MASTER THESIS

Course code: BE309E

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Candidate number: 6

Consumer behavior towards buying consumer electronics online: cross-national analysis

Date: 22.05.2017

Total number of pages: 59

NORD University

www.nord.no

Abstract

The role of e-commerce has dramatically increased in the recent years. Internet has transformed into arena for successful international retail. With growing importance of online trade, research of consumer behavior in online context gained significant attention. But studies tend to generalize consumer behavior without distinguishing specific categories of products.

This research contributes to the study of consumer behavior towards buying electronics. It aims to investigate factor that influence intention to buy electronics online and find out how they differ across countries, Norway and Ukraine. Proposed research model was based on Theory of planned behavior and Technology acceptance model. It implied that attitude towards buying consumer electronics online, subjective norm, perceived behavioral control, attitude toward using online stores when buying electronics online, and cultural environment of trust influence intention to buy electronics in an online store.

The data was gathered through an online questionnaire and analysis with the use of quantitative statistical methods. The analysis showed that attitude towards buying consumer electronics online and attitude toward using online stores have a strong afeect on intention to buy electronics online. It was discovered that online consumer behavior of Norwegian and Ukrainian residents does not differ in terms of intention to buy electronics, but it differs when it comes to attitude towards buying consumer electronics online, subjective norm and cultural environment of trust. The findings contribute to research literature and gave practical implications for the managers of online stores.

Acknowledgement

This thesis is written in the spring of 2017 as final part or my MSc degree in Business at Nord university in Bodø, Norway. The thesis is written within the specialization in International Business and Marketing.

The purpose of this study is to investigate factors that influence buying behaviour of consumer electronics in online context.

I would like to express my gratitude to my academic supervisor, Professor Arve Pettersen, for his guidance and valuable advice throughout the thesis work.

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Chapter 1. Introduction

1.1 Background

Over the last couple of decades online shopping has transformed from a new concept to an essential part of people's life. Online retailing is one of the fastest growing sectors in Europe, USA and Asia (Hollensen 2014). Number of online buyers has doubled since 2011 to 1,3 billion people and the global B2C online sales worldwide equal to almost 2 trillion US dollars (eMarketer 2016). Internet features, including ecommerce, contribute to economic growth and modernization both in developed and developing countries (Manyika and Roxburgh 2011).

Consumer electronics are traditionally perceived as complex and expensive products that need personal examination before purchase (Kim and Forsythe 2010). Despite the current trend of increasing role of ecommerce, 52% of consumers of electronics result in buying products in physical stores after researching them online (PwC 2016). The choice of shopping medium depends on product category, and therefore, the patterns of online consumer behavior differ with regard to different goods.

However, it is proved that consumers are expanding a range of categories they are willing to purchase online to those that contain attributes of "touch and feel" (Hollensen 2014: 589). So, the importance of such product categories as consumer electronics in online context is increasing. Although in-store sales are still dominating, according to PwC report on global retail, 40% of respondents already prefer to buy consumer electronics online via PC, tablets or smartphones as a preferred method of purchase (PwC 2016).

Regardless of the current prevalence of the research in online consumer behavior in general, there is a lack of academic material concerning the field of consumer electronics in e-commerce. The little amount of studies that were found (Chavan and Khan 2015) concern application of generalized models of online consumer behavior to electronics without examining how specifics of the products drive buyer's decisions.

Most researches provide extensive frameworks to explain factors and motivations of online purchases omitting reference to specific industries within ecommerce retail. However, consumer decisions are inconsistent and can differ to a great extent with regard to specific

products, so it is necessary to conduct sectoral research to establish factors influencing purchase decisions with regards to specific markets (Nasir et al. 2006).

According to Ajzen (1991: 185), the prediction of behavior is accurate only when it is assessed in terms of specified context, so estimated behavioral intentions must closely correspond to an actual situation. Therefore, research on 'buying *something* online' would not provide valid results if the goal is to understand the behavior of 'buying consumer electronics online'. There is a need to avoid generalization to achieve the most conclusive and precise analysis. However, when research is only conducted toward one specific product (e.g. smartphones, laptops), there is a concern of product-specific bias in behavioral investigation (Kim and Forsythe 2010). So, research of consumer electronics as a range of different goods within one category would have the best quality compared with complete generalization of every product into one framework, or concentrating on a purchasing behavior of a single product type. Besides, the empirical evidence shows that most online retailers of consumer electronics offer a wide selection of different types of products and combine them under "Electronics" category (e.g. Ebay).

