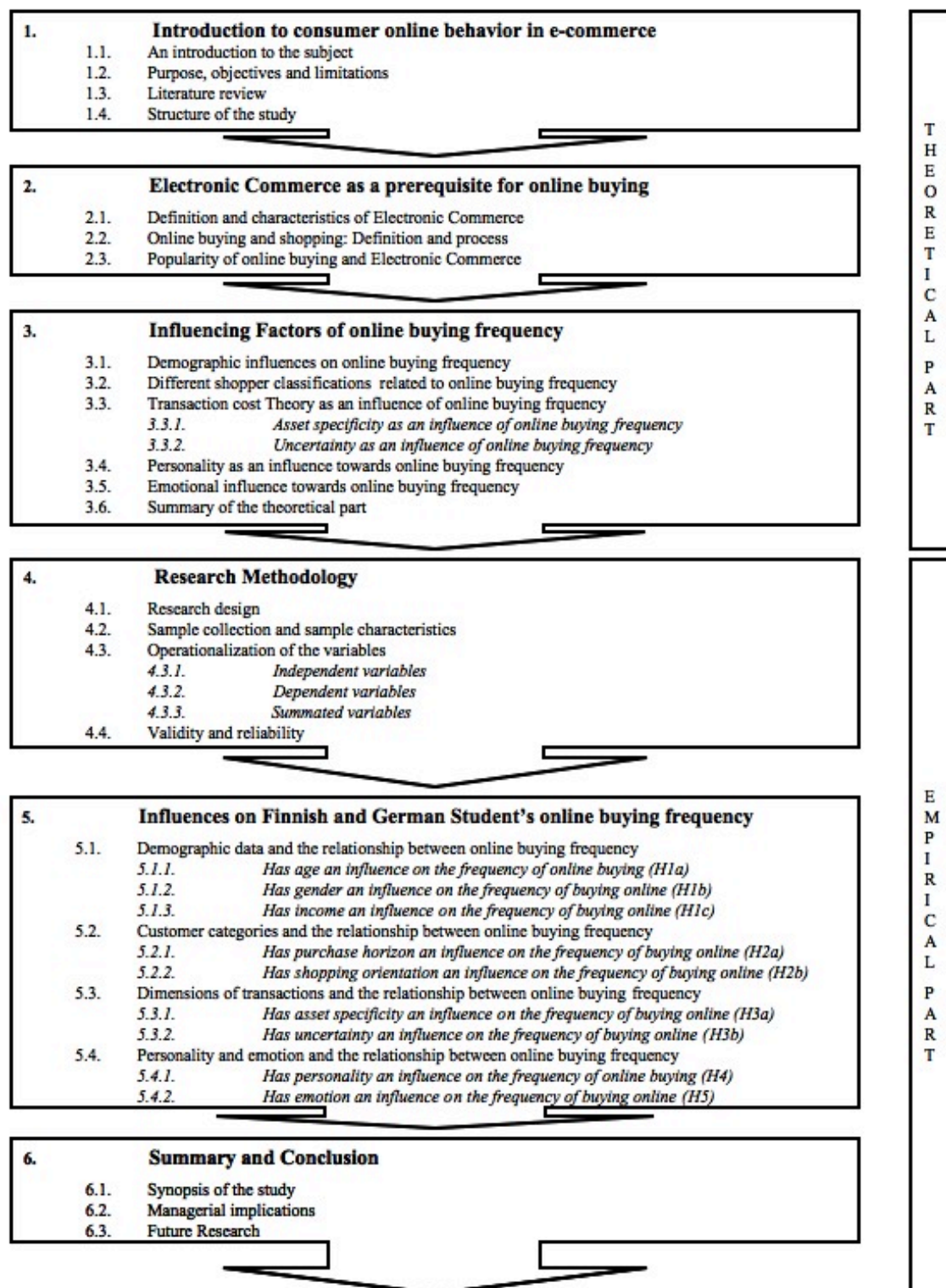


Figure 1. Framework of the study.

2. ELECTRONIC COMMERCE AS A PREREQUISITE FOR ONLINE BUYING

The sub-chapters concerning Electronic Commerce have not been taken from previous literature. The structure has been found to be suitable to give an overall explanation of different parts and issues, which can be found concerning Electronic Commerce. Included are definitions, characteristics, areas, and a critical view.

2.1. Definition and characteristics of Electronic Commerce

The concept of 'e-commerce' is used diversely in the literature. According to the general opinion the 'e' in front of several terms, means 'electronic'. E-Mail can be stated as the most popular example. The electronic part in several terms of the daily language includes the relation to the online environment in general.

In the following it will be outlined the difference between Electronic Commerce (e-commerce) and electronic business (e-business), which have been used interchangeably in many cases. E-business describes the enhancing function and the value adding process by a computer-mediated network to conduct business (Zorayda 2004: 7). It integrates the exchange pattern and includes operations that are handled within the business itself (e.g. production, corporate infrastructure), whereas E-Commerce involves exchange among counterparts (Bartels 2000). Especially the transfer of ownership or rights to use goods or services to make transactions between parties more efficient in the way of performance, economy, and exchange speed (Kalakota & Whinston 1997: 4). Lallana and Uy (2003: 17) include all business transactions, which use digital information technology and electronic communication that are related to value creation to their conception of Electronic Commerce. Lallana and Uy (2003: 17) defined Electronic Commerce quite broad, which makes it difficult to distinguish. This leads to the conclusion that the view of Lallana and Uy (2003: 17) includes every process that a business organization conducts over a computer-mediated network.

Relating it to the business process perspective of Electronic Commerce, it might differentiate the concept more accurately. Kalakota and Whinston (1997: 3) state that Electronic Commerce can be seen as an application, which serves and enhances the automation of workflows and business transactions. They (1997: 3) examine 'e-commerce' from four perspectives:

- the business process view,
- the communication view,
- the service view, and
- online view.

Beyond the *business process driven view*, the perspective that focuses on *communication* describes Electronic Commerce as the use of digital information processing technology and electronic communications in business transactions (1997: 3). It serves to exchange information (Gibbs, Kraemer, Dedrick 2003: 6) as well as to transform, redefine, and create relationships for value creation between or among organizations, and between organizations and individuals“ (Ziliani 2001: 32; Zorayda 2004: 6). Eighmey and McCord (in Griffith, Krampf, Palmer 2001: 135) base Electronic Commerce on information presentation to current and potential customers by retailers.

The *service view* in contrast focuses on the fact that Electronic Commerce serves in many cases as a supporting function. Furthermore a wide range of online activities belong to services and products (Rosen 2002: 2; Zorayda 2004: 6). According to Kalakota and Whinston (1997: 3) Electronic Commerce is a tool that enables different stakeholders to address their desires like service costs, quality, and speed of delivery. Gibbs et al. (2003: 6) define Electronic Commerce as the use of the Internet to sell, buy, and support services and products. They include various activities such as marketing, pre- and post sales support to the spectrum e-commerce (Gibbs et al. 2003: 6).

The last component of the four views according to Kalakota and Whinston (1997: 3) is the *online perspective*. The online perspective focuses on the selling and buying of information and products, and other services over the Internet. Gibbs et al. (2003: 6)

extend the online perspective and include marketing and the pre- and post support for services and products. Furthermore Electronic Commerce is not limited to financial transactions, as selling and buying, but to a whole range of computer- and Internet mediated activities and transactions (Gibbs et al. 2003: 6; Pui-Mun 2002: 76; Udaykiran, Krishna, Prasant 2003: 167). Moreover Electronic Commerce is seen to be conducted only through the Internet (Gibbs et al. 2003: 6).

In this study the online perspective is taken as the basic definition of Electronic Commerce and can be seen in figure 2. Furthermore the parts of the view of Gibbs et al. (2003: 6) is going to be adapted. This leads to the following definition.

Electronic Commerce focuses on the online and selling of intangible and tangible products conducted through the Internet. Internet mediated activities are also included, if they are tangential to online shopping.

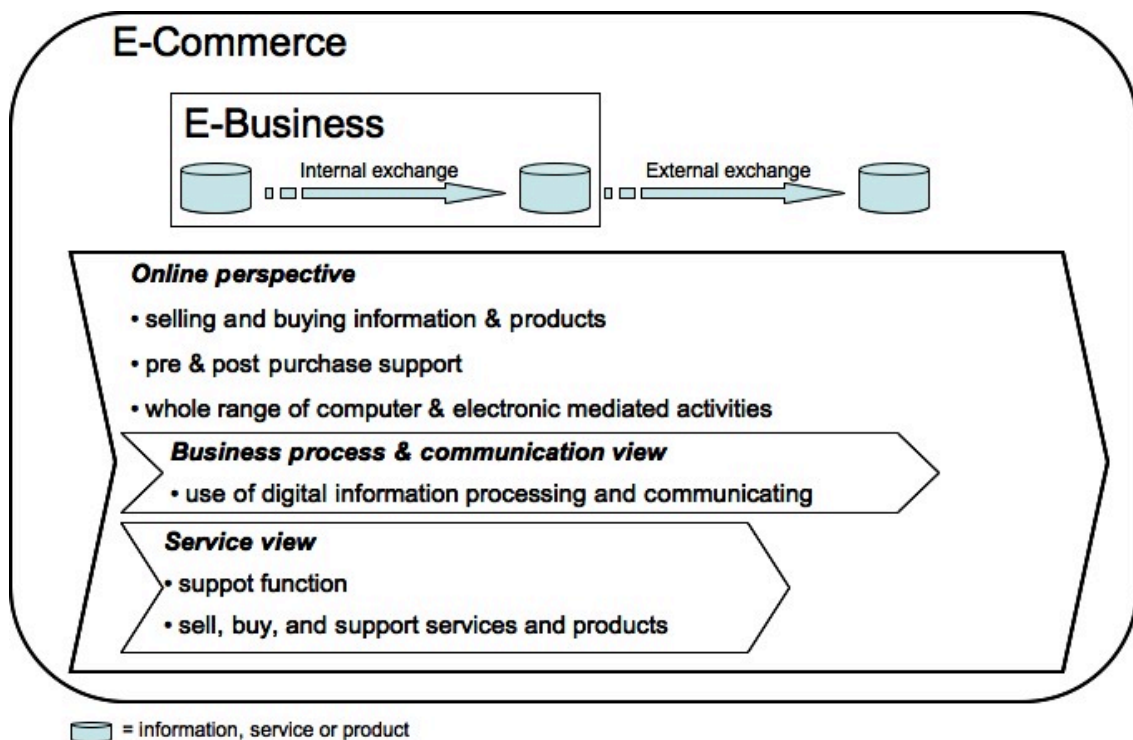


Figure 2. Differentiation E-Commerce & E-Business.

In addition Electronic Commerce includes several classifications of applications, electronic markets, inter-organizational systems, and customer services, which need supporting information, organizational infrastructure, and systems to use the Internet (Turban, Lee, King, Chung 2000: 6 - 7). Furthermore Electronic Commerce can be distinguished between

- Business to Business (B2B) and
- Business to Consumer (B2C) orientation,

which provides services to corporations and to private individuals (Devaraj et al. 2002; Udaykiran et al. 2003). B2B webpage is for example Delphi, which is used by General Motor, in contrast B2C webpages are ebay or amazon (Udaykiran et al. 2003: 167 - 168). The main difference of the sites is the target group using the webpage, which is divided into corporate and private users (Udaykiran et al. 2003: 170).

B2B is described to be regularly and was observed to take place between the normal business hours. The demand varies due to seasonal effects and availability of different products or services offered by the market place. Comparing B2B and B2C it can be said that most visits at a B2B market place result in a buying process. The findings of Udaykiran et al. (2003: 170 - 171) showed that the B2B market place requires specific a-priori know-how to process a transaction. This makes it possible to design the website to the appropriate needs of the customer and the product, which in addition reduces the transaction time for the customer. (Udaykiran et al. 2003: 170 - 171.)

As the focus of the study is the B2C environment I recommend Kalakota and Whinston (1997: 18 ff.) and Rohm and Swaminathan (2004) for a more differentiated and detailed view of B2B Electronic Commerce.

B2C provides services, products and helps to satisfy consumer's shopping needs for any user on a local basis (Gibbs et al. 2003: 5; Son, Kim, Riggins 2006: 474). Security issues in a B2C market are only involved in financial transactions. B2C systems can be very slow in peak hours, because they are not meant to handle very high traffic. The quality of service at B2C market places is seen as a big issue for the future. Furthermore

security issues, as they are only provided for buying related needs, are a major topic to increase the customer satisfaction. (Udaykiran et al. 2003: 170 - 171.)

Table 1. Difference between Electronic Commerce orientation.

| B2B | B2C |
|--|--|
| <ul style="list-style-type: none"> • Corporate use • Demand varies due to seasonal effects • A-priori know-how • Design is adapted towards the need and knowledge of the customer • Visit is likely to turn into a purchase | <ul style="list-style-type: none"> • Private use • Services, products offered on a local basis • Security issues only related to financial transactions • Slow performance in peak hours |

Starting with the potential possibilities and benefits Electronic Commerce offers, it can be said that few innovations had so much potential benefits and possibilities as Electronic Commerce (Ku & Malhotra 2001: 354; Turban et al. 2000: 14). To mention some benefits briefly it can be said, that organizations, individuals and society can be a part of it. Customers benefit the most from reduced prices and better matching their needs with products (Kalakota & Whinston 1997: 4 - 5; Soronen 2007: 33). The technology of the Internet takes into account the global nature concerning low cost, addressability of millions, resourcefulness and rapid growth, only to mention some (Kalakota & Whinston 1997: 5; Turban et al. 2000: 14 - 15). We have seen in the previous chapter that there are different classifications of Electronic Commerce, which host different benefits. The critical view of the benefits is divided into: technical, security, monetary, and data/ information fraud issues. The view tries to highlight the issues from an objective view considering the customer and the seller perspective. It needs to be said that a lot of issues cannot be distinguished sharply and are therefore included in one area, but might also be put under another.

Technical issues are in the focus below. Limitations of Electronic Commerce are two sided. One is the technical and the other is the nontechnical side (Pui-Mun 2002: 76). The technical side mostly drives infrastructural matters. Vendors using Electronic Commerce do have noncompatible servers or databases, which cannot be linked to the Electronic Commerce application (Pui-Mun 2002: 76).

Electronic Commerce makes it easier for companies to address their customers (e.g. e-mail marketing). Time in this case plays a major role, because time to the market can be highly reduced (Turban et al. 2000: 14 - 15). New market areas and potential customers can be reached at low costs (Kalakota & Whinston 1997: 5). Nevertheless vendors face a prisoner's dilemma, because the competition increases and the customers become more demanding, due to global sourcing (Soronen 2007: 34). Delivery of services might be sometimes faster depending on the characteristic of the service or product (Turban et al. 2000: 16). Anyway some services need to be done at the locations by a professional (Turban et al. 2000: 16). Therefore customers benefit if specific service and product is available every day of the week and a broader choice of products and information are available within seconds (Dittmar et al. 2004: 425). A global environment and the possibility to purchase and order from all over the world can explain this. In addition the Internet provides a market place where somehow unavailable products can be found (Ziliani 2001: 33). Reducing inventory and decreasing high cost of bureaucracy with paper-based work can be handled quicker and cheaper using Electronic Commerce (Kalakota & Whinston 1997: 18, 352). However problems can occur, which include late delivery, overpayment for goods delivered, frequent out of stock goods, and lack of confirmation/ status report (Pui-Mun 2002: 76).

Security and privacy are concerns of the customers and are hard to come along to be satisfied by businesses. However security is not seen as the main or only issue anymore (Dittmar et al. 2004: 433). The Electronic Commerce faces a traditional barrier of consumer fear to give away personal data to vendors (Hoffman, Novak, Peralta 1999: 80). However personal data can make buying more customized and therefore more convenient. Most consumers do not feel safe enough to engage in "relationship exchanges" due to the lack of faith, lack of security, reliability and protocol standards (Hoffman et al. 1999: 80). According to Hoffman et al. (1999: 80 & 81) lack of trust is the feeling of lack of control over their personal information, during the purchasing process (Bosnjak, Galesic, Tuten 2007: 5; Kalakota & Whinston 1997: 234; Pui-Mun 2002: 76; Rietjens 2006; Turban et al. 2000: 16 - 17). Nevertheless legal issues and the accessibility for customers are other limiting factors just to name a few (Turban et al. 2000: 16 - 17).

Hoffman et al. (1999: 81) draws the example of giving credit card information to a shop assistant or an unknown voice on the telephone, which they compare to give this information on the web to somebody unknown. Research concluded that about 87 percent “of Web users think they should have complete control over the demographic information Websites capture“ (Hoffman et al. 1999: 81). Furthermore about 67 percent of web users said, that they do not trust the ones, who are collecting the data, however about 62 percent see the reason of collecting these data (Hoffman et al. 1999: 81). Concluding it can be said, that web users do not provide personal data in exchange for financial benefits in the shop and because websites do not provide enough information about the usage of data (Hoffman et al. 1999: 81).

Electronic Commerce tries to improve the safety of websites and the storing of private data of customers, who are afraid of giving these away. However Pui-Mun (2002: 76) is aware of the fair share of problematic issues of Electronic Commerce. These are logistical bottlenecks, cyber crimes, system breakdowns, and hacking incidents, which might impede Electronic Commerce’s growth (Pui-Mun 2002: 76).

Data and information fraud is highly related to security issues and are highly rated concerns of privacy (Ahuja, Gupta, Raman 2003: 146; Lucking-Reiley 2000: 264 - 247). This might be especially due to giving personal information online, which is important for customization issues. Furthermore identity fraud and theft is mentioned as the fastest growing crimes (Milne, Rohm, Bahl 2004: 217). Customization can include email alert services about new products or when entering the website which products might be related to the purchased one (amazon or ebay). Customization makes it easier for the vendor to provide the information and adjustments the customer wants to receive (Ku & Malhotra 2001: 453 - 454). Nevertheless customers benefit from introducing an electronic market system, which are offered using intelligent search agents and personalization of the shopping experience (Ariely 2000: 234; Bakos 1991a: 38; Bosnjak et al. 2007: 1 & 14). However it is not likely to be an improved customer service (Turban et al. 2000: 14 - 15). Fraud issues are taken into account at popular market places as ebay (Cameron & Galloway 2005: 183; Rietjens 2006: 68). Reputation

systems are one approach to overcome, reduce as well as prevent against fraud (Cameron & Galloway 2005: 183). Fraud is seen as a highly sensitive matter as the several risks have been researched to be high in online auctions (Massad & Tucker 2000). Therefore access to information has a pro and a contra side, which will be discussed further on (Ariely 2000: 234).

Further *monetary issues* are discussed. Access to information has costs as stated before (Ariely 2000: 234). Costs can appear on the supplier and on the consumer side. Costs occur on the vendor side, due to investment in processing resources for managing the information flow (Ariely 2000: 234). However, due to higher competition, prices should be cheaper in Electronic Commerce, which the customer could compare by special search engines (Bakos 1991a: 38; Bosnjak et al. 2007: 1 & 14; Cameron & Galloway 2005). Contradictory, most of the items are sold by the highest price in online auctions, which somehow hinders an integrative negotiation (Ku & Malhotra 2001: 455). The social benefits of Electronic Commerce might be some how dubious. Turban et al. (2000: 16) speak about less traffic and upgrading the standard of living, because of lower prices. Furthermore they (2000: 16) state that people in Third World countries could purchase products, which otherwise are not available to them (Turban et al. 2000: 16). However this reason needs to be seen in a critical sight.

Summarizing, there are a lot of difficulties and problems to solve concerning Electronic Commerce (Pui-Mun 2002: 76). Standards in compatibility, security are not achieved yet, product pricing, junk e-mail, hassles, and potential return is also mentioned as problematic (Pui-Mun 2002: 76). Furthermore poor customer service, high shipping costs, and the lack to feel and touch the goods are major issues as well (Ahuja et al. 2003: 146; Allred, Smith, Swinyard 2006: 323; Boyd 2002; Burroughs & Sabherwal 2002; Chen & Chang 2003: 558 - 560; Das, Echambadi, McCardle, Lockett 2003: 185; Pui-Mun 2002: 76 - 77). The nontechnical side deals with the limitations, which slow down the spread of a new technology. Cost and justification of new software are high and take a lot of organizational effort. The difficulty is to justify intangible benefits for improved services and to quantify them. (Turban et al. 2000: 16 - 17.)

Nevertheless the general advantages of online shopping have been mentioned by Ahuja, Gupta, and Raman (2003: 146). Perceived consumer advantages are convenience, original service, price, easy and abundant information access, personal attention, and greater product choice (Ahuja et al. 2003: 146). Convenience is becoming more important because the location is becoming irrelevant (Rohm & Swaminathan 2004: 750).

2.2. Online buying and shopping: Definition and process

The former chapter introduced the term Electronic Commerce based and the definition for this study. Electronic shopping respectively online shopping or buying is part of the business-to-consumer Electronic Commerce and therefore more consumer related (Olalonpe 2004: 412).

Olalonpe (2004: 412) distinguishes between buying and purchasing. Olalonpe (2004: 412) describes electronic shopping as the form to carry out buying transactions for which electronic devices are used. Shopping online includes the possibility to learn about products and services through electronic publishing (Gibbs et al. 2003: 20). Furthermore the individual is able to purchase the item immediately, which distinguishes the web from other sales channels, nevertheless depending on the characteristics of the purchased item shipment times vary (Kalakota & Whinston 1997: 224).

Online shopping provides the individual with needed information to make an thoughtful decision and conduct business (Olalonpe 2004: 412). Furthermore online purchasing and buying “represents technology infrastructure for the exchange of data and the purchase of a product ‘or service’ over the Internet“ (Olalonpe 2004: 412).

Referring to Rennhard et al. (2004: 86) the buying process in an Electronic Commerce store consists of four parts. The first part includes searching and screening, the actual

choice and the selection and inserting the product in a virtual basket. The next step is the buying and “going to the cashier” to provide the credit card or a comparable paying method utility (credit card). After this the shopper will receive an email (to confirm the purchase) and applicable shipping information. In case of virtual products the customer gets access to the purchased item after the credit card is cleared out. Traditionally none of these processes is anonymous, because at any time IP-packages are sent. The buying process in an Electronic Commerce environment, which was explained above, can be reviewed in figure 3. (Rennhard et al. 2004: 86.)

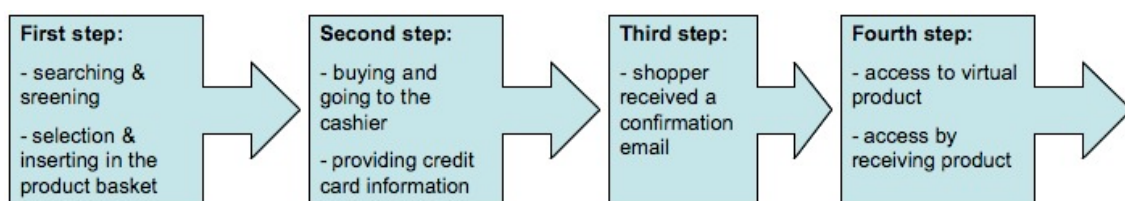


Figure 3. Buying process in an Electronic Commerce environment.

2.3. Popularity of online buying and Electronic Commerce

Due to the fact that about 20 percent (1,244,449,601 computer users) of the world population have access to the Internet, Electronic Commerce has been experiencing a huge growth (Udaykiran et al. 2003: 167) that changed the original understanding of business (Stats 2007). As described in chapter 2.1 Electronic Commerce includes a lot of products, services, and transactions, which include email, retail, travel services. In addition even banking and stock trade services are now available online notwithstanding country borders or time (Economist 2004; Pui-Mun 2002: 76). In addition the Internet shopper is becoming more mainstream, due to the fact that the Internet is used nearly among all demographic groups of society. User figures about individuals purchasing online are frequently rising (Jessica, Clifford, Dietram 2003: 92.) This can be taken as a reason that the popularity of the Internet and assuming of Electronic Commerce is increasing.

Internet and especially Electronic Commerce are seen as an important and developing market opportunity. Emphasising especially “the generation and exploitation of new business opportunities and, to use popular phrases: ‘generate business value’ or ‘do more with less’” (Kalakota & Whinston 1997: 3). Nearly 86 percent of large businesses have their own webpage, which seems to be a “natural-extension of conducting business” (Pui-Mun 2002: 75). According to Korgaonkar and Karson (2007: 55), retailers combine common stores and e-stores to become ‘multi-channel’ to attract customers. Electronic Commerce, as seen from a customer perspective, compared to a common shop, holds multiple advantages of shopping convenience, the possibility to offer a rich variety of products, low costs, twenty-four hours a day, is only one example (Kalakota & Whinston 1997: 224; Pui-Mun 2002: 75).

A great characteristic, according to Strauss (cf. Pui-Mun 2002: 75), is the use of personalized searching engines with access to several online market places. For instance these engines offers listings to example items by price comparing different vendors at a glance. A major characteristic about Electronic Commerce are virtual shopping robots, which create an atmosphere of convenience by searching automatically desired products and services listed after previous defined characteristics (Pui-Mun 2002: 75).

3. INFLUENCING FACTORS OF ONLINE BUYING FREQUENCY

This chapter focused on the five factors, which have been selected to influence the online buying. The sub-chapters are divided into demographical, customer classification, dimensions of transactions, personality, and emotional influences. In the separated chapters the theory is discussed and hypotheses are developed accordingly.

3.1. Demographic influences on online buying frequency

Characteristics of online shoppers continue to emerge as Internet use increases. Research has shown that online shopping attitude is somehow influenced by demographic factors (Allred et al. 2006: 311; Assael 2005; Bellman, Lohse, Johnson 1999; Worthy, Hyllegard, Damhorst, Trautman, Bastow-Shoop, Gregory, Lakner, Lyons, Manikoske 2004). Early adoption and Internet use has been influenced by several factors as earlier studies indicate (cf. Bernadete 1999; cf. Bimber 2000; cf. Campbell 2000; cf. Dittmar et al. 2004; cf. Jackson, Ervin, Gardner, Schmitt 2001; cf. Schrage 2000; cf. Seock & Bailey 2008; cf. Van Slyke, Comunale, Belanger 2002; cf. Weiser 2000). Demographics according to Worthy et al. (2004: 519) seem to be related to the use of this technology for information search, purchase and consumption. In this study the focus will be on the influence, which certain demographics might have on online buying. In the following

- Education (excluded),
- Age,
- Gender, and
- Income

are the main demographics, which are discussed. Nevertheless education is due to the focus of the study, which does not include different education levels. Allred et al. (2006: 311) found out that age, gender and income have an influence on the shopping

intent. The main focus in this chapter of demographics lies on these three factors.

Frequency can be defined as the recurring nature of transaction, the number of times the customer does a purchase and the amount of website visits by the customer (Devaraj et al. 2002: 319; Etzion, Fisher, Wasserkrug 2005: 423; McKinney 2004: 408).

Age is a demographic factor, which is in favour of having effects on the Internet use (Allred et al. 2006: 311; Assael 2005: 99). Assael (2005: 93, 99) states that the age gap has become less relevant. However age is supposed to have an influence on the online purchase decision (Bimber 2000: 871 - 873). Some research states a direct relation between age and Internet use for consumer purchases of services and goods (Allred et al. 2006: 311; Dholakia & Uusitalo 2002: 464; Donthu & Garcia 1999: 52; Korgaonkar & Wolin 1999; Sorce, Perotti, Widrick 2005: 129 - 132). Furthermore age did have a positive influence on purchases as well as on the previous search behaviour (Sorce et al. 2005: 129 - 132). This indicates that the influence starts even before the actual purchase. Online buying was found to be positively related to age, when a 'pre-purchase' search online for product information took place (Sorce et al. 2005: 129 - 132, 122). Donthu and Garcia (1999) found that those, who ever had purchased online were older on average and perceived less risk (Allred et al. 2006: 311; Burroughs & Sabherwal 2002: 44; Joines, Scherer, Scheufele 2003: 103) Contradictory Goldsmith and Flynn (2004: 91 - 92) found out that age had no influence on online buying.

Findings about the impact of age on online buying are conflictive. Age might not have a direct impact on purchase outcomes; nevertheless combined with related activity use (search) it might increase the likelihood of online purchase situations. In this aspect it needs to be mentioned that age cannot be seen as a single variable influencing the buying frequency. Therefore it is important to see the findings critically. This is due to interfering influences correlated with age as e.g. income and education (Bellman et al. 1999: 37). It should be kept in mind that age might have some partial correlation with the examples mentioned. Therefore the hypothesis is drawn.

H1a: Age has an influence on the frequency of online buying.

Gender is another important factor identifying online shopping behavior (Seock & Bailey 2008: 114). Shopping is seen as an activity, which can be distinguished by gender and has been in the focus of many studies before (Bimber 2000; Campbell 2000; Dholakia 1999: 154; Dittmar et al. 2004; Jackson et al. 2001; Jayawardhena, Wright, Dennis 2007: 518; Schrage 2000; Seock & Bailey 2008; Times 1999, July 12; Van Slyke et al. 2002; Weiser 2000). The increased presence of women buying online has made gender relevant for Electronic Commerce and one of the fastest growing segments (Van Slyke et al. 2002: 82).

Gender differences in online buying in fact do have a special character. Nevertheless they can be quite easily differentiated (Bimber 2000: 871; Weiser 2000: 167). According to Weiser (2000: 167) women mainly focus on communication and educational issues while using the Internet, whereas males aim more on leisure and entertainment purposes (cf. Lunt & Livingstone 1992: 86 – 100). Jayawardhena et al. (2007: 522) found out that gender has a significant influence especially on the shopping intention, whereas Brown, Pope, and Voges (2003: 1666) explored the contradictory. This might be explained by the fact that the gender gap is closing or does not even exist anymore (Allport 1937; Dittmar et al. 2004: 423; Jayawardhena et al. 2007: 518; Schrage 2000; Times 1999, July 12; Weiser 2000: 167).

Different influences on women and on men have been detected. Dittmar et al. (2004: 440 ff.) state that the environment has a greater impact on women than on men. Furthermore the environment is seen as hardly affecting the hedonic enjoyment of online buying, which in contrast decreases for women when shopping online (Dittmar et al. 2004: 440 - 441). This might be slightly explained by the fact that emotional expression seems to be a core foundation of female friendship (Bimber 2000: 871; Weiser 2000: 167, 176). Moreover one explanation for the decrease of hedonic enjoyment might be that it is difficult for online shops to provide an atmosphere, which suits the female environmental prerequisites (Seock & Bailey 2008: 119). Nonetheless it is difficult to attract women online, who enjoy the traditional shopping trip with friends (Van Slyke et al. 2002: 83). Another reason for the difference between males and

female online shopping could be the attractiveness of product or service types available (Seock & Bailey 2008: 115; Van Slyke et al. 2002: 85). On the other hand this cannot be seen as the major reason nowadays.

The environment is seen as influencing differently to men and women. Men are less affected by the environment and are more concerned about functional motives and psychological motivations, when shopping online (Dittmar et al. 2004: 440 ff.). Gender differences might also have been occurred due to marketing reasons, which indicate the Internet and computer use to be high-technologically male (Dittmar et al. 2004: 425; Van Slyke et al. 2002: 85), which can be underlined by females that see the Internet as complicated and hard to understand (Dittmar et al. 2004: 425; Seock & Bailey 2008: 114). Further men rated trustworthiness and relative advantage higher than females (Seock & Bailey 2008: 114). This finding should be taken with caution as the use of the Internet by women constantly rises (Dittmar et al. 2004: 425).

Attitude, experience, and the perception of shopping online affect gender differences, too. Women change their attitude when shopping online, in the way that emotional, social-experiential factors become less important and functional concerns ascend the importance level (Dittmar et al. 2004: 440 - 441). Women are seen to be more rational in buying situations and men are more likely to shop online, even though women and men are equally using the Internet (Van Slyke et al. 2002: 82, 86). Results show that the computer experience and online buying are positively correlated. This might be transferable to the gender discussion, assuming that women have a lack of computer experience and therefore buy less (Van Slyke et al. 2002: 84). Nevertheless men are more convenience seekers than women who search for the social interaction while shopping (Dittmar et al. 2004: 426; Seock & Bailey 2008: 119). However Dittmar et al. (2004: 440 ff.) state that women and men are more likely to have the same shopping attitude online. According to the findings of Seock and Bailey (2008: 114, 118) online search and purchase experience differed between males and females, which might imply that gender can be an indicator or differentiator for the frequency of buying online.

According to different findings about gender influence on online buying it is difficult to

draw a conclusion concerning the literature above. Does gender has a positive or negative influence on the frequency of online buying? Furthermore the voices about a shrinking gender gap are controversial. Nevertheless referring to the sources it can be assumed that gender has almost no influence on online buying frequency.

H1b: Gender has no influence on the frequency of online buying..

The last factor of the demographic influences is *income*. Previous studies have revealed a positive relation between income and in-home shopping (Dholakia & Uusitalo 2002: 462). Grabbing the point of purchasing intensity it can be seen that the income of households is one determinant of online purchases (Burroughs & Sabherwal 2002: 35). Income is positively correlated with retail electronic purchase (Burroughs & Sabherwal 2002: 48). According to Burroughs and Sabherwal (2002: 35, 38) households with high income have higher economic resources and better access to the Internet. Internet shoppers have been found to have a higher income, which confirm the findings above (Donthu & Garcia 1999: 53; Weiser 2000: 168). Burroughs and Sabherwal (2002: 35, 44) found out that higher household income is likely to result in increased purchases online. This goes in the line with findings of Donthu and Garcia (1999: 53; Weiser 2000: 168) who state that the online shopper is above average measured by household income. Contradictory the income level among online customers decreases (Burroughs & Sabherwal 2002: 35, 44, 50). In addition income was found to have no influence on online shopping (Goldsmith & Flynn 2004: 91 - 92). Focusing the sample for the empirical part it needs to be separated between households or adults and students. Teens and students 'earn' less than their parents nevertheless the relative disposable income is much higher among young customers (Zollo 1995: 24). This might be due to decreased family size and other socio-demographic changes, which allow parents to spend more on their children (Anderson 2001: 9).

To sum up it can be said that the income level might have a positive influence on online buying frequency. According to the statements above income has an important influence related to online shopping. It can be seen as positive correlated towards online buying frequency referring to the literature. Therefore the hypothesis is as follows.

H1c: Income of online shoppers is positively correlated with frequency of online buying.

As we have seen different demographic components (education, age, gender, and income) have been researched before (Bellman et al. 1999; Worthy et al. 2004). These research state that the demographics can have an influential side on buying. Research states some interesting issues. The benefit, which an online shop creates for the individual differed depending on age and income, whereas not on gender (Dholakia & Uusitalo 2002: 465 - 466). Therefore there should be a link towards buying online. This is going to be researched by means of the hypotheses drawn. Contradictory Bellmann et al. (1999: 37) state that demographics did not have an influence on the buying decision alone. According to them (1999: 37) there need to be other adjusting variables next to demographics and shopper types. Furthermore it needs to be taken into account that only a certain constellation of variables can have an influence.

The relative importance of demographic factors versus buying influences in predicting online buying frequency remains an open question. The complexity in summarizing the various studies about demographics in relation to online buying frequency is quite difficult due to the huge range of variables, which vary widely among the studies. The outcome of the empirical part hopefully increases the understanding of the influences, if the demographics mentioned before are going to be relevant for online buying among students.

3.2. Different customer classifications related online buying frequency

In this chapter the purchase horizon of online customers is discussed. Further the focus is on the shopping orientation. Both areas are supposed to influence a purchase situation. Both categorizations are based on different sources and schema. This means

that the two types are not interchangeable. The two concepts are examined to explore the customer classification in a broader range.

The literature identifies different types of shoppers according to their personal or individual purchase horizon, orientation, and their attitude (Barkhi & Wallace 2007). In this part the focus is on the purchase horizon, including the

- ‘Directed buyer’,
- ‘Search/ deliberation buyer’, and
- ‘Knowledge-building visitor’ themed ‘hardcore-never buyer’.

The major part of previous research related to online behavior focuses on the consumer, who is likely to purchase and search for products online (Sorce et al. 2005). Other research focus on the segmentation of the online customer derived from the shopping orientations (Brown et al. 2003: 1667). Brown et al. (2003) draw the hypothesis that the shopper segment, based on different orientation, attitude, and purchase horizon might have an influencing character towards online buying frequency. According to Westbrook and Black (1985a) as well as Lesser and Hughes (1986) a shopper segment can be extracted by detailed description of shopper types. Depending on this statement, in the following we will take a look on different shopper typologies.

A model (of conversion behavior) conducted by Moe and Fader (2004: 328) tries to develop a model of customer’s probability of purchasing, according to historical visits and purchases. The purpose to introduce this model is that it accommodates all types of shopping behaviours accordingly. It specifies three groups of buyers based on their buying motivations and the purchase horizon (see above).

The first group is the ‘*directed buyer*’ (Moe & Fader 2004: 327). This buyer group enters a store with a set of criteria of the product in its mind and is not likely to come out without any purchase. The second group is called the ‘*search/ deliberation buyer*’, who has a product category in mind and are likely to purchase a product after some informative shopping experience (Moe & Fader 2004: 327). Furthermore the third group ‘*knowledge-building visitor*’ belongs to the group, which are inherent non-buyers (Moe & Fader 2004: 327). These individuals belong to a segment of buyers, who have

no intention to buy on the retail website (Moe & Fader 2004: 328). Another expression of this buyer type is '*hardcore-never buyer*' (Moe & Fader 2004: 328).

According to the overall shadowing concepts it can be assumed that the purchase horizon of the shopper has a major influence on the buying process. The typology according to the purchase horizon needs to be critically scrutinized. Questionable at this point is, if this shopping attitude is fixed for an individual or if the individual changes for each purchasing visit. Personal characteristics can have an influence on the purchase horizon. Furthermore the product type and the frequency of the purchase affect the purchase horizon. To conclude it can be said that the purchase horizon is likely to change according to the e.g. product, personal characteristics, and frequency. The hypothesis can be suggested as follows.

H2a: The purchase horizon has an influence on the frequency of buying online.

Another customer classification can be made by the typology referring to the attitude towards online shopping (Dahlén & Lange 2002: 346). Every shopper can be described by shopping orientation; however the classification was made in relation to groceries. Nevertheless it should be possible to set up a shopper typology for an online environment respectively online consumer. Brown et al. (2003: 1680) suggested that the Internet is very similar to other forms of non-store retailing and therefore shopper types can be adopted, which possesses the basis of discussing shopper typologies in this study.

Referring to Brown et al. (2003: 1668 - 1669) shopping orientation is the general predisposition of the individual towards the act of shopping. Furthermore the orientation is defined by a range of interest, attitude, and opinion statements, which are shopping related (Brown et al. 2003: 1668). Nevertheless other authors notably Hoffman and Novak (cf. Brown et al. 2003: 1680) mentioned the Internet to be a totally different market. However the assumption in this study states that the shopper typology on the basis of shopping orientation can be applied to an online environment.

Stone (cf. Brown et al. 2003: 1668) was the first who established a shopper orientation typology consisting of

- Economic,
- Recreational,
- Apathetic,
- Ethical, and
- Personalising attitude of the shopper.

In the following the five shopper types according to orientation are explained in more detail.

Stone's (cf. Brown et al. 2003: 1668) *economic shopper* can be found in studies by several other authors, which took the main characteristic, but adapted the shopper type differently (cf. Brown et al. 2003: 1668; cf. Lesser & Hughes 1986). The economic shopper is rational, concerned essentially with buying at the lowest price and getting value for the spending (Brown et al. 2003: 1668; Dahlén & Lange 2002: 346).

The *recreational shopper* has been identified by Stephenson and Willet (1969) and is a more hedonic shopper type, who devotes time to shopping and enjoys it (cf. Dahlén & Lange 2002: 346; cf. Moe & Fader 2004: 327). Shopping around, taking his time, perceiving fun and enjoyment, and browsing describes the recreational shopper more detailed (Dahlén & Lange 2002: 346; Ramus & Nielsen 2005: 348). Besides it can be assumed that the shopper enjoys the shopping irrespectively of buying or not buying (cf. Brown et al. 2003: 1668). In addition Ramus and Nielsen (Dahlén & Lange 2002: 346; 2005: 348) found out that fun and enjoyment in conventional buying situations decreases in an electronic environment, however was replaced by the excitement and fun. Further the 'hedonic browser' experienced entertainment, enjoyment, and fun, as well (Holbrook & Hirschman 1982: 402, 424; Jin, Sternquist, Koh 2003: 378). Despite having some idea of product characteristics the 'hedonic browser' is driven by impulsive buying behavior and the environmental stimuli, which encourage to purchase (Childers, Carr, Peck, Carson 2001; Moe & Fader 2004: 327). This shopper has been seen as active, impulsive, and involved in the shopping process (Hausman 2000: 404, 408; cf. Lesser & Hughes 1986; Park, Kim, Forney 2006; cf. Westbrook & Black

1985b).

The *apathetic shopper* has been identified as an inactive shopper contradictory to the involvement of the shopping situation (cf. Brown et al. 2003: 1668 - 1669; cf. McKinney 2004). Involvement is clearly related to motivation and includes motivational variables in attention and comprehension processes (Brennan & Mavondo 2000: 132; Celsi & Olson 1988: 210; Dahlén & Lange 2002: 346). The apathetic shopper tries to deal with shopping situations as painless as possible, because the individual sees shopping as a necessary but unpleasant activity (Dahlén & Lange 2002: 346).

Brown et al. (2003: 1669) state two other shopper types, which occur in the literature. These are the *ethical* and the *personalizing shopper*. The shopping behavior of the ethical shopper has been defined by loyalty to the brand, store, or even the local merchant. The *personalizing shopper* has been found to be a problematic type concerning online shopping. The reason lies in the concept itself, as it describes the personal interaction with shop merchants and personal service recipient, which are the main determinants of the shop choice (Brown et al. 2003: 1674). As these characteristics are mainly not found in an online purchasing environment this shopping orientation is assumed not to be satisfied in online buying. (Brown et al. 2003: 1669.)

An additional concept to the five shopper types of Stone (cf. Brown et al. 2003: 1668) is the one of *convenience*. According to Gibbs, Kraemer, and Dedrick (2003: 16) convenience is a concept, which all customers across countries desire. Convenience has often been conceptualized as a time-oriented construct (Brown et al. 2003: 1669). According to Donthu and Garcia (1999: 52) Internet shoppers are more likely to search for convenience than non-Internet shoppers. Questionable is why the level of this concept differs among the customer groups. Gehrt, Yale, and Lawson found evidence for the dimension of space and effort to the construct (cf. Brown et al. 2003: 1669). Shoppers according to Brown et al. (2003: 1669) might be motivated by both dimensions or only one.

Brown et al. (2003: 1674) logically assumed and proved that consumers possess different shopper orientations, which influence the purchase behavior. Nevertheless critically reviewing the findings it might be that shopper orientation of an individual does not vary or change. Concerning the types it might be because the shopper is classified in an overall type, which is not influenced by the product or external factors. Assuming that the shopper orientation of an individual does not vary, it should not vary in an online environment either.

Therefore the hypothesis of this part reads as follows.

H2b: The shopping orientation has an influence on the frequency of online buying.

3.3. Dimensions of transactions characteristics as an influence of online buying frequency

The transaction cost theory can be linked to the already mentioned shopping orientation and shopper types. The theory seems closely related to the probably most important reason for consumers to buy online, costs and price (Donthu & Garcia 1999: 54; Jin et al. 2003: 379). In the following a general view of the transaction cost theory is given and the three dimensions (frequency, uncertainty, asset specificity), which are introduced. Furthermore the behavioural assumptions concerning the transaction cost theory are explained in more detail.

Transaction costs occur due to 'friction', which arise due to inefficient markets, organizational structures, and combinations of technological activities (Kalakota & Whinston 1997: 5). Related to this Coase (1937; Williamson 1981) introduced the transaction cost paradigm. The paradigm tries to explain why certain transactions in certain institutional arrangements are more or less efficient and is a viable theory to explain online buying behavior (2004: 453). The transaction cost paradigm assumes that

every transaction activity in an economy can be investigated by the transaction cost analysis, which has been used to describe issues in many domains on the firm and individual level before, as well as in the area of Electronic Commerce (Rindfleisch & Heide 1997b: 30; Teo & Yu 2005: 453; Williamson 1985). Frequency, asset specificity, and uncertainty are characteristics of transactions cost, which are discussed in this study (Coase 1937; Devaraj et al. 2002: 319; Dietrich 1994; 1981; Williamson 1979: 239). Transaction according to Teo and Yu “can be rare or frequent; have low or high uncertainty; or involve specific or non-specific assets” (Teo & Yu 2005: 452). Transaction costs consist mainly of three cost types: searching, monitoring, and adapting costs (cf. Dahlstrom & Nygaard 1999; cf. Liang & Huang 1998; cf. Srinivasan & Ratchford 1991; cf. Stump & Heide 1996; Teo & Yu 2005: 453). However in this investigation the three cost types are excluded and not discussed in more detail.

Transaction cost theory provides several reasons why customers buy online and furthermore useful understanding for online consumer behavior in a separate theory (Son et al. 2006: 480). Explaining the concept of transaction, it is assumed that the aim of an individual conducting a transaction process is to maximize profit and minimize costs (Williamson 1981). For example, according to Bakos (1991b: 297) the reduction of the search cost is the most important effect of Electronic Commerce and market, because search cost influence the willingness to pay (Chan, Kadiyali, Park 2007: 325). The classic economic theory suggests that information on a market is distributed in the same way and is accessible for all market participants (Thompson & Yu 2005: 452). Contradictory to this assumption most of the markets in reality are inefficient and the concept cannot be applied (Devan & Hsu 2004: 499; Thompson & Yu 2004: 452). This is typical the case for Electronic Commerce (Devan & Hsu 2004: 497). In the electronic market due to remote buyers and sellers, which are separated by time and space, information asymmetries are likely to occur (Devan & Hsu 2004: 497). Furthermore the lack of information in the common theory plays a major role in trying to minimize the transactions costs (Thompson & Yu 2005: 452). Moreover transaction cost can have a physical dimension, which includes shipping costs (Ku & Malhotra 2001).

The amount of inefficient markets, which obviously exist nearly everywhere needs to be reduced to further decrease the transaction costs. Dealing with the thoughts of Williamson (1981) the reduction could be done by two different approaches (Thompson & Yu 2005: 452). Williamson (1981) introduced the assumptions of underlying the choice between market and hierarchy, these are bounded rationality and opportunism and self-interest. The following behavioural assumptions are implied to the counterparts taking part in a transaction process.

- The major focus on bounded rationality is that the people have cognitive limitations, which inhibit them to process an optimum amount of information (McKnight, Choudhury, Kacmar 2002). This information optimum would be helpful to proceed with the transaction at a minimum of transaction costs. The outcome of this dilemma is that the individual tries to satisfy the major conditions when making a decision (Thompson & Yu 2005: 452). Furthermore if decision makers were unboundedly rational, they would be able to include all possible contract situations (Soronen 2007: 16).
- The second assumption is the opportunism. Unlike to the bounded rationality opportunism takes into account that the individual is not ‘only’ acting to maximise the profit (Thompson & Yu 2005: 452).
- Another component is the likeliness that the decision maker is going to take into account ‘self-interest’. This might influence the evaluation of goals in another direction (Thompson & Yu 2005: 452). Nevertheless according to Williams “people are still assumed to be rational” (Thompson & Yu 2005: 452).

If one might think of his own online buying behavior it could be seen that the question might not focus on bounded rationality. All shoppers are trying to minimize the transaction cost. Nevertheless, when actually completing the buying process the opportunism might play an important influencing role. The decision might not anymore be only driven by the fact that the saving of transaction costs is worth it. Moreover the opportunism provides convincing functions and arguments to proceed with the

purchase. After the purchase the buyer should have an benefit out of the shopping (Cannon & William 1999; Sriram, Krapfel, Spekman 1992). Then the paradigm of 'having' and 'enjoying' the product might tamper the buying decision.

This study takes the transaction cost theory as a basic theory to explain influences at a great distance in online buying behavior among Finnish and German students. In the following the three different dimensions (frequency, uncertainty, and asset specificity) are outlined and hypotheses are going to be tested in the empirical part later on. All of these hypotheses might then be able to explain the transaction cost theory approach according to motivational aspects.

Besides the different types of transaction costs diverse dimensions of the transaction itself can be accounted for motivating shopping behaviour. These dimensions

- Frequency (excluded),
- Asset specificity,
- Uncertainty

might be important in an online buying process and characterise every single transaction (Devaraj et al. 2002: 319; Teo & Yu 2005: 452; Williamson 1979: 239). In this study as frequency was chosen to serve as a dependent variable it is not included in the dimensional discussion of transactions. According to the above mentioned findings three antecedents guided to the original transaction cost theory, which will be discussed in the following.

3.3.1. Asset specificity as an influence of online buying frequency

Asset specificity is the most important attribute of transactions to consider whether a transaction should be performed within the firm or over the market (Williamson 1981: 555). Asset specificity is the investment made to support special transactions (Devaraj et al. 2002: 319).

According to Benjamin and Wigand (cf. Korgaonkar & Karson 2007: 56) “the transaction cost paradigm suggest that product features will influence transaction cost [...] [and therefore] play a key role [...]”. Defining asset specificity according to Teo and Yu (2005: 455) the asset-specific investment level will determine the amount of transaction cost and buying decision. Specialisation in the understanding of transactors means that there will be special effort put into “design[ing] a bilateral, or at least quasi-bilateral [...] exchange” (Teo & Yu 2005: 453). As the product or service, gets more specific and specialized, the asset specificity increases (Devaraj et al. 2002: 319). This makes it more difficult, for the buyer and vendor to switch counterparts (Devaraj et al. 2002: 319). Regarding to the specificity the product price and the transaction cost will rise (Thompson & Yu 2005: 453). A slightly different definition, which is more relation oriented, is adopted by Son et al. (2006: 480). They (2006: 480) describe asset specificity as “the extent to which the value of an investment made by a transacting party, such as a firm or an individual, is specific to the relationship with the other party” (Son et al. 2006: 480). Complex governance structures want to be achieved by the transactors due to fear of opportunism and “to eliminate and attenuate costly bargaining over profits from specialized assets” (Thompson & Yu 2005: 453).

Son et al. (2006: 480) distinguishes, according to several other authors, three types of asset specificity. These types are physical asset specificity, site specificity, and human asset specificity (Son et al. 2006: 480; Thompson & Yu 2005: 453). Not all three types are important for an online environment. Site and physical asset specificity are irrelevant (Son et al. 2006: 480 - 481). Human asset specificity has been focused on the most in research and plays a major role in online shopping (Son et al. 2006: 480 - 481). Son et al. (2006: 481) see human asset specificity as an intangible facet. Any personal expertise related to online activity can be related to human asset specificity, which can be used for several other online activities (Thompson & Yu 2005: 453). These activities include, providing personal details, building relationships with other customers through provider’s communities, acceptance of the Internet, skills, and knowledge, used for searching and browsing (Son et al. 2006: 481; Thompson & Yu 2005: 453). As it can be seen in the case of online shopping human asset specificity cannot clearly be separated form other online activities.

The study of students influences to buy online takes mainly the view of asset specificity of Son et al. (2006: 481) and includes the human asset specificity. However other specificities are included. Furthermore depending on the human asset specificity concept the individual expertise is therefore taken as the representative concept of this study.

It might be seen that asset specificity is a concept, which ‘hinders’ counterparts to drop out of a transaction process, if the opportunity costs are too high. Therefore it can be assumed that asset specificity has an influential character on online buying frequency. The hypothesis amounts to:

H3a: Asset specificity influences the frequency of online buying.

3.3.2. Uncertainty as an influence of online buying frequency

Uncertainty is the second describing variable of transactions (Devaraj et al. 2002: 319). Speaking about the fact of shopping on the Internet, especially distrust seems to be a major issue in the business to consumer market (Clarke 1999; Hoffman et al. 1999: 80 - 85; Pui-Mun 2002: 77; Rennhard et al. 2004; Rietjens 2006: 55; Rifon, LaRose, Choi 2005) (see chapter 2.5 critical view).

Uncertainty can be divided into two major types, behavioural and environmental uncertainties (Rindfleisch & Heide 1997a: 31). According to Rindfleisch and Heide (1997a: 30), both types of uncertainty have been widely used in previous empirical studies using the transaction cost analysis. A general definition is given by Williamson (1985; 1981), who state uncertainty as “the inability to predict relevant from two sources-unpredictable changes and information asymmetry resulting from strategic nondisclosure or distortion of information“ (cf. Devaraj et al. 2002: 319). Uncertainty, which is closely related to the already discussed opportunism, bounded rationality, and

the asymmetric information spreading on markets, causes problems and costs (Devan & Hsu 2004: 497; Devaraj et al. 2002: 319; Teo & Yu 2005: 453). Transactions, which include a high involvement of the parties might be more uncertain and therefore result in higher transaction costs, because of the risk of one partners' opportunistic behavior (Son et al. 2006: 482; Teo & Yu 2005: 543). In this case "uncertainty underscores the need of the transacting parties to safeguard the contract to protect themselves" (Thompson & Yu 2005: 453). Seen from a different perspective, online shopping necessitates a certain amount of trust as the online environment is quite unstructured and it shows inevitable confidence in unknown and unseen vendors (Das et al. 2003: 186). As trust can be seen as the opposite of uncertainty it might be interesting to highlight this from another perspective. Trust seen by Teo an Yu (2005: 455) consists of dependability of online stores and privacy policy. For the purpose of this study, we adopt the following well-accepted definition of trust.

"Trust is a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behaviors of another" (Rousseau, Bitkin, Burt, Camerer 1998: 395).

Customers need to feel save when entering their credit card number and need to have a secure feeling about the transaction process. If the customer is not able to feel relaxed and is worried about a negative outcome of the purchase, he is not likely to make the purchase, at least not at this website again.

Environmental uncertainty has been defined as "the degree to which future states cannot be anticipated or accurately predicted" (Pfeffer & Salancik 1978: 67). A totally different view is stated by Son et al. (2006: 482). They (2006: 482) state that environmental uncertainty could stem from a lack of legal and technological assurances certainty and/ or that online retailers are opportunistic. Moreover a change of the website's design could cause environmental uncertainty felt by the customer, which influences trust (Teo & Yu 2005: 454; Yakov, Shankar, Sultan, Urban 2005: 133). The relation between trust and uncertainty will be discussed later on.

Son et al. (2006: 482) state based on several other authors that behavioural uncertainty

is a more relevant form to be conducted in an online environment. Behavioural uncertainty increases consumers' transaction costs in purchasing products online, and have a negative impact on consumers' overall satisfaction with online shopping (Devaraj et al. 2002: 326). Behavioural uncertainty includes after sales services, when buying online (Teo & Yu 2005: 454).

Teo and Yu (2005: 453) on the other hand extend this view and point out two additional uncertainty forms: performance and branding. The online customer is not able to try the performance of an article he wants to purchase, which is described by performance uncertainty (Teo & Yu 2005: 454). Brand certainty and consistency are offered by a strong brand, which provides the customer with value and quality (Teo & Yu 2005: 454). Customers might perceive fear and risk, when online shopping on a web page, which they have never seen before and which they are not able to ascertain (are not able to ascertain the online shop) (Teo & Yu 2005: 454). A strong brand might provide the customer with the security (reliability) one needs to proceed with his purchase activity (Waldfogel & Chen 2006: 426). Reliable information, quality, and value, which are provided by a strong brand positively, influence the customers' willingness to buy (Coward & Goldsmith 2007: 639; Donthu & Garcia 1999: 52, 54; Teo & Yu 2005: 454). According to Devan and Hsu (2004: 514) the price in an online auction would be higher without quality uncertainties. Nevertheless Donthu and Garcia (1999: 56) revealed that online shoppers are less brand and price conscious than non-online shoppers. The result of this underlying psychological fact shows that brand might create, reassure, and reduce transaction costs.

According to Teo and Yu (2005: 453) the four uncertainty types mentioned are positively related to transaction costs. In this study the concept of uncertainty incorporates behavioural uncertainty, information uncertainty for decision-making, and branding uncertainty. Several sources speak about a probability of loss from a transaction, whereas other sources speak about a lack or difference of information needed to take a transaction decision (Son et al. 2006: 482). The following definition for this study is made.

Uncertainty in relation to transaction cost theory in terms of online customer behavior is seen as: the perceived uncertainty due to several online shopping related service activities, the perceived uncertainty due to information asymmetries, and the perceived uncertainty about the received quality and value of the product.

The choice for this definition was made because Internet and Electronic Commerce with its opportunistic behavior and exchange processes are not the focus of the influential study. Nevertheless the study is not going to discuss legal and technological assurances. Furthermore uncertainty concerning a loss of transaction will be touched. This can be explained because it is related to an influential pattern of shopping online.

H3b: Uncertainty influences the frequency of online buying.

3.4. Personality as an influence towards online buying frequency

The field of personality is concerned with individual differences and with the individual itself. Personality can be described as the complex relationships between overt behaviours, cognition (thought processes), and affects (emotions). The results of Bosnjak, Galesic, and Tuten (2007: 597) indicate that personality traits have an influence on online shopping behavior. Allport (1937) mentions traits as the 'having' side of personality. For the present the concept of personality in terms of characteristics or traits is suggested as a working definition. According to Pervin (1996), personality can be described as traits, which form the structural basis of individual differences and refer to broad behavioural consistencies in the conduct of people, as mentioned also in the general psychological personality literature (Baumgartner 2002: 286; Jahng, Jain, Ramamurthy 2002). Nevertheless personality traits is an underdeveloped area of consumer behavior and especially of online shopping (Bosnjak et al. 2007: 597). (Pervin 1989: 3 - 6.)

To describe the human personality in more detail a very popular viewpoint is the Five Factor Model, which is adjusted in this study (Gianluigi et al. 2007: 366). The model serves to measure personality.

The Five Factor Model has the greatest impact on the personality psychology today (Mowen & Spears 1999: 412). The Five Factor Model of personality places more emphasis on the personality characteristics and less on the purpose of human behavior (Barkhi & Wallace 2007: 5). Purchase decision might be influenced by the way customers receive and process information (Barkhi & Wallace 2007: 5). The personality takes into account five different factors, which characterise and assess human personality (Barkhi & Wallace 2007: 5). The factors can be brought into relation to web usage of different personalities, each possessing different the characteristic attributes. The five factors of personality are namely, according to Goldberg (1990; 1992)

- Extraversion,
- Agreeableness,
- Conscientiousness,
- Neuroticism, and
- Openness to Experience

(cf. Baumgartner 2002: 287). In this study these major factors are linked with several adjectives to describe the model in a more extended matter. The Big-Five have been proven to be related to shopping motives (Gianluigi et al. 2007: 366, 369) and to web usage. Therefore the five factors of personality might be seen as an influencing personality towards shopping online. In the following the five factors of personality will be discussed in more detail and related to online shopping. In addition the five factors are going to be distinguished further.

Extraversion is thought to be some kind of sociability (Gianluigi et al. 2007: 369). The adjectives related to this noun are talkative, assertive, energetic, optimistic, active, “excitement-seeking and easily bored or distracted” (Costa & McCrae 1992: 14 - 16; Tuten & Bosnjak 2001: 392). Nussbaum and Benedixen (2003: 578) describe extraversion as a measure of how assertive and outgoing individuals are in social situations. Extraversion is described as liking people and gathering in large groups

(Costa & McCrae 1992: 14 - 16). Furthermore “extraversion can be characterized as a motivational disposition comprising social dominance, enthusiasm, energy, assertiveness, ambitiousness, reward sensitivity, and achievement striving” (Kemper, Leue, Wacker, Chavanon, Hennighausen, Stemmler 2008: 192).

Agreeableness is described of primarily interpersonal tendencies (Costa & McCrae 1992: 14 - 16). Flexible, curtness, good-natured, cooperative, and tolerant are the related adjectives (Berrick & Mount 1991). An agreeable person has an altruistic, sympathetic behavior, is willing to help and assumes that others will help too (Gianluigi et al. 2007: 369). Extraversion and agreeableness had no significant relationship to web usage at all (Tuten & Bosnjak 2001: 396). This indicates that extraversion and agreeableness might not influence buying online.

Conscientiousness or more explanatory dependability and reliability can be described as personal competence, deliberation, and self-discipline. Moreover people described as punctual, reliable, and determined, as well as likely to have a strong need for achievement are high in conscientiousness (Costa & McCrae 1992: 14 - 16). It is the strongest predictor for performance (Berrick & Mount 1991). Furthermore with this factor there are several other components linked: achievement orientation, self-control, honesty, and integrity are some of them. Conscientiousness is the preference for goal-orientated activities (Gianluigi et al. 2007: 369). Conscientiousness high scoring individuals were likely not to use the web for entertainment matters (Tuten & Bosnjak 2001: 396). This might be because conscientiousness results from the relation to need for cognition. This means that behind the usage of the Internet there needs to be a purpose and a measurable outcome for a cognitive approach. Therefore the likelihood might be higher of conscientiousness high scoring individuals to be motivated to shop online, with measurable outcomes and purpose. (Tuten & Bosnjak 2001: 392 - 393.)

Costa and McCrae (1992: 14-16) described **neuroticism** more general as the tendency to experience negative affects such as anger, guilt, sadness, etc. People who experience fear, anxiousness, pessimism, worry, and insecurity are described as neurotic. They are characterised by a lack of ability to deal with negative emotions (Gianluigi et al. 2007:

369). It was stated that neuroticism, as an indicator for security concerns in the Internet had a negative correlation with web usage. This indicates a barrier for online purchasing. Neuroticism was highly present among people, who were using the web as a learning and education platform. Individuals who were neurotic in web usage and search for product information or had some kind of insecure feeling were likely to search for more information, which might be influencing to shop online later on. (Tuten & Bosnjak 2001: 396 - 397.)

The last factor *openness to experience* is defined as tolerating new ways of doing things and of new ideas (Gianluigi et al. 2007: 369). People are describes as curious, preferring variety, aesthetic sensitive, original, and broad-minded. Openness to experience is also understood as the ability to be actively imaginative and independent in judgement (Costa & McCrae 1992: 14 - 16). They are seen as intellectual overall (Costa & McCrae 1992: 14 - 16). Openness to experience however is highly related to usage of web entertainment and information search on the web. This can be explained, because openness to experience has an intellectual character. Searching information on the web increases the likelihood of a purchase. This might indicate that openness to experience is an influencing factor to online buying. The relation to need for cognition, which includes a high level of cognitive involvement, can explain the high correlation of openness to experience. Therefore openness to experience involves a cognitive thought and is closely linked with web usage. (Tuten & Bosnjak 2001: 391 - 397.)

The following is a *summary of personality*. Critically deliberating the facts, which Tuten and Bosnjak (2001) provided in the Five Factor Model gave an understanding of influencing personality factors. The outcome showed that web usage activities correlate with each other (Tuten & Bosnjak 2001: 396). Openness to experience is for instance highly related to overall web usage and especially to the online entertainment (Tuten & Bosnjak 2001: 397). However factors as agreeableness, extraversion and conscientiousness showed no significant correlation with any form of web use (Tuten & Bosnjak 2001: 396). Moreover it was found that the Five Factor Model is highly linked with the 'need for cognition' construct. Further need for cognition turned out to have the major influence on the web usage in general as seen before.

It turned out that the Five Factor Model is difficult to be related to online shopping, because three out of five factors seem to have no positive influence on online buying. According to the literature, which is stated above conscientiousness, extraversion, and agreeableness are not correlated with web use and therefore difficult to combine with online buying (Tuten & Bosnjak 2001: 396). In terms of extraversion this might be explained because of the activity-seeking and impulsive character of extroverts, which might not be reflected in an online buying environment (Tuten & Bosnjak 2001: 396). Nevertheless according to Tuten and Bosnjak (2001: 397) their study does not give any clue about the use of the web rather it states that extroverts use the web for the same reasons as introverts but move more frequently and quicker between web pages. Furthermore neuroticism was negatively correlated with web use (Tuten & Bosnjak 2001: 397). Openness to experience was related to entertainment matters online (Tuten & Bosnjak 2001: 397). Neuroticism and openness to experience are the only factors, which correlate in some way with web usage in general. In the empirical part the five factors are examined. After this the findings from Tuten and Bosnjak (2001: 397) can be inspected again and a conclusion can be drawn, according to the hypothesis above.

H4: Personality influences the frequency of online buying.

3.5. Emotional influence towards online buying frequency

A strong tradition dating back to Plato says that emotions are viewed as the enemy of the reason (O'Shaughnessy 1992: 197). Furthermore according to findings of Bosnjak et al. (2007: 603) the decision to shop online is influenced by emotions (Ariely & Simonson 2003: 116; Espinoza, Fedorikhin, Srivastava: 264; Park et al. 2006).

Many scientific topics (psychology, biology, medicine, behavioural research, emotional research etc.) have analysed emotions, which makes it hard to specify emotions in one definition (Bagozzi, Gopinath, Nyer 1999: 184). Izard (1977: 4) states that to receive a

generally valid definition diverse standpoints have to be considered: neuro-chemical processes, description of experienced feelings and experiences, expressive and motoric behavior. According to the thesis topic it is possible to narrow the issue down to behavioural consumer originate, which uses mostly psychological theories (Griese 2002: 74). Kroeber-Riel and Weinberg (1999: 106) understand emotions as an internal arousal, which can be comfortable or uncomfortable and more or less consciously or unconsciously experienced.

Emotions can be differentiated according to intensity and direction (positive/ negative) as well as quality (content alternative) (Izard 1977: 2; Kroeber-Riel & Weinberg 1999: 105; Trommsdorff 2002: 36). Due to operationalization purposes, emotions are seen as a condition, in behavioural consumer research (Viehöver 2005: 7). However a treatment of emotions as a reaction in a service process seems to be suitable, too (Griese 2002: 85 ff.). This point of view stems from the environmental psychological research, which deals with the interaction between individuals and their environment (Griese 2002: 85; cf. Mehrabian 1978). This approach speaks about the existence of an impulse respectively stimuli, which is activating and guiding the behavior (Mehrabian & Russel 1974: 85 ff.). The intensity of the reaction depends on the magnitude and the amount of impulses. Besides the stimuli (impulses) (e.g. smell, music, interior respectively environmental variables), reactions of service personnel and other customers play a major role in creating emotions. Bagozzi et al. (1999: 184) present a good definition for emotions, because they integrate condition, reaction and the interdependence between cognition and behavior (Gilliam & Bower 1984; Izard 1984; Zajonc & Markus 1984):

„a mental state of readiness that arises from cognitive appraisals of events or thoughts; has a phenomenological tone; is accompanied by physiological processes; is often expressed physically (e.g., in gestures, posture, facial features); and may result in specific actions to affirm or cope with the emotion depending on its nature and meaning for the person having it” (Bagozzi et al. 1999: 185.)

Obvious is the existence of an incidence as well as the allowance of consecutive reactions (Bagozzi et al. 1999: 185). It needs to be considered that emotions besides the existence of a reaction can also be an activator for cognitive processes (Lazarus 1991:

104). Processes appear moderating, constitute the motivational system, and activate the activity level of the organism (e.g. pleasure, interest) or reduce it (e.g. satisfaction, mourning) (Izard 1977: 2; Kroeber-Riel & Weinberg 1999: 104; Lazarus 1991: 92). Therefore a differentiation between the reaction of emotions as a moderator and catalyst or as an independent variable can be made. Emotions act in the case as a moderator as well as catalyst function between the cognitive evaluation and the decision-making. As an independent variable emotion directly affects the decision making (Benkenstein & Forberger 2001: 332).

Elementary knowledge published by Izard (1977: 4) and Plutchik (1980) referring to type, amount, and characteristics of emotions, can be used in consumer behavior research, They divide emotions into primary (basic) and secondary emotions. Primary emotions are congenital and ontogenetic emotions, which appear in the earliest days. They exhibit physiologic, expressive, and subjective examples. These types of emotions can be distinguished clearly and are consistently found in every culture. Beyond they show the most considerable evolutionary adaptation value both for humans and for mammals (Lazarus 1991: 79; Schwab 2004: 100). Secondary emotions can be deduced from the primary ones or emerge from combination (Lazarus 1991: 78; Plutchik 1980: 160 ff.). For the two most established assignments about emotion theory see appendix 1 and 2.

In the following the question arises, how emotions are related and integrated to online shopping influences. The emotional basis of the environmental psychology assumes that the first reaction towards an environment is an emotional one (Diehl, Terlutter, Weinberg 2007: 484). Regarding this assumption Electronic Commerce needs to be seen as an environment to which the individual reacts. Hausman (2000: 414) states, that emotions can have an influence on actions, which can be transferred to online buying as an action. The resulted emotion can be positively or negatively affecting. This emotional reaction will determine, if an individual will approach an environment (positive reaction) or depart (negative reaction) (Diehl et al. 2007: 484). Furthermore according to the preposition the environment might determine further shopping processes. Emotions can be seen as a part of hedonic complexes, which have a stimulating character in terms of buying (Hausman 2000: 406). Moreover hedonic needs

appeared to motivate customers to shop (Hausman 2000: 406). Chaudhuri (1997: 82) indicates that emotions are basic primary motivations, which can be seen as a crucial determinant of product choice, which stimulate consumers by emotional preferences of products (Park et al. 2006: 435). Considering this statement it can be assumed that emotions influence and/ or determine customers to shop online.

Interaction, according to the environmental psychology, is seen as a facilitator towards the variables pleasure, arousal, and dominance, which are affective dimensions in the environmental psychology (Diehl et al. 2007: 484 - 485). Interaction is seen to be an important part in Electronic Commerce environments (Jahng et al. 2002: 181; Patwardhan & Ramaprasad 2005). Emotions that encompass affect and mood are an influential part of the decision-making of consumers (Park et al. 2006: 436; cf. Passyn & Sujun 2006: 583). As the consumer faces different types of decisions in a purchase process, emotions might be an essential part of it e.g. online auctions (Ariely & Simonson 2003: 116). It can be assumed that a person who experiences pleasure, as a positive emotion, in conventional shopping will experience the same when purchasing online as seen in chapter 4.1. (Dittmar et al. 2004: 426). Online purchasers enjoyed the interactive explorative nature of market places (Dittmar et al. 2004: 426). According to Goldsmith and Horowitz (2006: 1) the cyberspace is seen as an interactive medium. It is seen as essential that customers receive some kind of flow feeling, which is a positive emotion and stems from the motivation psychology (Diehl et al. 2007: 485, 495). Flow might be assumed as emotion. Flow is seen as a variable, which includes affective (emotional) components (Diehl et al. 2007: 481). Flow can be experienced, when individuals immerse into a task and are not deflected by external environmental stimuli (Diehl et al. 2007: 485). Combined with interactivity of the online shop, flow is seen as best applicable to provide information and an adventuresome experience for customers (Diehl et al. 2007: 485, 495). Findings that interactive online shops provide the greatest flow experience might be taken as a basis. Therefore online shops and Electronic Commerce provides customer stimuli, which create emotional reactions, which positively influences customer to shop online.

According to the relation, which seems to exist between emotions and the online environment, it might be the case that emotions influence the consumer motivation. In the hypothesis it is assumed that in an online environment, positive emotions are received. Therefore the following is proposed.

H5: Emotions influence the frequency of online buying.

3.6. Summary of the theoretical part

In chapter three the hypotheses and their theoretical backgrounds are presented. The first part consists of demographic factor and is followed by a chapter of customer categorisation. Chapter 3.3. focuses on dimensions of transactions (asset specificity, uncertainty). Personality last discusses five personality factors. The last chapter examines emotion as one type of influence. The main purpose of this chapter was to present previous studies discuss, and scrutinize the empirical findings of former research related to the topic of this study.

As we can see the demographic component of influences has been widely studied in consumer research before. In addition as Worthy et al. (2004: 519) state demographic can be seen to be linked with Electronic Commerce. Age was found to have an influence on online buying; nevertheless the findings differ according to the direction (positive, negative). Shopping and purchasing is seen by many authors (see chapter 3.1.) to be differentiating between the gender and therefore influencing. It can be said that the gender differed according to their shopping intention and the related use of the Internet. Nonetheless some authors stated that the gender gap diminishes. Income as the last component included in the demographic chapter is seen to positively influence online purchases (Burroughs & Sabherwal 2002: 35). This is explained through tangential matters (Internet connection, higher economic resources etc.), which provide and facilitate online buying for the customer.

The chapter customer classification discusses the purchase horizon and the shopping orientations of online customers. According to the purchase horizon three different ones (directed buyer, search/ deliberation buyer', and knowledge-building visitor themed hardcore-never buyer) have been detected. These types can be seen to influence online shopping concerning Brown et al. (2003). The second classification is the shopping orientation. The shopping orientation was adapted from an physical environment to an online environment on the basis of Brown et al. (2003: 1680). The shopper orientations include an economic, recreational, apathetic, ethical, and personalizing attitude. As the orientations include nearly all human characteristics they can be adapted towards an online purchasing situation.

Dimensions of transactions have been proven to be linked with the online environment. In this chapter only the dimensions concerning asset specificity and uncertainty are discussed and related towards Electronic Commerce. Transaction cost theory can be applied to Electronic Commerce because it serves the main prerequisites (inefficient market, pursuit to minimize transaction cost etc.). In addition the behavioural assumption of market participants of a purchase situation are bounded rationality, opportunism, and self-interest. Two characteristics are furthermore discussed namely asset specificity and uncertainty. Asset specificity is seen to hinder the counterparts of purchase situation to drop out and search for another possibility to purchase. As uncertainty is found to be positively related with transaction cost the assumption of the theoretical part also presumes that uncertainty influences frequency of online buying.

Personality has been researched before and is further influencing shopping behavior. The five influences (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) are discussed according to their influential character towards online purchasing. In the chapter the focus is on the description of the five influences and on the relation towards the online environment. As Gianluigi et al. (2007: 366, 369) state the five influence are related to shopping. Extraversion were not related to web usage at all, whereas conscientiousness was related, if behind the purchase was a measurable outcome or purpose. Openness to experience was highly related towards web entertainment and information search on the web. However not surprisingly

neuroticism was correlated negatively with Internet use. Functional, emotional-social, and identity-related dimensions are related to the previous discussed five influences.

Emotion is the last influence, which is discussed in this chapter influence shopping online. Emotion is seen as a reaction of stimuli and can further affect decision making in different ways. Emotions can have a negative and a positive direction, which determines the influence towards the online environment. Further it is difficult to appoint a certain direction, which therefore leads to the assumption of the hypotheses that emotions influence the frequency of online buying.

The conceptual framework, which was explained above can be further reviewed in figure 4.

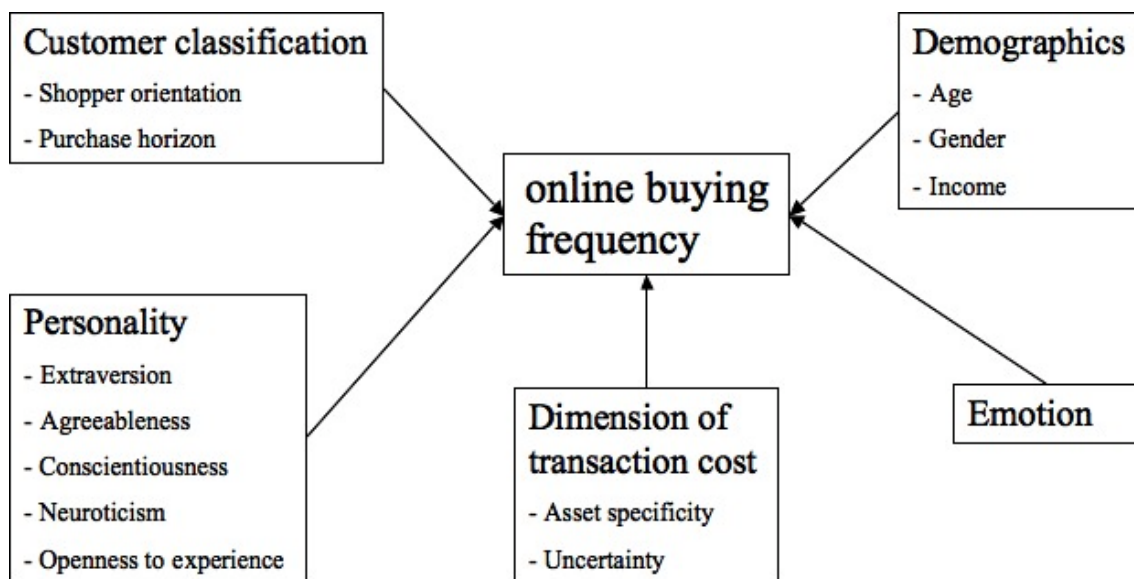


Figure 4. Conceptual framework.

4. RESEARCH METHODOLOGY

This chapter presents the research methodology and the operationalization of the variables, which are used in this study. First the methodology will be discussed and secondly the operationalization methods for each variable are explained. The reliability and the validity of the study are contradictory. Furthermore it will be shown, which sample has been used and how the empirical data was collected among the sample.

4.1. Research design

This research is a quantitative one and leads towards a statistical analysis and is seen to be most suitable, because of a deductive research approach. Hypotheses have been used to questions the findings of the literature derived from the theoretical part (Malhotra & Birks 1999: 133). They are expressed in a way, which tries to state a causal relation between the operational terms of the hypotheses. The purposes of the study ask for a differentiation of the direction and the magnitude of the relationship between the variables. This relationship between the variables can be best measured with a quantitative statistical analysis, which has been conducted using SPSS 16.0 for MAC (Ghuri, Gronhaug, Kristianslund 1995: 8 - 10; Saunders, Lewis, Thornhill 2007: 118).

The study follows the five-stage process of Robson (cf. Saunders et al. 2007: 117) in a broad perspective. The five stages suit best the previous settings of a scientific research.

- 1) Deducing a hypothesis from the theory
- 2) Operationalizing the hypothesis
- 3) Testing the operational hypothesis
- 4) Examining the outcome of the enquiry
- 5) If necessary, modifying theory in light of outcomes

The study can benefit from the strength of the deductive approach (Preece 2000: 54). This method is seen to produce quantifiable, reliable data, which can easily be generalized to a larger population group or in this case to a student group in similar countries. Analysis and interpretation of the outcome are straightforward. Furthermore the reader can easily follow the study. Discuss final outcomes of further and related studies and go further with the conducted research and see what the outcome offers to discuss. Meaning exploratory and explanatory elements can be taken to focus on finding causal relationships in the process of narrowing down the scope as the research process.

This study used statistical analyses to examine the potential relationships between the variables of the study as it was seen to be the best way to measure the influence of the five factors. Pearson's product-moment correlation and independent-sample t-test were used to examine the relationships between independent and dependent variables. In addition the difference between Finnish and German students enrolled in these countries, where tested.

The Pearson product-moment correlation coefficient explores the relation between two variables. The Pearson correlation coefficient (r) can take values from -1 to +1. The sign reflects the direction of the correlation, whether it is positive (both variables increases at the same time) or negative (one variables increases, the other decreases). The size of the absolute value indicates the intensity of the relation. (Pallant 2001: 121 ff.)

The independent-sample t-test is used to compare the mean scores of two different groups. The test tells whether there is a significant difference between the two groups, relying on the mean scores. The observations made of the data must be independent of one another. Most of the statistical methods are robust, however with a sample ≥ 30 there should be no major problem of violation (Gravetter & Wallnau 2000: 302; Stevens 1996: 242). Homogeneity of variance is tested by Levene test for equality of variance. The test provides two sets of results for the situations of a violation and no violation of the assumption (Stevens 1996: 249). The effect size of the findings can be assessed through an eta squared, which indicates the magnitude of the findings. It describes the "amount of the total variance in the dependent variable that is predictable from

knowledge of the levels of the independent variable” (Tabachnick & Fidell 2001: 52). Missing data have been preliminary rejected before proceeding with any of the two analyses. (Pallant 2001: 195 ff.)

4.2. Sample collection and sample characteristics

The quantitative data of this study was collected among Finnish and German students, which was carried out between 29th of June and 17th of July 2008. Before the survey was launched a pilot test phase was established. For this purpose selected students were asked to complete the survey and to state difficulties and possible misunderstandings. Based on the comments the survey was adapted. The pilot test was established to diminish the likelihood of misunderstandings in the questions of the survey. Through the adaptation process according to the respondents, it was possible to reduce misunderstanding and misinterpreting of the questions. However there might be still some problematic issues, which could not be deleted at this point. The data collection was a one-way self-administered online survey (Saunders et al. 2007). It needs to be mentioned that there was no pre-selection of the respondents. The respondents had no possibility to address questions, while completing the survey. Therefore it might be possible that certain students completed the survey, however there might have been some misunderstanding or misinterpreting of the questions (cf. Marshall & Rossman 1999: 110).

An online survey was created to collect the data. For both samples the survey was conducted in English to guard against translation bias to Finnish and German. Different buttons as well as open and closed questions have been used. In the sum only 29 questions were included because it was felt that a brief survey would curtail respondent fatigue and also allow for some control over the content of the responses. The online survey was posted on the surveygizmo webpage hosting system, and the URL¹ of the survey was submitted to the email lists of the two universities of Vaasa and Ingolstadt-

¹ <http://www.surveygizmo.com/s/53824/thesis-after-20080625>

Eichstätt and to personal email contacts. Also asking the students, who have been addressed to forward the questionnaire hyperlink to other students of their personal network and to encourage them to complete the questionnaire. Therefore it is difficult to differentiate the sample well by their origin.

The sample is empirically limited to Finnish and German students. The sample consists of 439 questionnaires answered from, which 146 (33 %) of them have been not completed and 89 (20 %) have been partially completed. This leads to an overall 205 responses, which are used for the empirical part. From this sample about 47,8 % are female respondents and 53,2 % are male respondents. The total sample consists of 205 Students, from which 34,6 percent are enrolled in a Finnish university, and 62,4 percent are enrolled in a German one (see table 1). The total figures are corresponding: 71 students enrolled in Finland, 128 students enrolled in a German university, and 6 in other countries (see table 1). About the nationality of the students it can be said that 31,2 per cent are Finnish, 63,9 per cent are German, and 4,9 per cent are other nationalities consisting of Bulgarian, Chinese, French, Colombian, Mexican, Pakistan, Polish, Russian, and Spanish. Concerning the question about the enrolment situation of the respondent 34,6 % answered to be enrolled in a Finnish university, 62,4 % in a German university, and 2,9 % have been enrolled in other universities (Hungary, USA, UK) (see table 1). The main unit consists of 46,8 percent females and 53,2 males (see table 3). The mean age of the sample groups is 24,3805 years (see table 4).

Table 2. Enrolled in university.

| | Frequency | Percent |
|---------|-----------|---------|
| Finland | 71 | 34,6 |
| Germany | 128 | 62,4 |
| other | 6 | 2,9 |
| Total | 205 | 100,0 |

Table 3. Nationality.

| | Frequency | Percent |
|---------|-----------|---------|
| Finnish | 64 | 31,2 |
| German | 131 | 63,9 |
| other | 10 | 4,9 |
| Total | 205 | 100,0 |

Table 4. Gender.

| | Frequency | Percent |
|--------|-----------|---------|
| female | 96 | 46,8 |
| male | 109 | 53,2 |
| Total | 205 | 100,0 |

4.3. Operationalization of the variables

The variables, which are going to be discussed in more detail in this chapter, have been introduced before. This chapter aims to operationalize the variables that they can be interpreted quantitatively, which is an characteristic of the deductive approach (Ghauri et al. 1995: 18 - 19; Saunders et al. 2007: 118). Operationalization is defined as the modification of a general hypothesis to a working hypothesis, which consists of several indicators, which define a concept (Preece 2000: 67; Saunders et al. 2007: 60).

4.3.1. Independent variables

Independent variables are variables, which cause a reaction on dependent variables. The experimenter needs to define the independent variable(s) beforehand. An independent variable has a condition which can be varied directly by the researcher (Preece 2000: 97; Saunders et al. 2007: 316, 599). The independent variable is the factor, which is supposed to have a potential influence (negative or positive) on another variable. This variable is called dependent variable (see 4.3.2.). The aim of the examination between an independent (maybe several) and a dependent (maybe several) variable is to find out

which relation they have towards each other. The independent variables have been discussed in the theoretical part and are shown in table nine. In the following tables the independent variables are going to be operationalized.

In appendix one the independent variables concerning demographic factors are introduced. In this section ordinal scales were used to measure age. For the other questions the respondents needed to choose from a preset of answers e.g. intangible, tangible, Finnish, German, male, and female, respectively other.

In appendix two independent variables related to the shopper classifications are shown. As shown above different variables consist of several questions, which the respondent is asked. Afterwards the variables are examined with statistical analysis. A five-point Likert scale was used for the answers ranging from disagree to agree. Furthermore the respondents are the opportunity to choose an answer ‘not sure’.

Appendix three shows the operationalization of the variables related to transactional matter, which are discussed in chapter 3.3.3. Here the same Likert scale as table six was used.

In appendix four variables concerning the Five-Factors are explained in more detail.

Table 5. Independent variables.

| | |
|-------------------------------|----------------------------|
| Age | Gender |
| Nationality | Enrolled in university |
| Income | Uncertainty |
| Asset specificity | Directed buyer |
| Search-deliberation buyer | Knowledge-building visitor |
| Personalizing-ethical shopper | Recreational shopper |
| Economical shopper | Apathetic shopper |
| Extraversion | Agreeableness |
| Conscientiousness | Openness to experience |
| Neuroticism | Emotional |

4.3.2. Dependent variable

Dependent variables are the opposite of independent ones. Dependent variables are seen as the reactional factor (Preece 2000: 98; Saunders et al. 2007: 361, 596). It can be said that the dependent variable changes as a reaction to a change of the other variable factor (Preece 2000: 98; Saunders et al. 2007: 361, 596).

Frequency is the basic independent variable used in this study. Frequency was chosen as the independent variable, because it was seen to be the most explicable variable for measuring online buying (see appendix 5).

4.3.3. Summated variables

As one can see in chapter 3 purchase horizon, customer classification, and personality consist of several influences and summated variables have been established. The variables had a helping function, which means that with them an overall influence could be assumed on the basis of the separated reviewed variables. Due to the validity and reliability of the study there could be no variable established, which would measure several influencing factors as e.g. purchase horizon or personality.

4.4. Validity and reliability

Methodology and measurements need to be in scientific manners, while conducting a research. The study needs to be critically scrutinized, if the study serves its purpose. The quality of a research can be assessed through validity and reliability analysis of the research. Validity refers to how accurately the study has been conducted, whereas reliability concerns the ability of repeatability of the research. (Maylor & Blackmon

2005: 158 - 159.)

Validity is defined as the extent to which one has been able to capture “the underlying truth of a situation and not been misled by particular influences” (Bryman & Burgess 2003; Maylor & Blackmon 2005: 362). Further it needs to distinguish between a valid form and an incorrect evidence and vice versa (Preece 2000: 53). The measurement is conducted to derive valid measures, which are capturing what they are supposed to (Ghuri et al. 1995: 46; Saunders et al. 2007). Nevertheless measurements contain errors, which can be due to stable characteristics (response set), situational ones (e.g. times pressure), and/ or transient personal factors for example mood (Alreck & Settle 1985: 64; Ghauri et al. 1995: 46). Saunders et al. (2007: 150) mentions twelve threats towards validity: history, testing, instrumentation, mortality, maturation, ambiguity about causal direction, generalizability, logic leaps, false assumptions, identification of the research population, data collection, data interpretation and development of conclusion.

In the questionnaire validity has been assured by using questions from previous researches as a draft to develop an individual questionnaire for this study. However validity in this study might be reduced because of misleading questions from the questionnaire. Furthermore the respondent might not have understood the question in the way it was meant to be understood, which might result from language difficulties. The possibility that respondents gave intentionally or unintentionally delusive answers cannot be eliminated. Furthermore the five-point Likert scale rating might have been confusing at some point (cf. Maylor & Blackmon 2005: 335; cf. Preece 2000: 118; cf. Saunders et al. 2007: 372).

Reliability concerns the recapitulation of the research with the same outcome of the findings (Maylor & Blackmon 2005: 159). According to Malhotra and Birks (1999: 313) the errors can be tested by three different methods (internal consistency test-retest, and alternative forms). Four major threats can occur to reliability. The subject and participant error might occur due to a time influence, when the participants complete the questionnaire. Furthermore a subject or participant bias can occur due to e.g. insecurity.

Moreover an observer error can appear because of a lack of structure in the questionnaire. This leads to an observer bias, where it should be taken into account that several interpreters might interpret findings in different ways. (Maylor & Blackmon 2005: 149 - 150.)

In the present study the internal consistency was measured using Cronbach's alpha. Cronbach's alpha varies from 0 to 1 and values less than 0,6 indicating unsatisfactory consistency reliability (1999: 314). The measurement was accessed using the overall latent variables. The figures indicate that none of the variables are consistent reliable. Furthermore the demographics are not likely to be included in the reliability analysis because the scales of measurement for these differ. In addition a low Cronbach's alpha might be due to the fact that the scales have less than ten items. All the variables have between 2 and 8 items. Briggs and Cheek (1986) therefore recommend to an inter-item correlation of 0,2 to 0,4. The inter-item correlation was examined. It showed that some correlations were in the given range and some not. Therefore an assumption was made concerning the inter-item correlation, which is stated in the table 6. 'Yes' states that reliability can be assumed and 'No' states that reliability not assumed. The assumption has been measured on the average correlation, based on the inter-item correlations of the variables.

Table 6. Reliability analysis.

| Latente Variable | No. of indicator | Cronbach's alpha | Inter-item correlation assumption |
|--|-------------------------|-------------------------|--|
| Customer classification | | | |
| <i>Purchase horizon</i> | | | |
| Directed shopper | 2 | 0,301 | No |
| Search-deliberation shopper | 3 | 0,283 | No |
| Knowledge-building visitor | - | - | |
| <i>Shopping orientation</i> | | | |
| Economical shopper | 4 | 0,386 | Yes |
| Recreational shopper | 4 | 0,378 | Yes |
| Apathetic shopper | 5 | 0,553 | Yes |
| Personalizing-ethical shopper | 3 | 0,367 | No |
| Dimensions of transaction costs | | | |
| Asset specificity | 4 | 0,212 | No |
| Uncertainty | 4 | 0,56 | Yes |
| Personality | | | |
| Extraversion | 7 | 0,586 | Yes |
| Agreeableness | 5 | 0,201 | No |
| Conscientiousness | 5 | 0,447 | Yes |
| Neuroticism | 6 | 0,583 | Yes |
| Openness to experience | 6 | 0,562 | Yes |
| Emotion | 8 | 0,631 | Yes |

It needs to be outlined that the outcome of the reliability is only an assumption, which was measured by the average correlations of the variables. In this study the major concern is in participant bias and errors, which results from the nature of an online conducted survey.

For further understanding the significance level for the Pearson product-correlation and for the independent t-test needs to be specified. For the Pearson product correlation a $\alpha=0,05$ was constituted. The significance level α describes the probability of an acceptable error. In addition the probability that the zero hypothesis is accepted by the test is $1 - \alpha$. The significance level was taken from the literature, in which the level of 5 % is chosen frequently. According to the assumptions the p-value (Sig. (2-tailed)) in the correlation tables needs to be reviewed. The value should be $\leq 0,05$ to be significant. For the independent t-test the significant level of 0,11 was chosen to be significant.

Therefore the p-value (Sig. (2-tailed)) should be $\leq 0,11$. In chapter five the significance tests are included in the findings, however the effect, which was found is discussed in detail.

Despite its robust findings, the study summarized above was limited by the use of a student sample. Although students may be Internet users and online buyers, they do not comprise a demographically diverse group. A limiting condition on the generalizability of results is the homogeneous population of the student sample. In consequence, the findings may not be possible to generalizeto a larger universe of heterogeneous buyers, and therefore, to confirm external validity, future research should use heterogeneous adult samples.

5. INFLUENCES ON FINNISH AND GERMAN STUDENT'S ONLINE BUYING FREQUENCY

The intention of this chapter is to empirically test the hypotheses, which have been introduced in the theoretical part. The analysis, which is going to be used, is a Pearson product-moment correlation coefficient and an independent-sample t-test. First the demographic influences on online buying frequency will be tested (H1a-c). Secondly the focus is on customer categorisations, examining hypotheses H2a and H2b. The third sub-chapter includes hypotheses H3a-b, which discusses the relationship with dimensions of transactions. The fourth sub-chapter comprises the personality and emotion, which are related to hypotheses H4 and H5. Furthermore the differences between Finnish and German students according to the hypotheses are tested with an independent-sample t-test. Additionally the findings are already related to the previous theoretical part of the study.

5.1. Demographic data and the relationship between online buying frequency

This chapter discusses hypotheses H1a-c. The intention in this section is to examine the influence of age, gender, and income on the frequency of online buying.

5.1.1. Has age an influence on the frequency of online buying (H1a)

| | | |
|--|--|----------|
| Age has an influence on the frequency of online buying. | | Accepted |
| Significant difference between Finnish and German students, according to age | | No |

The correlation between age (as measured by AGE) and frequency of online buying (as measured by FREQON) was investigated using the Pearson product-moment correlation

coefficient. According to table nine there was a significant correlation found between age and frequency [$r=0,14$, $n=205$ $p=0,045$], however a positive correlation occurred. This finding was based on the guidelines of Cohen (cf. 1988). It can be said that hypotheses H1a is accepted due to the small positive correlation of the two variables.

This finding verifies previous research outcomes (Bimber 2000: 873; Goldsmith & Flynn 2004: 91 - 92; 2003: 105 - 107). However it needs to be said concerning Goldsmith and Flynn (2004: 91 - 92) that online buying in general and not the frequency was examined. Age has an influence on online shopping and therefore on the frequency as confirmed by previous studies (Allred et al. 2006: 311; Assael 2005: 99; Dholakia & Uusitalo 2002: 464; Donthu & Garcia 1999: 52; Korgaonkar & Wolin 1999; Sorce et al. 2005: 129 - 132).

In addition the correlation might be explained by the fact that motivational aspects have a more powerful impact than demographic factors (Sorce et al. 2005: 125). In this study there could a significant difference be found in the age structure in terms of the number of products purchased (Sorce et al. 2005: 125). Furthermore the correlation might not be possible to generalize and the outcome of a bigger sample unit might be not correlated, which was found by Goldsmith and Flynn (2004: 91 - 92).

The findings can be explained on the one hand by the increased 'income', which people with higher age are able to spend for online buying. As the literature showed, on the other hand people with higher age are more likely to search for product information, which might result in a higher likelihood to purchase online. Another viewpoint could be that not everybody possesses a credit card, which is a prerequisite to buy at a lot of online market places. However more and more online shops accept other sorts of payment as e.g. paypal nowadays. Tangential to this point is the perceived risk (Allred et al. 2006: 311; Burroughs & Sabherwal 2002: 44; Donthu & Garcia 1999). Found that older people perceived less risk, while online buying, which could be an explanation for the positive correlation (Allred et al. 2006: 311; Burroughs & Sabherwal 2002: 44; Donthu & Garcia 1999).

The table, which was drawn according to both variables, can be seen in appendix 11 and 12. Furthermore a comparison of age and frequency among Finnish and German students is tested with an independent t-test (table 11). No significant difference was found in the score for Finnish [$M=24,4225$, $SD=2,34619$] and German students [$M=24,3359$, $SD=1,93711$; $t(197)=0,280$, $p=0,780$]. The magnitude of the differences in the means was very small ($\eta^2=0,00039$).

The second independent-sample t-test was conducted to distinguish the frequency between Finnish and German students mentioned above. Appendix 14 shows the mean scores of frequency. A highly significant difference between the groups of Finnish students [$M=2,4225$, $SD=2,11567$] and German students [$M=3,8516$, $SD=3,80238$, $t(196,993)=-3,406$, $p=0,001$] could be found.

5.1.2. Has gender an influence on the frequency of buying online (H1b)

| | |
|---|----------|
| Gender has no influence on the frequency of online buying. | Rejected |
| Significant difference between Finnish and German students, according to gender | Yes |

Table 10 (see appendix 15) indicates the findings of the Pearson product-moment correlation conducted to examine the impact of gender (as measured by GEN) as the independent variable on the dependent variable frequency of online buying (as measured by FREQON). Gender can be seen as a group variable, which consists of female and male individuals. Here the correlation is significant and has a positive prefix [$r=0,191$, $n=205$, $p=0,006$]. The outcome leads to the suggestion that gender (female, male) has a significant influence on the frequency of online buying.

Males' purchase online ~ 1,3 times more often than females did. The findings of this study substantiate the theories, that gender has a significant influence on the frequency of online buying (Bimber 2000; Campbell 2000; Dholakia 1999: 154; Dittmar et al.

2004; Jackson et al. 2001; Jayawardhena et al. 2007: 518; Schrage 2000; Seock & Bailey 2008; Times 1999, July 12; Van Slyke et al. 2002; Weiser 2000).

The difference in buying could be due to the fact that women use the Internet more for communication and educational purposes, whereas men prefer to buy because of functional motives (Lunt & Livingstone 1992: 86–100). The outcome of this study goes in the line with the findings of Brown et al. (2003: 1666), who stated that gender has an influence on the shopping intention. However the means differed they can quickly change, because females did only purchase one time less than males did (see appendix 16 & 17). In addition most of the authors stated, too that the differences between males and females are shrinking due to the diminishing gender gap (Allport 1937; Dittmar et al. 2004: 423; Jayawardhena et al. 2007: 518; Schrage 2000; Times 1999, July 12; Weiser 2000: 167).

A tangential factor towards gender differences might be the environment. Gender has different environmental influences (e.g. shop infrastructure, scent, music), when buying online and especially are stimulated by different environmental factors. In addition the gender have distinct expectation form a purchase situation (Seock & Bailey 2008: 115; Van Slyke et al. 2002: 83). Another factor for females' and males' buying differences could be due to the attitude and perception of buying online. However both are seen to use the Internet at the same rate (Van Slyke et al. 2002: 83).

Differences between Finnish and German students are examined. The conducted independent-samples t-test shows the following insights. In appendix 16 and 17 it can be seen that the mean value of online buying frequency between males and females is significantly different. In this case the significance value is larger than 0,05, which denounces to use the 'Equal variances assumed'-row. There was a significant difference in scores for males ($M=3,9725$, $SD=3,53674$) and females [$M=2,6979$, $SD=2,95268$; $t(205)=-2,779$, $p=0,006$]. The magnitude of the difference in the means was a small effect ($\eta^2=0,0367$), which would be only 3,67 per cent of variance in frequency is explained by gender.

5.1.3. Has income an influence on the frequency of online buying (H1c)

| | |
|---|----------|
| Income of online shoppers is positively correlated with the frequency of online buying. | Rejected |
| Significant difference between the two groups, according to income | Yes |

In this study it needs to be said that the income was rated by the average amount spent for a product bought online. Income has been detected to be one determinant of online purchase frequency (Burroughs & Sabherwal 2002: 35). Income had a negative effect on the frequency of online buying, which is contradictory to the findings of Dhalokia and Uusitalo (2002: 462). The average price from the main unit (n=205) was 61,0390€ (M=61,0390, SD=96,89887) (see appendix 20). The frequency of buying online was about 3,3756 (M=3,3756, SD=3,32996) in the same main unit (see appendix 20). In table 8 the correlation is shown. There was no significant correlation ($r=-0,057$, $n=205$, $p=0,416$) between the two variables (FREQON, DISPRIX, see appendix 21). Moreover the very small correlation was negative. According to the findings the average price is slightly negatively related to online buying frequenc. This indicates that the hypothesis H1c, needs to be rejected.

The finding indicates that people who purchase online more frequently are more likely to search for cheaper products online (Burroughs & Sabherwal 2002: 35, 44). This is contradictory to the assumption that the online buyer has above average income (Donthu & Garcia 1999: 53; Weiser 2000: 168). The findings of Zollo (1995: 24) could not be verified, that the disposable income to spend online is higher among the specific groups of students. However the finding of this study might show that Electronic Commerce markets are perceived as an opportunity to buy cheap.

Appendix 22 and 23 show the basis for proving differences between Finnish and German students in online buying. Concerning income and average price for online bought products German [M=79,5352, SD=134,78192] and Finnish students [M=52,2344 SD=68,90659, $t(197)=1,891$, $p=0,060$] differed quite significantly (see

appendix 22 & 23). Due to the violation of the assumption of equal variance the second row is used.

5.2. Customer categories and the relationship between online buying frequency

Customers can be distinguished by categories. In this chapter the questionnaire tried to differentiate online shoppers according to their purchase horizon and shopping orientation. Further related to this issue are dimensions of shopping, which are included in this section. Hypotheses included in this chapter concern H2a, b.

5.2.1. Has the purchase horizon an influence on the frequency of online buying (H2a)

| | |
|---|----------|
| The purchase horizon has an influence on the frequency of online buying. | Rejected |
| Significant difference between Finnish and German students, according to purchase horizon | No |

No evidence could have been found that the product type or frequency affects the purchase horizon. The question, if the shopping attitude is fixed for an individual or if it changes according to each purchase visit could not be answered. Nevertheless all three factors of the purchase horizon (directed buyer, search deliberation buyer, and knowledge-building visitor) had a small correlation with frequency.

It can be said that the directed shopper (measured as DIRBUY) [$r=0,122$, $n=205$, $p=0,082$] had the biggest correlation, however not significant (see appendix 24). This implies that the directed shopper might be the most likely buyer to purchase online more frequently. This can be explained by the straight behavior of the directed buyer (Moe & Fader 2004: 327). The customer knows what he wants to purchase and does not need to browse or be consulted by a sales person. The knowledge-building (as measured

by KNOVIS)) [$r=0,069$, $n=205$, $p=0,327$] and search-deliberation buyer (as measured by SEADELBUY) [$r=0,066$, $n=205$, $p=0,343$] had nearly the same small positive correlation, which might be explained due to the searching and likely not to shop (Moe & Fader 2004: 327). So the need and the advantages of the Internet cannot be transferred to these shopper types effectively, which might explain the difference in the correlations. As none of the horizons showed a significant correlation with the frequency of online buying it can be assumed that the hypothesis needs to be rejected. This is due to the fact that no statement can be derived by the findings.

Table 7 above shows the independent-sample t-test. Only the search-deliberation buyer showed a significant difference between Finnish and German students. However the other two buyers, respectively visitor were not significantly different. This leads to the assumption that, despite one significant difference, the purchase horizon does not differ between the two groups.

Table 7. Independent-sample t-test, purchase horizon.

| | | M | SD | t(197) | p |
|----------------------------|---------|--------|---------|--------|-------|
| Directed buyer | Finland | 2,7042 | 1,29994 | -0,335 | 0,738 |
| | Germany | 2,7695 | 1,32645 | | |
| Search-deliberation buyer | Finland | 2,3615 | 1,10501 | 0,718 | 0,474 |
| | Germany | 2,2552 | 1,07961 | | |
| Knowledge-building visitor | Finland | 2,7183 | 0,97467 | -0,468 | 0,640 |
| | Germany | 2,8281 | 1,04943 | | |

5.2.2. Has the shopping orientation an influence on the frequency of online buying (H2b)

| | |
|--|----------|
| Shopping orientation has an influence on the frequency of online buying. | Rejected |
| Significant difference between the two groups, according to shopping orientation | No |

To give an overall valid analysis of the findings, the separated shopper need to be reviewed. According to the individual correlations an assumption for the purchase horizon as a total influence needs to be drawn.

Reviewing the four orientations isolated it can be seen that only the recreational shopper (as measured by RECSHO) had a significantly positive correlation with frequency online [$r=0,185$, $n=205$, $p=0,008$] (see table 10). This means that the shopper enjoys browsing, which increases his life quality (Dahlén & Lange 2002: 346; Ramus & Nielsen 2005: 348). The significant correlation of the recreational shopper might be due to personal interests, which are even more determining than economical ones. Furthermore buying is not seen as an effort despite it is experienced as a leisure activity. Different authors (Dahlén & Lange 2002: 346; Ramus & Nielsen 2005: 348) found that fun and enjoyment decreased in an online environment and was replaced by fun and excitement. Assuming that these two are related mostly to the recreational shopper the positive correlation is not anymore surprising. In addition the personalizing ethical shopper [$r=0,128$, $n=205$, $p=0,068$] was negatively correlated to frequency of online buying and was showed no significance. This is not a surprising outcome. The online environment does not provide clear personal relations especially with sales people, which is contradictory to the nature of the personalizing shopper. In addition the ethical shopper emphasizes loyalty to a brand or other issues like e.g. best price or best service. The economic shopper (as measured by ECOSHO) [$r=0,015$, $n=205$, $p=0,832$] was positive correlated, which is not astonishing. The economic shopper can find essential concerns online e.g. lowest price and getting value. This can also be explained by the

transaction costs and the economic nature of thinking of these individuals. The apathetic shopper (as measured by APASHO) is the last shopping orientation, which has been examined. The apathetic shopper [$r=-0,079$, $n=205$, $p=0,26$] showed a negatively, but not significant correlation with frequency of online buying. According to the reliability and validity, only the recreational shopper showed a significant difference. The other three shopper orientations were not significantly correlated. Therefore hypothesis H2b is rejected.

The independent-sample t-test was conducted and showed not significant difference between the two groups of Finnish and German students. This leads to the assumption that the groups do not differ according to the separated reviewed shopping orientations (see table 8).

Table 8. Independent-sample t-test, shopping orientation.

| | | M | SD | t(197) | p |
|-------------------------------|---------|--------|---------|--------|-------|
| Personalizing-ethical shopper | Finland | 3,1408 | 0,95562 | 0,782 | 0,435 |
| | Germany | 3,0286 | 0,97746 | | |
| Recreational shopper | Finland | 2,3873 | 1,10501 | -2,603 | 0,10 |
| | Germany | 2,8066 | 1,07961 | | |
| Economical shopper | Finland | 2,7077 | 0,97467 | 0,843 | 0,400 |
| | Germany | 2,5801 | 1,04943 | | |
| Apathetic shopper | Finland | 2,4817 | 0,92061 | 1,263 | 0,208 |
| | Germany | 2,3141 | 0,88333 | | |

5.3. Dimension of transactions and the relationship between online buying frequency

In this section the relationship between transactional related variables and the dependent variable buying online and frequency are determined and examined. This includes hypotheses H3a and H3b.

5.3.1. Has asset specificity an influence on the frequency of online buying (H3a)

| | |
|--|----------------|
| Asset specificity influences the frequency of online buying. Significant difference between the two groups, according to asset specificity | Rejected No |
|--|----------------|

Asset specificity influences the frequency of online buying positively, but not significantly. Table nine shows the Pearson product-moment correlation between frequency of online buying (as measured by *FREQON*) and asset specificity (as measured by *ASSEPEC*). There was a small positive correlation found between the two variables [$r=0.044$, $n=205$, $p=0,533$] (cf. Cohen 1988) (see appendix 30). Questioned in the theoretical part was the influential character of asset specificity towards online buying frequency. It can be said that the influence is quite weak and positive. However hypotheses H3a needs to be rejected due to the outcomes of the analysis, which showed a violation of the Sig. (2-tailed) level.

The correlation indicates that with higher levels of frequency the perceived asset specificity is slightly increasing. In the theory it was stated that asset specificity determines transaction costs and the buying decision (Thompson & Yu 2005: 453). In this case it needs to be critically reviewed because the correlation is only a small positive one. This can be explained by the fact that the customer does not want to 'lose money'. The higher the sunk costs of the customer are, the more likely is the particular customer going to purchase from this shop again (Devaraj et al. 2002: 319). Furthermore the findings can be explained by activities like providing personal details, building relationships with other customers through provider's communities, acceptance of the Internet, skills, and knowledge, used for searching and browsing (Son et al. 2006: 481; Thompson & Yu 2005: 453). These activities are related to human asset specificity. Furthermore higher asset specificity hinders the counterpart to drop out of the purchase. Asset specificity can also determine the buying decision online (Thompson & Yu 2005: 455). In the case of human asset specificity the customer gets

to know the online shop as an investment, which makes him feel good and save. The customer does not want to change the market place due to an additional investment. Therefore s/he stays with the previous shop and experiences buying as advantageous.

Appendix 31 and 32 show the prerequisites to compare Finnish and German students according to their perceived asset specificity. An independent-sample t-test was conducted to analyse the means of the two groups concerning asset specificity. There could be no significant difference found between Finnish [$M=2,7359$, $SD=0,89131$] and German students [$M=2,7793$, $SD=0,80023$; $t(197)=-0,352$ $p=0,725$].

5.3.2. Has uncertainty an influence on the frequency of online buying (H3b)

| | |
|---|----------|
| Uncertainty influences frequency of online buying. | Accepted |
| Significant difference between the two groups, according to uncertainty | No |

It can be seen as proven that the sample groups of students received uncertainty online. As appendix 33 shows online customers describe uncertainty online. It needs to be said that uncertainty in this case is measured as the negative trust variable. Therefore the report value scale is reversed. It can be assumed because of the mean value of $M=3,9159$ that people tended to disagree on perceiving uncertainty online.

The Pearson product-moment correlation coefficient shows that perceived uncertainty (as measured by -UNCERT) and frequency of online buying (as measured by FREQON) had a small positive correlation [$r=0,132$, $n=205$, $p=0,06$] (cf. Cohen 1988) (see table 10 appendix 34). In this case the significant level was above 0,05, but is accepted due to accommodation.

As the value of the examination was $\sim 3,9$, it can be interpreted that the students tended to agree to the question, that they perceive online uncertainty. Uncertainty was correlated in a negative way. This can be explained by the inability to predict relevant

changes, which create uncertainty (cf. Devaraj et al. 2002: 319; cf. Pfeffer & Salancik 1978: 67). The buyer tries to counteract to the uncertainty by reducing the frequency of online buying. In addition it can be said that uncertainty produces cost, which are included in the transaction cost model (cf. Devaraj et al. 2002: 319; cf. Thompson & Yu 2005: 453). Another approve stemming from the behavioural uncertainty measured the satisfaction of the customer, while online buying (cf. Devaraj et al. 2002: 319). Taking this into account it might be the case that the students' sample experiences negative satisfaction, while online buying. However this is an interpretation, which might be far. The uncertainty might have diverse reasons. Maybe it results form the market place, the brand, or even because of the poor experiences of the customer. In this study it cannot be separated, where the basis of the uncertainty follows. As said in the theoretical part this is a tangential matter of different uncertainty forms (environmental, behavioural, brand).

An independent-samples t-test is conducted to compare the perceived uncertainty between German and Finnish students. The assumption of equal variance could not be verified. In addition no difference could be found between Finnish [M=37394, SD=1,21629] and German student [M=3,9863, SD=0,87186; $t(110,635)=1,509$, $p=0,134$]. The magnitude of the difference was very small (see table 11, appendix 35 & 36).

5.4. Personality and emotion and the relationship between online buying frequency

In this chapter the hypotheses concerning emotion and personality are examined in more detail.

5.4.1. Has personality an influence on the frequency of online buying (H4)

| | |
|---|-----------------------|
| Personality influence the frequency of online buying. Significant difference between the two groups, according to personality | Partly Accepted No |
|---|-----------------------|

The influence of personality needs to be examined by separated correlations, which are related to the online buying frequency. In the following the correlation will be discussed and an overall assumption is derived and interpreted based on the findings.

The two outstanding factors are consciousness (as measured by CONSC) and neuroticism (as measured by NEURO). Consciousness has a significant small positive correlation with frequency of online buying [$r=0,138$, $n=205$, $p=0,048$] (cf. Cohen 1988). These findings correspond with the literature taking into account e.g. the curiosity of doing new things in new ways (Gianluigi et al. 2007; Tuten & Bosnjak 2001: 396). Neuroticism is described as perceived insecurity and perceived fear. Neuroticism correlated significantly at a medium level with frequency of online buying [$r=0,218$, $n=205$, $p=0,02$] (Cohen 1988). This underlines the findings in the previous hypothesis, where uncertainty was related positively with frequency of online buying, too. According to the theory extraversion (as measured by EXTRA) is seen to be some kind of sociability [$r=0,08$, $n=205$, $p=0,256$]. This can hardly be found in online buying, which might explain the weak correlation, which was not significant. Furthermore agreeableness (as measured by AGREE) [$r=0,067$, $p=205$, $P=0,342$] was positively correlated but no significant. The last factor openness to experience (as measured by OPEXP) [$r=-0,054$, $n=205$, $p=0,445$] was surprisingly negatively not significantly correlated with frequency of online buying.

It can be assumed according to the findings that the hypothesis can be partly accepted. A positive correlation of personality can be found in the work of (Chaudhuri 1997: 82 - 83) and that emotions have an influence on buying (Gianluigi et al. 2007: 366, 369). It

can be said that all emotions are included in a buying situation. Because of the shadowing part of the influences it is not surprising that some aspects of personality correlated positively with online buying frequency. Nevertheless it is not surprising that neuroticism is significantly small correlated with buying frequency online. As we have seen before uncertainty, which can be linked with neuroticism has a positive correlation. The significant correlation with conscientiousness might be interpreted that Internet shoppers are goal-oriented in buying online (Gianluigi et al. 2007: 369). Furthermore in the line with goal orientation, the Internet is not used for entertainment matters (Tuten & Bosnjak 2001: 396).

As seen in appendix 39 there was not significant difference between Finnish and German students found according to the five personality factors, which have been investigated. In brief the analysis of the factors of personality is mentioned in the table 9 above.

Table 9. Independent-sample t-test, factors of personality

| | | M | SD | t(197) | p |
|------------------------|---------|--------|---------|--------|-------|
| Extraversion | Finland | 2,7827 | 0,88915 | 0,284 | 0,777 |
| | Germany | 2,7433 | 0,96181 | | |
| Agreeableness | Finland | 2,9972 | 0,75175 | 1,412 | 0,159 |
| | Germany | 2,8297 | 0,82751 | | |
| Conscientiousness | Finland | 2,3380 | 0,99116 | 0,174 | 0,862 |
| | Germany | 2,3125 | 0,98868 | | |
| Openness of experience | Finland | 2,5352 | 0,74318 | 0,856 | 0,393 |
| | Germany | 2,4414 | 0,73845 | | |
| Neuroticism | Finland | 3,1808 | 1,01604 | 0,261 | 0,794 |
| | Germany | 3,1419 | 0,99871 | | |

5.4.2. Has emotion an influence on the frequency of online buying (H5)

| | |
|---|----------|
| Emotion influence the frequency of online buying. | Rejected |
| Significant difference between the two groups, according to emotions | Yes |

However the correlation is small between emotions and frequency of online buying, emotions seem to affect the frequency of buying online. Appendix 40 shows the Pearson product-moment correlation coefficient between frequency of online buying (as measured by FREQON) and emotions (as measured by EMOTI). As one can see there is only a very small positive correlation between the two variables [$r=0,028$, $n=205$, $p=0,687$] (Cohen 1988). It can be said that hypothesis H5 is rejected due to the Sig. (2-tailed) level, however the positive influence is small.

According to Hausman (2008: 414, 484) emotions can have a stimulation and influence on general actions, which might also determine the approach of an individual towards the online environment (Diehl et al. 2007: 484 - 485). Dittmar et al. (2004: 426) stated that the customers enjoyed the interactive explorative nature of the medium, which might result in a flow experience (Diehl et al. 2007: 485, 495). The concept of flow can also be explained in the correlation because of the positive attitude towards online buying frequency (Diehl et al. 2007: 481 - 485). In addition interaction is an important part of Electronic Commerce (Jahng et al. 2002: 181). Emotions can be seen as prospering the frequency of buying online reinforcing the findings of Diehl et al. (2007: 484) and is further promoted by an integrative explorative nature.

The following two appendices (41 and 42) are needed to compare the means of the two groups of students. An independent-sample t-test was conducted to compare the means of the Finnish and German students. There was a significant difference in the mean scores found of Finnish [$M=2,5211$, $SD=0,79507$] and German students [$M=2,1250$,

SD=0,84124; $t(197)=3,2244$, $p=0,001$]. The magnitude of the difference was however a small effect ($\eta^2=0,0507$).

In the following the most important figures are summarized below. Table ten shows every correlation with its significant-level, which have been used and examined above. Furthermore figure 5 shows the correlations in a graphical matter. The correlations are arranged according to an increasing p-value, which is not show graphically, but can be seen in the table above the figure. In addition table 11 shows the results of the independent t-tests, which were used to identify significant differences between the groups of students.

Table 10. Correlations related to hypotheses.

| | Frequency | Sig. (2-tailed) |
|---------------------------------------|-----------|-----------------|
| Demographics | | |
| Age | 0,14 | 0,045 |
| Gender | 0,191* | 0,006 |
| Income | -0,057 | 0,416 |
| Customer classification | | |
| <i>Purchase horizon</i> | | |
| Directed shopper | 0,122 | 0,082 |
| Search-deliberation shopper | 0,066 | 0,343 |
| Knowledge-building visitor | 0,069 | 0,327 |
| <i>Shopping orientation</i> | | |
| Economical shopper | 0,015 | 0,832 |
| Recreational shopper | 0,185 | 0,008 |
| Apathetic shopper | -0,079 | 0,26 |
| Personalizing-ethical shopper | 0,128 | 0,068 |
| Dimensions of transaction cost | | |
| Asset specificity | 0,044 | 0,533 |
| Uncertainty | -0,132 | 0,06 |
| Personality | | |
| Extraversion | 0,08 | 0,256 |
| Agreeableness | 0,067 | 0,342 |
| Conscientiousness | 0,138 | 0,048 |
| Neuroticism | 0,218 | 0,002 |
| Openness to experience | -0,054 | 0,445 |
| Emotion | 0,028 | 0,687 |

*. Correlation is significant at the 0.01 level (2-tailed).

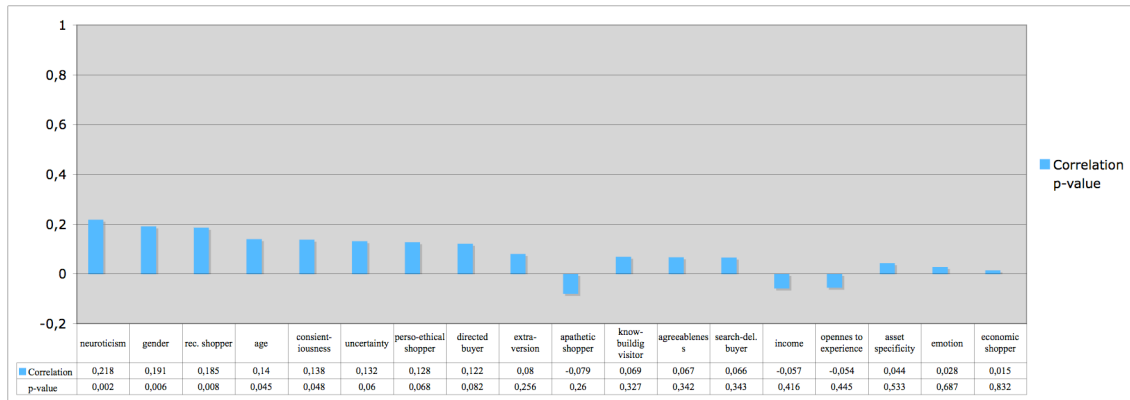


Figure 5. Correlation and p-value, according to p-value.

Table 11. Independent-sample t-test.

| | | M | SD | t(197) | p |
|-------------------------------|---------|----------|-----------|---------------|----------|
| Age | Finland | 24,4225 | 2,34619 | 0,280 | 0,780 |
| | Germany | 24,3359 | 1,93711 | | |
| Gender | Finland | 1,4648 | 0,5031 | -1,646 | 0,101 |
| | Germany | 1,5859 | 0,49449 | | |
| Income | Finland | 79,5352 | 134,78192 | 1,595 | 0,114 |
| | Germany | 52,2344 | 68,90659 | | |
| Directed buyer | Finland | 2,7042 | 1,29994 | -0,335 | 0,738 |
| | Germany | 2,7695 | 1,32645 | | |
| Search-deliberation buyer | Finland | 2,3615 | 1,10501 | 0,718 | 0,474 |
| | Germany | 2,2552 | 1,07961 | | |
| Knowledge-building visitor | Finland | 2,7183 | 0,97467 | -0,468 | 0,640 |
| | Germany | 2,8281 | 1,04943 | | |
| Personalizing-ethical shopper | Finland | 3,1408 | 0,95562 | 0,782 | 0,435 |
| | Germany | 3,0286 | 0,97746 | | |
| Recreational shopper | Finland | 2,3873 | 1,10501 | -2,603 | 0,10 |
| | Germany | 2,8066 | 1,07961 | | |
| Economical shopper | Finland | 2,7077 | 0,97467 | 0,843 | 0,400 |
| | Germany | 2,5801 | 1,04943 | | |
| Apathetic shopper | Finland | 2,4817 | 0,92061 | 1,263 | 0,208 |
| | Germany | 2,3141 | 0,88333 | | |
| Asset specificity | Finland | 2,7359 | 0,89131 | -0,352 | 0,725 |
| | Germany | 2,7793 | 0,80023 | | |
| Uncertainty | Finland | 3,7394 | 1,21629 | -1,509 | 0,134 |
| | Germany | 3,9863 | 0,87186 | | |
| Extraversion | Finland | 2,7827 | 0,88915 | 0,284 | 0,777 |
| | Germany | 2,7433 | 0,96181 | | |
| Agreeableness | Finland | 2,9972 | 0,75175 | 1,412 | 0,159 |
| | Germany | 2,8297 | 0,82751 | | |
| Conscientiousness | Finland | 2,3380 | 0,99116 | 0,174 | 0,862 |
| | Germany | 2,3125 | 0,98868 | | |
| Openness of experience | Finland | 2,5352 | 0,74318 | 0,856 | 0,393 |
| | Germany | 2,4414 | 0,73845 | | |
| Neuroticism | Finland | 3,1808 | 1,01604 | 0,261 | 0,794 |
| | Germany | 3,1419 | 0,99871 | | |
| Emotion | Finland | 2,5211 | 0,79507 | 3,244 | 0,001 |
| | Germany | 2,1250 | 0,84124 | | |

6. SUMMARY AND CONCLUSION

Chapter six is the final chapter, which summarizes and discusses the theoretical and empirical part of this study. The conclusion and suggestions for future research are presented.

6.1. Synopsis of the study

The main topic of the study was to examine the influence of several factors on online buying frequency. For reasons of simplification, the study was divided into three purposes, distinguished into two theoretical and an empirical one.

1. Analyse and specify Electronic Commerce in more detail.

The electronic environment has been introduced in several sub-chapters. In the first sub-chapter the definition and characteristics are defined. Furthermore four different views on Electronic Commerce are given and two separated classifications (B2B, B2C) are discussed in more detail. In this study as the customer is as student it is clear that the focus is mainly on B2C services. A definition of Electronic Commerce, which is valid for the whole study, is developed. The process of buying is explained. Further a differentiation between buying and purchasing is explained and made by Olalonpe (2004: 412). In the last sub-chapter of Electronic Commerce a critical view is established from the viewpoint of a consumer. Summarizing it can be said that Electronic Commerce holds a lot of advantages for the customer ready. Some of them are price, information, service, or choice orientated, which provide an overall positive shopping environment and advantages for a wide range of customer groups.

2. Identify and explore the influence of demographics, customer categories, dimensions of transactions, personality and emotion towards online buying frequency.

And

3. Examine the influence of demographics, customer categories, dimensions of transactions, personality, and emotions among Finnish and German students online buying behavior.

Donthu and Garcia (1999) became a basic literature for this study, because they have been studying several aspects like gender, education, income, age, convenience, as well as tangential emotional aspects related to the online environment. According to the literature review five influencing factors were screened and taken into consideration.

During the exploration of the literature it turned up that there is an enormous amount of influences, which can be examined. The idea behind the chosen influences was to get an overall view of possible influences. This view consists of demographic, shopper orientation, transaction costs, personality, and emotional factors (cf. Allred et al. 2006; cf. Assael 2005; cf. Bellman et al. 1999; cf. Bimber 2000; cf. Burroughs & Sabherwal 2002; cf. Devaraj et al. 2002; cf. Goldsmith & Flynn 2004; cf. Joines et al. 2003; cf. Sorce et al. 2005; cf. Worthy et al. 2004). A major focus was to identify the relation of the influences with the electronic environment, especially Electronic Commerce and online buying.

According to the hypotheses drawn from the literature it can be said that 4 hypotheses are accepted by the outcome and 7 needed to be rejected. This makes a total amount of about 36 % of the accepted hypotheses.

a. Demographics

The independent variables age, gender, and income have been measured in the empirical part. Influences have been examined by three different hypotheses. The outcome of the hypotheses showed that hypothesis H1a was accepted, which verifies the findings of the literature review. This means that people with higher age buy more

frequently than younger ones. However hypothesis H1b and H1c were rejected, which might be due to the fact that a direction of a possible influence was included in the hypotheses. The findings of a negative correlation of income and frequency of online buying reinforces the findings of Zollo (1995: 24). This might indicate that Electronic Commerce is a market place, where people shop to save money. The second independent variable, which was tested, concerns the gender. Gender has a significant positive influence towards online buying frequency. The study was expanded and the independent-samples t-test showed that females and males differed significantly in their buying frequency. Although the major parts of researchers state a diminishing gender gap the findings of this study showed that gender is still a significant differentiator. Summarizing it can be said that demographic factors do have an influence on the frequency of online buying. Age and gender have a significant positive correlation, whereas income was negatively related.

b. Customer classification

Customer classification included hypotheses H2a and H2b and both showed a positive correlation however were not significant. The dependent variable purchase horizon could not be found to be influencing the frequency of online buying. The different horizons (directed buyer, search-deliberation buyer, and knowledge-building visitor) have been examined separately and showed a positive correlation. Shopping orientation (personal-ethical shopper, recreation shopper, economic shopper, apathetic shopper) showed no correlation with frequency of online buying, too. Each orientation was tested separately and the recreational shopper had a significant positive correlation. Despite the apathetic shopper, which was correlated negatively the other two dependent variables showed a positive correlation. However there could be no overall shadowing influence derived.

c. Dimensions of transactions

This section includes hypotheses H3a-b. They concern characteristics, which can be found in relation to dimensions of transactions. Asset specificity was rejected, but the uncertainty was accepted. Further it can be said that the tangential factors or characteristics of transaction costs were found to support the hypotheses. Asset

specificity turned out to be positively correlated with frequency of online buying, but not significant. Whereas uncertainty however, but not surprisingly was correlated negatively. Uncertainty is seen already in the literature to correlate negatively to frequency as it is assumed to create some sort of fear and anxiety. Trust is positively correlated with frequency and can be explained by the increasing experience curve of the customer. Besides, these findings strengthen previous findings of a positive correlation (Teo & Yu 2005: 462). The customer tries to reduce the uncertainty level by reducing the frequency of online buying and vice versa. In contrary trust as measured by the same questions increases with rising frequency of online buying. Asset specificity as an investment towards a buying situation, which influences frequency of online buying positively. This can be explained by the fact that the higher the previous investment the more willing is the customer to finish the buying process. Uncertainty is perceived and correlated negatively with online buying frequency.

d. Emotion and Personality

Hypotheses 4 (personality) influence the frequency of online buying positively, so did hypotheses 5 (emotion).

The positive correlation of personality was found in previous research with buying in general and can now adapted to an online environment. In this study the hypothesis H4 can be partly accepted. In a separated examination neuroticism and conscientiousness correlated significantly with frequency of online buying, however on different significance level. Moreover extraversion and agreeableness correlated positively, whereas openness to experience correlated negatively with frequency. Emotional influences, which are positively related to frequency of online buying can be seen to reinforce findings of Hausman (2000: 414). Further it needs to be said that personality is significantly correlated with frequency of online buying, whereas emotional influences not.

Table 12. Hypotheses regarding influences to online buying

| Hypotheses regarding the influences to online buying frequency | | Accepted or Rejected |
|---|---|-----------------------------|
| H1a. | Age has an influence on the frequency of online buying. | Accepted |
| H1b. | Gender has no influence on the frequency of online buying. | Rejected |
| H1c. | Income of online shoppers is positively correlated with frequency of online buying. | Rejected |
| H2a. | The purchase horizon has an influence on the frequency of online buying. | Rejected |
| H2b. | The shopping orientation has an influence on the frequency online buying. | Rejected |
| H3a. | Asset specificity influences the frequency of online buying. | Rejected |
| H3b. | Uncertainty influences the frequency of online buying. | Accepted |
| H3c. | Trust enhances the frequency of online buying. | Accepted |
| H4. | Five-Factors influence the frequency of online buying. | Accepted |
| H4b. | Dimensions of personality influence the frequency online buying. | Rejected |
| H5. | Emotions influence the frequency of online buying. | Rejected |

It can be said that in the theoretical part the relation between the influences and online buying has been made. In table 11 the differences between Finnish and German students are shown. It can be seen that only three influences (emotional influences, income, frequency) showed a significant difference between the two student groups.

The research of Geerd Hofstede (1980), who developed four dimensions on which basis different cultures can be examined might explain these differences in more detail. The four dimensions are uncertainty avoidance, power distance, individualism, masculinity, and an additional one long-term orientation (Hofstede 2008, 1984, 1980, 1998; Hofstede & Hofstede 2005). For example Hofstede (1980: 319) states that Finns and Germans are on the same level of uncertainty avoidance. Despite the explanation by Hofstede's research other issues might explain the differences.

The difference, which is stated in the average price for an online bought product could be due to the different price level. As Finland has a higher price level as Germany expenses for living are higher and leave less income for online buying than in Germany. However the difference could stem from the sample groups. Assuming that some

respondents, who are enrolled in a Finnish university are from abroad, it can be said that the money needs to be spent for living expenses. Furthermore another issue might be, that Finland is not in the list of participating countries of the webpage ebay (Inc. 2008), whereas Germany is. This might be a reason for Finnish students not to participate so much in online buying, taking into account high transaction costs. However both countries do have their own Amazon webpage for example.

Frequency can be mentioned in the same line with average costs and income. Frequency and the average costs of buying (income) call for each other.

The difference in emotion can be explained by the fact that the products, which are bought, differ between the countries. The findings show that the Finnish students perceive more emotions, while online shopping. This could be explained by the fact that Finnish students are buying less often online and might therefore be more emotionally involved in a buying situation. However this might be somehow contradictory, because the average price is lower compared to the German counterparts, because it can be assumed that a higher level of involvement might result in increased money spending.

6.2. Managerial implications

In the following the managerial implications will be discussed, concerning the separated influences, which have been examined throughout this study.

According to demographic influences it should be taken into account that the gender and age are increasing with increasing frequency of online buying. This indicates that older customers are more likely to shop online more frequently. This can be taken as an advantage for companies, because it is useful to attract customers at younger age and they will increase their buying frequency over time. However one difficulty, which should be kept in mind is the income. Income was seen as negatively influencing the frequency. The companies and managers should think of implications, which diminish the pursuit of the customers to spend less money in a shopping situation. A trade-off

should be found between age and income, which are contradictory related. Maybe the increasing amount of purchases, with decreasing income spent, might reach a brake-even at some economical reasonable point.

Concerning the purchase horizon there can be no specific answer given, because of the not-significant correlations, which occurred. However implicating that the directed buyer was the one with the largest correlation it can be assumed that characteristics of Electronic Commerce and the directed buyer cover each other. The same can be implied for the shopping orientation. The recreational shopper showed significance and was positive related to the frequency of online buying. The recreational buyer is maybe the most challenging buyer type. The market place needs to change quickly and attract the shopper, who enjoys and perceived shopping as increasing his life quality. In addition it can be said that it difficult to comprehend this shopping behavior and to include it in the market place, because the shopper might change quicker than the market place is able to. This indicates that the directed and the recreational buyer can be seen as the one, which Electronic Commerce markets should keep in mind, when designing a market place.

Related tot the dimensions of transaction costs it can be said that according to the asset specificity no clear outcome can be stated. However uncertainty influenced frequency of online buying negatively. Thinking in a managerial way, uncertainty can be seen as a negative shadowing aspect of Electronic Commerce. Online market places need to develop and integrate security mechanism, which enhance the perceived trust and security for the customers. In this way the uncertainty can be reduced and further more customer attracted, which do not purchase online at the moment, due to uncertainty issues.

Further two personality factors (consciousness, neuroticism), which have been researched showed a positive influence related to online buying frequency. It can be said that according to uncertainty it is not surprising that neuroticism has a negative influence on frequency of online buying and in addition goes in line with this finding. Consciousness is quite difficult to interpret concerning managerial implications. One

possible interpretation is that consciousness increases with the frequency of online buying. This means that the customer has an increasing awareness of possibilities, which result from an online environment over time. This indicates possibilities for the companies to address the customer in situations, where online buying occurs. Further in this situation the customer is aware of possible benefits, which might result in an additional positive buying situation.

Assuming that emotion has an positive influence on the frequency of online buying, which could not be verified, because of a non-significant correlation, the following managerial implications can be stated. Emotional factors have a major influence towards the online environment and therefore on the buying situation. As personality factors, emotions have an overall shadowing character. This implies that the need to research and to include emotions, when setting up an Electronic Commerce market is very important. Due to the emotional reaction the reaction should be positive, which is can be a barrier for managers to implement.

Concerning domestic and international marketing it can be said that only three factors showed a significant difference between the two groups. This indicates that the major part of the examined influences does not need to be seen on a basis of different nationalities (German, Finnish). However the factors income, emotion, and gender need to be examined differently. According to income it is a very sensitive issue, because when speaking about Electronic Commerce there is always a price issues related. Accordingly the managerial implication is that the income level should be reflected and taken into account in the price decision. Furthermore the emotional factors indicate that different cultures and nationalities perceive emotion differently and they might be controversy. Concerning the last factor gender, it needs to be said that in different countries the online behavior is different among the genders. This should be taken into account, when it comes to the point of addressing different customer groups, especially if the focus is on females or males.

6.3. Future Research

In the following issues, which came up during research and analysis of empirical data are mentioned. All of them concern future research and are meant to make future findings more reasonable. Moreover it gives a hint where this study sees some problematic issues.

This study focused on a small sample of students between an age of 20 and 31 (see Appendix 8). As the group of students is quite homogeneous it might be of interest to examine other groups of people. This includes groups with other e.g. educational backgrounds. The possibility to generalize could benefit from a more widespread sample examination. Furthermore this study does not differentiate between different product categories, which could be included in future research (Donthu & Garcia 1999: 57). It might be the case that the product itself has a major influence and is a distinguishing factor between groups. Purchase behavior is an interesting subject, which needs a closer look. As the sample of this study only includes students the question could be drawn, if the purchase behavior is unique in this group. In addition in some years it could be asked, if the purchase behavior changed and changes. This could be due to a demographic change and development of the student group. Further it should be investigated, how the online purchaser became aware of the possibilities of buying online and if and why s/he continuous or quits buying online. In the case of influences it might be interesting to know, if the online buyer gets used to or if perceiving influential factors change. In addition in this study the focus was on the five influences, but maybe the consumer receives others online, which have not been researched. Moreover future tests could focus stronger on the actual reasons why Finnish and German students differ respectively did not differ. Maybe in a more diverse sample the outcome of the study changes due to a bigger sample group.

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APPENDIX

| SPSS Variable Name | Variable | Question | Scale | Source |
|---------------------------|--------------------------|---|--|---------------|
| AGE | Age | 1. How old are you? | Continuous scale | |
| GEN | Gender | 2. What gender are you? | Nominal scale: 1 = female, 2 = male | |
| NATIO | | 3. Which nationality are you! | Ordinal scale: 1 = Finnish, 2 = German, 3 = other | |
| ENUNI | | 4. In which country are you enrolled in university? | Ordinal scale: 1 = Finnish, 2 = German, 3 = other | |
| DISPRIX | Disposable income | 5. How expensive is your average product bought online? (in EURO) | Continuous scale | |
| FREQSON | Frequency | 6. How frequently do you buy online? | Continuous scale | |
| PROKIND | | 7. What kind of product have you bought online? | Categorical scale: 1 = tangible, 2 = intangible, 3 = other product | |

Appendix 1. Independent variables, demographic factors.

| SPSS Variable Name | Variable | Question | Scale | Source |
|---------------------------|------------------------------------|--|---|---|
| PURHOR | Purchase horizon | 15. Please remember your last purchase online and describe yourself according to the statements below. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | |
| DIRBUY | Directed buyer | 15.1. I have a product category in mind when shopping. 15.2. I am a goal-oriented shopper. | (15.1. + 15.2)/ 2 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (Moe & Fader 2004: 327) (Moe & Fader 2004: 327) |
| SEADELBUY | Search/ deliberation buyerr | 15.3. I have a general product category in mind when shopping. 15.4. I purchase after I gathered some informative online. 15.5. I feel conducted to buy by stimuli and in-shop experience. | (15.3. + 15.4. + 15.5.)/ 3 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (Moe & Fader 2004: 327) (Moe & Fader 2004: 327) (Moe & Fader 2004: 327) |
| KNOVIS | Knowledge building visitor | 15.6. I can visit an online shop without buying anything. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (Moe & Fader 2004: 327) |
| SHOPOR | Shopping orientation | 16. Please remember your last purchase online and describe yourself according to the statements below. | | |

| | | | | |
|-----------------|---------------------------------------|---|---|---|
| PERETSHO | Personalizing, ethical shopper | <p>16.1. I enjoy customized homepages for individuals.</p> <p>16.2. I enjoy e-mail updates on product developments or specials.</p> <p>16.3. I use loyalty programs or club memberships, when purchasing.</p> | <p>(16.1. + 16.2. + 16.4.) / 3 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> |
| RECSHO | Recreational shopper | <p>16.4. I enjoy the design of a home page.</p> <p>16.5. A full online version of catalogues or product range is important for me.</p> <p>16.6. I enjoy entertainment such as competitions, sweepstakes, chat rooms, notice boards.</p> <p>16.7. It is important for me to receive product samples.</p> | <p>(16.4. + 16.5. + 16.6. + 16.7.) / 4 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> |
| ECOSHO | Economic shopper | <p>16.8. It is important to have up-to-date price comparisons with other retailers (both online and offline).</p> | <p>(+ 16.8. + 16.9. + 16.10. + 16.11.) / 4 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Brown et al. 2003b: 1667)</p> |

| | | | | |
|---------------|----------------------------|--|--|---|
| | | <p>16.9. I enjoy E-mail notification of current offers, specials, or sales.</p> <p>16.10. I enjoy displayed current offers, specials, or sales on home page.</p> <p>16.11. I enjoy discounts when purchasing online.</p> | <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> |
| APASHO | Apathetic shopper | <p>16.13. I feel the number of pages or clicks needed to order a product should be reduced.</p> <p>16.14. I feel addressed by product search functions.</p> <p>16.15. I enjoy personalized interfaces to make the next order easier.</p> <p>16.16. I feel attracted by several delivery options.</p> <p>16.17. I feel that the majority of the features above should be offered by an online shop.</p> | <p>(16.13. + 16.14. + 16.15. + 16.16. + 16.17.) / 5</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> <p>(cf. Brown et al. 2003b: 1667)</p> |
| EMOTI | Emotional = Emotion | 25.1. Shopping is fun and exciting. | (25.1. + 25.2. + 25.3. + 25.4. + 25.5. + 25.6. + 25.8.) / 8 | (cf. Dittmar 2004: 442) |

| | | | | |
|--|--|---|---|--|
| | | <p>25.2. I get a real buzz from buying things.</p> <p>25.3. I often buy things because it puts me in a better mood.</p> <p>25.4. For me, shopping and buying things is an important leisure activity.</p> <p>25.5. Compared to other things I could do, buying consumer goods is truly enjoyable.</p> <p>25.6. Buying things arouses my emotions and feelings.</p> <p>25.7. I like to shop, not because I have to but because I want to.</p> <p>25.8. I enjoy browsing and looking at things, even when I do not intend to buy something.</p> | <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Dittmar 2004: 442)</p> <p>(cf. Dittmar 2004: 442)</p> <p>(cf. Dittmar 2004: 442)</p> <p>(cf. Dittmar 2004: 442)</p> <p>(cf. Dittmar 2004: 442)</p> <p>(cf. Dittmar 2004: 442)</p> <p>(cf. Dittmar 2004: 442)</p> |
|--|--|---|---|--|

Appendix 2. Independent variables, purchase horizon.

| SPSS Variable Name | Variable | Question | Scale | Source |
|--------------------|-------------------|--|---|---|
| UNCERT | Uncertainty | <p>13. Please remember your last purchase online and describe yourself according to the statements below.</p> <p>13.1. It was easy for me to get relevant quantitative (price, taxes etc.) information.</p> <p>13.2. I believe that it was possible for me to evaluate the various alternatives.</p> <p>13.3. The store's Website provided adequate information.</p> <p>13.4. The online site provided sufficient information for the product.</p> | <p>(13.1. + 13.2. + 13.3. + 13.4.)/ 4</p> <p><i>!reversed report value scale!</i></p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Devaraj 2002: 329)</p> <p>(cf. Devaraj 2002: 329)</p> <p>(cf. Devaraj 2002: 329)</p> <p>(cf. Devaraj 2002: 329)</p> |
| ASSPEC | Asset specificity | <p>14. Please remember your last purchase online and describe yourself according to the statements below.</p> <p>14.1. There are many sites where this product is available.</p> <p>14.2. I was satisfied with the number of sites where I could buy this product.</p> <p>14.3. Online shopping gives me a wider choice of different stores compared to</p> | <p>(14.1. + 14.2. + 14.3. + 14.4.)/ 4</p> <p>1=low & 5=high Asset specificity</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Devaraj 2002: 329)</p> <p>(cf. Devaraj 2002: 329)</p> <p>(cf. Devaraj 2002: 329)</p> |

| | | | | |
|--|--|--|---|-------------------------|
| | | conventional stores. 14.4. Online shopping gives me a wider range of product choices compared to shopping at conventional stores. | agree, 5 = agree Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Devaraj 2002: 329) |
|--|--|--|---|-------------------------|

Appendix 3. Independent variables, transaction cost.

| SPSS Variable Name | Variable | Question | Scale | Source |
|--------------------|---------------|--|---|--|
| FIVFAC | Personality | 17.-21. Please remember your last purchase online and describe yourself according to the statements below. | | |
| EXTRA | Extraversion | <p>17.1. I like to visit new stores to see what they have to offer.</p> <p>17.2. I like to shop with my friends.</p> <p>17.3. I miss people around, when shopping online.</p> <p>17.4. I miss to be physically active while shopping online.</p> <p>17.5. Sometimes I shop just to get some exercise.</p> <p>17.6. Shopping is a good way to spend time.</p> <p>17.7. I miss social interaction while online shopping.</p> | <p>(17.1. + 17.2. + 17.3. + 17.4. + 17.5. +17.6. + 17.7.)/ 7</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> |
| AGREE | Agreeableness | 18.1. I wish I would not get | (18.1. + 18.2. +18.3. | (cf. |

| | | | | |
|--------------|--------------------------|---|--|--|
| | | <p>so much advertisement mails.</p> <p>18.2. When I think I can bargain, I offer a lower price.</p> <p>18.3. I do not miss careless and disrespectful salespeople online.</p> <p>18.4. I constantly have my eyes open for good deals.</p> <p>18.5. I love to hunt for bargains.</p> | <p>+18.4. +18.5.)/ 5 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>Gianluigi 2007: 374</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> |
| CONSC | Conscientiousness | <p>19.1. It's important to me to be a smart shopper.</p> <p>19.2. I'm always looking for sales.</p> <p>19.3. I miss interaction with salespeople online.</p> <p>19.4. I am able to take a look around.</p> | <p>(19.1. +19.2. +19.3. + 19.4. + 19.5.)/ 5 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> <p>Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree</p> | <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> <p>(cf. Gianluigi 2007: 374)</p> |

| | | | | |
|--------------|-------------------------------|--|--|---------------------------|
| | | 19.5. You can save money by shopping online. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| OPEXP | Openness to experience | 20.1. I miss the personal attention I get at better stores. | (20.1. +20.2. +20.3. + 20.4. + 20.5. + 20.6.) / 6 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | | 20.2. There is no pressure to buy online. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | | 20.3. I miss being 'pampered' by attentive salespeople. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | | 20.4. I enjoy anonymity online. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | | 20.5. It's awful to be waited on in stores. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | | 20.6. I can mind my business online. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| NEURO | Neuroticism | 21.1. I buy something I don't really need, to lift my spirits. | (21.1. +21.2. +21.3. + 21.4. + 21.5. + 21.6.) / 6 Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |

| | | | |
|--|---|---|---------------------------|
| | 21.2. I shop online just to pamper myself. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | 21.3. It's especially fun to buy 'impulse' items. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | 21.4. I miss talking with other customers and salespeople. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | 21.5. I miss talking with salespeople who advise me online. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |
| | 21.6. I miss talking to other shoppers online. | Ordinal scale: 1 = disagree, 2 = tend to disagree, 0 = not sure, 4 = tend to agree, 5 = agree | (cf. Gianluigi 2007: 374) |

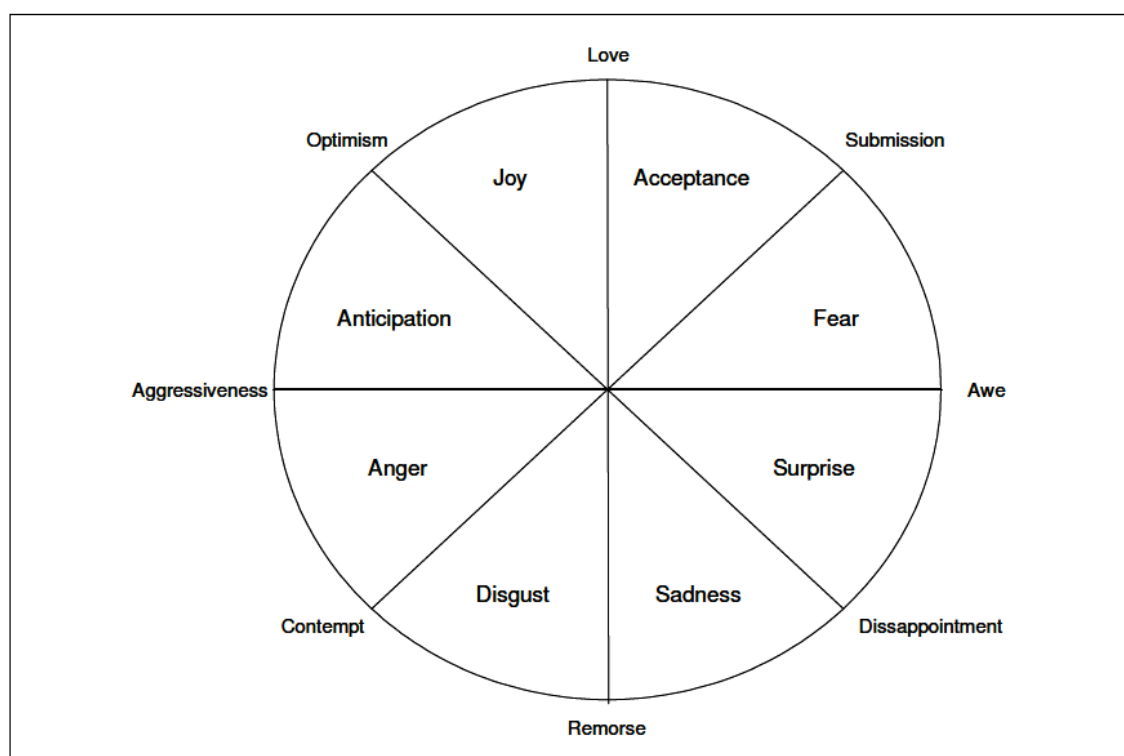
Appendix 4. Independent variables, five factors.

| SPSS Variable Name | Variable | Question | Scale | Source |
|--------------------|-----------|--------------------------------------|---|--------|
| FREQSON | Frequency | 7. How frequently do you buy online? | Ordinal scale: 1 = never, 2 = once in three month or less, 3 = once a month, 4 = once a week, 5 = more often | |

Appendix 5. Dependent variables.

| |
|-------------------|
| I. Interest |
| II. Enjoyment |
| III. Surprise |
| IV. Distress |
| V. Anger |
| VI. Disgust |
| VII. Contempt |
| VIII. Fear |
| IX. Shame/shyness |
| X. Guilt |

Appendix 6. Primary Emotions according to Izard (1977) - The Differential Emotions Scale (DES) Source: (Izard 1977: 126).



Appendix 7. Primary Emotions according to Plutchik (1962, 1980).

AGE

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------------|-----------|---------|---------------|--------------------|
| Valid 20,00 | 6 | 2,9 | 2,9 | 2,9 |
| 21,00 | 8 | 3,9 | 3,9 | 6,8 |
| 22,00 | 20 | 9,8 | 9,8 | 16,6 |
| 23,00 | 40 | 19,5 | 19,5 | 36,1 |
| 24,00 | 40 | 19,5 | 19,5 | 55,6 |
| 25,00 | 32 | 15,6 | 15,6 | 71,2 |
| 26,00 | 26 | 12,7 | 12,7 | 83,9 |
| 27,00 | 18 | 8,8 | 8,8 | 92,7 |
| 28,00 | 10 | 4,9 | 4,9 | 97,6 |
| 29,00 | 2 | 1,0 | 1,0 | 98,5 |
| 30,00 | 2 | 1,0 | 1,0 | 99,5 |
| 31,00 | 1 | ,5 | ,5 | 100,0 |
| Total | 205 | 100,0 | 100,0 | |

Appendix 8. Age, Frequencies.**Descriptive Statistics**

| | Mean | Std. Deviation | N |
|------------|---------|-------------------|-----|
| FREQO N | 3,3756 | 3,32996 | 205 |
| AGE | 24,4293 | 3,23448 | 205 |

Appendix 9. Frequency of online buying & age.

Correlations

| | | AGE | FREQON |
|-------|---------------------|---------|---------|
| AGE | Pearson Correlation | 1,000 | ,140* |
| | Sig. (2-tailed) | | ,045 |
| | N | 205,000 | 205 |
| FREQO | Pearson Correlation | ,140* | 1,000 |
| | Sig. (2-tailed) | ,045 | |
| | N | 205 | 205,000 |

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix 10. Frequency of online buying & age, Pearson correlation.

Group Statistics

| ENUNI | | N | Mean | Std. Deviation | Std. Error Mean |
|-------|---------|-----|---------|----------------|-----------------|
| AGE | Finland | 71 | 24,4225 | 2,34619 | ,27844 |
| | Germany | 128 | 24,3359 | 1,93711 | ,17122 |

Appendix 11. Enrolled in university & age, group statistics.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-----|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| AGE | 3,469 | ,064 | ,280 | 197,780 | ,08660 | ,30952 | -,52379 | ,69699 | |
| | | | ,265 | 123,234 | ,792 | ,08660 | ,32687 | -,56041 | ,73361 |

Appendix 12. Enrolled in university & age, independent-sample t-test.

Group Statistics

| ENUNI | N | Mean | Std. Deviation | Std. Error Mean |
|----------------|-----|--------|----------------|-----------------|
| FREQON Finland | 71 | 2,4225 | 2,11567 | ,25108 |
| Germany | 128 | 3,8516 | 3,80238 | ,33609 |

Appendix 13. Enrolled in university & frequency of online buying, group statistics.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|--------------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| FREQON Equal variances assumed | 13,224 | ,000 | 2,924 | 197 | ,004 | -1,42903 | ,48880 | 2,39297 | ,46508 |
| Equal variances not assumed | | | 3,406 | 196,993 | ,001 | -1,42903 | ,41952 | 2,25635 | ,60170 |

Appendix 14. Enrolled in university & frequency of online buying, independent-sample t-test.

Correlations

| | | FREQON | GEN |
|--------|-----------------------------------|----------|--------|
| FREQON | Pearson Correlation | 1 | ,191** |
| | Sig. (2-tailed) | | ,006 |
| | Sum of Squares and Cross-products | 2262,078 | 65,059 |
| | Covariance | 11,089 | ,319 |
| | N | 205 | 205 |
| GEN | Pearson Correlation | ,191** | 1 |
| | Sig. (2-tailed) | ,006 | |
| | Sum of Squares and Cross-products | 65,059 | 51,044 |
| | Covariance | ,319 | ,250 |
| | N | 205 | 205 |

** . Correlation is significant at the 0.01 level (2-tailed).

Appendix 15. Frequency of online buying & gender, Pearson correlation.

Group Statistics

| GEN | | N | Mean | Std. Deviation | Std. Error Mean |
|--------|--------|-----|--------|----------------|-----------------|
| FREQON | female | 96 | 2,6979 | 2,95268 | ,30136 |
| | male | 109 | 3,9725 | 3,53674 | ,33876 |

Appendix 16. Frequency of online buying & gender, independent-sample t-test.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|--------------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| FREQON Equal variances assumed | 3,425 | ,066 | 2,779 | 203 | ,006 | -1,27456 | ,45859 | 2,17877 | ,37035 |
| Equal variances not assumed | | | 2,811 | 202,441 | ,005 | -1,27456 | ,45340 | 2,16855 | ,38057 |

Appendix 17. Frequency of online buying & gender, independent-sample t-test.

Group Statistics

| ENUNI | N | Mean | Std. Deviation | Std. Error Mean |
|-------------|-----|--------|----------------|-----------------|
| GEN Finland | 71 | 1,4648 | ,5031 | ,05961 |
| Germany | 128 | 1,5859 | ,49449 | ,04371 |

Appendix 18. Enrolled in university & gender, groups statistics.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---------------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| GEN Equal variances assumed | 1,352 | ,246 | 1,646 | 197 | ,101 | -,12115 | ,07359 | -,26627 | ,02397 |
| GEN Equal variances not assumed | | | 1,639 | 142,750 | ,103 | -,12115 | ,07392 | -,26727 | ,02497 |

Appendix 19. Enrolled in university & gender, independent-sample t-test.

Descriptive Statistics

| | Mean | Std. Deviation | N |
|---------|---------|----------------|-----|
| FREQON | 3,3756 | 3,32996 | 205 |
| DISPRIX | 61,0390 | 96,89887 | 205 |

Appendix 20. Income & frequency of online buying, descriptive statistics.

Correlations

| | | FREQON | DISPRIX |
|---------|---------------------|---------|---------|
| FREQON | Pearson Correlation | 1,000 | -,057 |
| | Sig. (2-tailed) | | ,416 |
| | N | 205,000 | 205 |
| DISPRIX | Pearson Correlation | -,057 | 1,000 |
| | Sig. (2-tailed) | ,416 | |
| | N | 205 | 205,000 |

Appendix 21. Frequency of online buying & income, Pearson correlation.

Group Statistics

| ENUNI | | N | Mean | Std. Deviation | Std. Error Mean |
|--------|---------|-----|---------|----------------|-----------------|
| DISPRI | Finland | 71 | 79,5352 | 134,78192 | 15,99567 |
| X | Germany | 128 | 52,2344 | 68,90659 | 6,09054 |

Appendix 22. Enrolled in university & income, group statistics.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---------------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|----------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| DISPRIX Equal variances assumed | 6,848 | ,010 | 1,891 | 197 | ,060 | 27,30084 | 14,43506 | 1,16624 | 55,76791 |
| Equal variances not assumed | | | 1,595 | 90,717 | ,114 | 27,30084 | 17,11596 | 6,69935 | 61,30102 |

Appendix 23. Enrolled in university & income, independent-sample t-test.

Correlations

| | | FREQON | DIRBUY | SEADELBUY | KNOVIS |
|--------|---------------------|---------|--------|-----------|--------|
| FREQON | Pearson Correlation | 1,000 | ,122 | ,066 | ,069 |
| | Sig. (2-tailed) | | ,082 | ,343 | ,327 |
| | N | 205,000 | 205 | 205 | 205 |

Appendix 24. Frequency of online buying, direct buyer, search-deliberation buyer, knowledge-building visitor, Pearson correlations.

Group Statistics

| ENUNI | | N | Mean | Std. Deviation | Std. Error Mean |
|-----------|---------|-----|--------|----------------|-----------------|
| DIRBUY | Finland | 71 | 2,7042 | 1,29994 | ,15427 |
| | Germany | 128 | 2,7695 | 1,32645 | ,11724 |
| SEADELBUY | Finland | 71 | 2,3615 | ,95742 | ,11363 |
| | Germany | 128 | 2,2552 | 1,02334 | ,09045 |
| KNOVIS | Finland | 71 | 3,7183 | 1,56007 | ,18515 |
| | Germany | 128 | 3,8281 | 1,59778 | ,14123 |

Appendix 25. Group statistics, purchase horizon.

Independent-sample t-test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-----------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| DIRBUY | Equal variances assumed | ,081 | ,776 | -,335 | 197,738 | | -,06531 | ,19490 | -,44966 | ,31905 |
| | Equal variances not assumed | | | -,337 | 147,151 | ,737 | -,06531 | ,19377 | -,44823 | ,31762 |
| SEADELBUY | Equal variances assumed | ,773 | ,380 | ,718 | 197,474 | | ,10629 | ,14804 | -,18565 | ,39824 |
| | Equal variances not assumed | | | ,732 | 152,969 | ,465 | ,10629 | ,14523 | -,18062 | ,39321 |
| KNOVIS | Equal variances assumed | ,081 | ,776 | -,468 | 197,640 | | -,10982 | ,23447 | -,57220 | ,35257 |
| | Equal variances not assumed | | | -,472 | 147,611 | ,638 | -,10982 | ,23286 | -,56998 | ,35035 |

Appendix 26. Independent-sample t-test, purchase horizon.

Correlations

| | | FREQON | PERETSHO | REC SHO | ECOSHO | APASHO |
|--------|---------------------|---------|----------|---------|--------|--------|
| FREQON | Pearson Correlation | 1,000 | ,128 | ,185* | ,015 | -,079 |
| | Sig. (2-tailed) | | ,068 | ,008 | ,832 | ,260 |
| | N | 205,000 | 205 | 205 | 205 | 205 |

*. Correlation is significant at the 0.01 level (2-tailed).

Appendix 27. Frequency of online buying & shopping orientation, separated correlations.

Group Statistics

| ENUNI | | N | Mean | Std. Deviation | Std. Error Mean |
|----------|---------|-----|--------|----------------|-----------------|
| PERETSHO | Finland | 71 | 3,1408 | ,95562 | ,11341 |
| | Germany | 128 | 3,0286 | ,97746 | ,08640 |
| REC SHO | Finland | 71 | 2,3873 | 1,10501 | ,13114 |
| | Germany | 128 | 2,8066 | 1,07961 | ,09543 |
| ECOSHO | Finland | 71 | 2,7077 | ,97467 | ,11567 |
| | Germany | 128 | 2,5801 | 1,04943 | ,09276 |
| APASHO | Finland | 71 | 2,4817 | ,92061 | ,10926 |
| | Germany | 128 | 2,3141 | ,88333 | ,07808 |

Appendix 28. Group statistics, shopping orientation.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
|----------|---|------|------------------------------|----|-----------------|-----------------|-----------------------|---|-------|--|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | | |
| | | | | | | | | Lower | Upper | |
| PERETSHO | | | Equal variances assumed | | | | | | | |
| | | | Equal variances not assumed | | | | | | | |
| RECSHO | | | Equal variances assumed | | | | | | | |
| | | | Equal variances not assumed | | | | | | | |
| ECOSHO | | | Equal variances assumed | | | | | | | |
| | | | Equal variances not assumed | | | | | | | |
| APASHO | | | Equal variances assumed | | | | | | | |

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | | | |
|----------|---|------|------------------------------|------|-----------------|-----------------|-----------------------|---|---------|---------|---------|---------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | | | | |
| | | | | | | | | Lower | Upper | | | |
| PERETSHO | | | Equal variances assumed | ,081 | ,776 | ,782 | 197 | ,435 | ,11220 | ,14350 | -,17080 | ,39519 |
| | | | Equal variances not assumed | | | ,787 | 147 | ,450 | ,433 | ,11220 | ,14257 | -,16955 |
| RECSHO | | | Equal variances assumed | ,059 | ,809 | -,2603 | 197 | ,010 | -,41932 | ,16110 | -,73702 | ,10161 |
| | | | Equal variances not assumed | | | -,2585 | 141 | ,835 | ,011 | -,41932 | ,16218 | -,73993 |
| ECOSHO | | | Equal variances assumed | ,813 | ,368 | ,843 | 197 | ,400 | ,12767 | ,15145 | -,17101 | ,42635 |
| | | | Equal variances not assumed | | | ,861 | 153 | ,897 | ,391 | ,12767 | ,14827 | -,16524 |
| | | | Equal variances assumed | ,614 | ,434 | 1,263 | 197 | ,208 | ,16763 | ,13270 | -,09406 | ,42932 |
| | | | Equal variances not assumed | | | 1,248 | 139 | ,673 | ,214 | ,16763 | ,13429 | -,09787 |

Appendix 29. Independent-sample t-test, shopping orientation.

Correlations

| | | FREQON | ASSPEC |
|--------|---------------------|---------|---------|
| FREQON | Pearson Correlation | 1,000 | ,044 |
| | Sig. (2-tailed) | | ,533 |
| | N | 205,000 | 205 |
| ASSPEC | Pearson Correlation | ,044 | 1,000 |
| | Sig. (2-tailed) | ,533 | |
| | N | 205 | 205,000 |

Appendix 30. Frequency of online buying & asset specificity, Pearson correlation.

Group Statistics

| ENUNI | | N | Mean | Std. Deviation | Std. Error Mean |
|--------|---------|-----|--------|----------------|-----------------|
| ASSPEC | Finland | 71 | 2,7359 | ,89131 | ,10578 |
| | Germany | 128 | 2,7793 | ,80023 | ,07073 |

Appendix 31. Enrolled in university & asset specificity, group statistics.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|--------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| ASSPEC | ,815 | ,368 | -,352 | 197 | ,725 | -,04338 | ,12337 | -,28668 | ,19992 |
| | | | -,341 | 132,041 | ,734 | -,04338 | ,12725 | -,29509 | ,20833 |

Appendix 32. Enrolled in university & asset specificity, independent-sample t-test.

Statistics

UNCERT

| | | |
|---|---------|----------|
| N | Valid | 205,0000 |
| | Missing | ,0000 |
| | Mean | 3,9159 |
| | Median | 4,2500 |

Appendix 33. Uncertainty, Frequencies.

Correlations

| | | FREQON | UNCERT |
|--------|---------------------|---------|---------|
| FREQON | Pearson Correlation | 1,000 | ,132 |
| | Sig. (2-tailed) | | ,060 |
| | N | 205,000 | 205 |
| UNCERT | Pearson Correlation | ,132 | 1,000 |
| | Sig. (2-tailed) | ,060 | |
| | N | 205 | 205,000 |

Appendix 34. Frequency of online buying & -uncertainty, Pearson correlation.

Group Statistics

| ENUNI | | N | Mean | Std. Deviation | Std. Error Mean |
|--------|---------|-----|--------|----------------|-----------------|
| UNCERT | Finland | 71 | 3,7394 | 1,21629 | ,14435 |
| | Germany | 128 | 3,9863 | ,87186 | ,07706 |

Appendix 35. Enrolled in university & -uncertainty, group statistics.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|--------------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| UNCERT Equal variances assumed | 14,695 | ,000 | 1,656 | 197 | ,099 | -,24689 | ,14913 | -,54099 | ,04721 |
| Equal variances not assumed | | | 1,509 | 110,635 | ,134 | -,24689 | ,16363 | -,57115 | ,07736 |

Appendix 36. Enrolled in university & -uncertainty, independent-sample t-test.

Correlations

| | | FREQON | EXTRA | AGREE | CONSC | OPEXP | NEURO |
|-------|---------------------|---------|-------|-------|-------|-------|--------|
| FREQO | Pearson Correlation | 1,000 | ,080 | ,067 | ,138* | -,054 | ,218** |
| N | Sig. (2-tailed) | | ,256 | ,342 | ,048 | ,445 | ,002 |
| | N | 205,000 | 205 | 205 | 205 | 205 | 205 |

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix 37. Frequency of online buying & Five-Factors, separated correlations.

Group Statistics

| ENUNI | N | Mean | Std. Deviation | Std. Error Mean |
|---------------|-----|--------|----------------|-----------------|
| EXTRA Finland | 71 | 2,7827 | ,88915 | ,10552 |
| Germany | 128 | 2,7433 | ,96181 | ,08501 |
| AGREE Finland | 71 | 2,9972 | ,75175 | ,08922 |
| Germany | 128 | 2,8297 | ,82751 | ,07314 |
| CONSC Finland | 71 | 2,3380 | ,99116 | ,11763 |
| Germany | 128 | 2,3125 | ,98868 | ,08739 |
| OPEXP Finland | 71 | 2,5352 | ,74318 | ,08820 |
| Germany | 128 | 2,4414 | ,73845 | ,06527 |
| NEURO Finland | 71 | 3,1808 | 1,01604 | ,12058 |
| Germany | 128 | 3,1419 | ,99871 | ,08827 |

Appendix 38. Group statistics, factors of personality.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-------------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| EXTRA Equal variances assumed | 1,825 | ,178 | ,284 | 197 | ,777 | ,03939 | ,13860 | -,23394 | ,31272 |
| | | | ,291 | 154,484 | ,772 | ,03939 | ,13551 | -,22829 | ,30708 |
| AGREE Equal variances assumed | ,693 | ,406 | 1,412 | 197 | ,159 | ,16750 | ,11859 | -,06637 | ,40137 |
| | | | 1,452 | 156,702 | ,149 | ,16750 | ,11537 | -,06038 | ,39537 |
| CONSC Equal variances assumed | ,104 | ,748 | ,174 | 197 | ,862 | ,02553 | ,14643 | -,26325 | ,31430 |
| | | | ,174 | 144,354 | ,862 | ,02553 | ,14654 | -,26411 | ,31516 |
| OPEXP Equal variances assumed | ,004 | ,948 | ,856 | 197 | ,393 | ,09381 | ,10952 | -,12218 | ,30979 |

| | | | | | | | | | | | |
|-------|-----------------------------|------|------|------|---------|------|--------|--------|---|--------|--------|
| | Equal variances not assumed | | | ,855 | 143,881 | ,394 | ,09381 | ,10972 | - | ,12307 | ,31068 |
| NEURO | Equal variances assumed | ,060 | ,807 | ,261 | 197 | ,794 | ,03882 | ,14870 | - | ,25443 | ,33208 |
| | Equal variances not assumed | | | ,260 | 142,565 | ,795 | ,03882 | ,14944 | - | ,25658 | ,33423 |

Appendix 39. Independent-sample t-test, separated factors of personality.

Correlations

| | | FREQON | EMOTI |
|--------|---------------------|---------|---------|
| FREQON | Pearson Correlation | 1,000 | ,028 |
| | Sig. (2-tailed) | | ,687 |
| | N | 205,000 | 205 |
| EMOTI | Pearson Correlation | ,028 | 1,000 |
| | Sig. (2-tailed) | ,687 | |
| | N | 205 | 205,000 |

Appendix 40. Frequency of online buying & emotion, Pearson correlation.

Group Statistics

| ENUNI | N | Mean | Std. Deviation | Std. Error Mean |
|---------------|-----|--------|----------------|-----------------|
| EMOTI Finland | 71 | 2,5211 | ,79507 | ,09436 |
| Germany | 128 | 2,1250 | ,84124 | ,07436 |

Appendix 41. Enrolled in university & emotion, group statistics.

Independent-sample t-test

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-------------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|--------|
| | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | Lower | Upper |
| EMOTI Equal variances assumed | ,064 | ,800 | 3,244 | 197 | ,001 | ,39613 | ,12210 | ,15534 | ,63692 |
| Equal variances not assumed | | | 3,297 | 151,689 | ,001 | ,39613 | ,12013 | ,15878 | ,63348 |

Appendix 42. Enrolled in university & emotion, independent-sample t-test.