Globalised character of online shopping removes locational barriers and allows people access to international web-stores. It implies the necessity of cross-national research of consumer behavior. Most online retailers of electronics provide international delivery and some have become global online stores with deep penetration outside the country of origin (e.g. Amazon, Ebay). However, there was no research up to date that would compare differences of online purchasing behavior of consumer electronics across countries.

1.2 Research questions

Therefore, there is a need of research that would fill the existent gap in academic studies. It is necessary to investigate online consumer behavior towards purchasing consumer electronics as a category of goods with different attributes to other (such as groceries, household appliances apparel and others). In addition, it is vital to include international context and compare consumers' behaviors across countries. This paper attempts to fill the research gap by examining the following **research questions:**

1. What factors influence consumer's intention to purchase electronics online?

2. Is there a difference in intention to purchase electronics online and factors that contribute to it across countries?

The **research purpose** is to create an effective framework to predict and understand consumer intention towards buying goods from the category of consumer electronics in online stores and understand the differences that occur across countries.

The **significance** of this study constitutes of contribution to the gap in academic literature addressing missing studies of online consumer behavior. There is also a practical contribution to managers and marketers of online stores that deal with consumer electronics, especially in international context. It comprises of a better understanding of intentions that lead to buying goods online. Therefore, online retailers will have a better comprehension of how to reach consumers.

The thesis consists of five chapter. Chapter 1 gives background information, describes research gap, and expresses research questions. Chapter 2 provides theoretical framework that includes discussion of online consumer behavior and theories that contribute to development of a conceptual model for understanding intention to purchase electronics online. Chapter 3 describes research methodology by outlining research design, sampling and data analysis methods. Chapter 4 presents findings from data analysis and answers to research questions. Chapter 5 gives conclusions, outlines implications and limitations of the research.

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Chapter 2. Theoretical framework

2.1 Consumer behavior

2.1.1 Definition of consumer behavior

According to Kotler (1994), consumer behavior is the study of how people buy, what they buy, when they buy and why they buy. Consumer behavior research is based on studying consumer buying behavior, in which consumer plays tree different roles: payer, buyer and user. It pursuits comprehension of buyer's decision making process (Furaji et al. 2012). Consumer buying behavior refers to the study of the ways of buying and disposing of goods, services, ideas or experiences by the individuals, groups and organizations in order to satisfy their needs and wants (Kotler and Keller 2011)

Consumer behavior traditionally constitutes of five stages: problem recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behavior (Engel et al. 1973). This is largely a psychological process (Furaji et al. 2012). Prediction of consumer behavior is challenging and causes problems even for experienced professionals (Armstrong 1991). There are numerous factors that influence consumer purchasing decisions, among which most commonly recognized are cultural, social, personal, and psychological characteristics of an individual (Kotler and Armstrong 2014: 159) as well as marketing mix applied by companies for a particular product (Furaji et al. 2012).

2.1.2 Consumer behavior online

Consumer behaviour in online context lies beyond traditional marketing and to understand it there must be adopted a vision that online consumers are simultaneously IT users (Pavlou and Fygenson 2006). Heijden, Verhagen and Creemers (2003) identify two issues that differ consumer in e-commerce from traditional consumers: technology and trust. First issue regards the fact that a store in a usual way is replaced with information system, so technical aspects must be taken into considerations when analysing online behavior. Trust refers to uncertainty, which is a common feeling while shopping online: the shop, shop owners, quality of the product and other specifics of purchasing process are unknown (Heijden et al. 2003). Consumer

purchases are based on cyberspace appearance (pictures, images, information, video clips of the product), not on the actual experience (Park and Kim 2003).

The unique benefits for the consumers lie in the performance of online shopping transaction itself and include saved time, increased convenience, and reduced risk of dissatisfaction (Park and Kim 2003). However, online shopping can also withhold individuals from achieving specific values that are only possible with in-store shopping such as social value of personal contact (Monsuwe et al. 2004).

Pavlou and Fygenson (2006: 116) note differences between online and traditional consumer behavior that act like a barrier to e-commerce: firstly, the separation in space and time between consumer and online store "increases fears of seller opportunism due to product and identity uncertainty", secondly, there is a risk of a leak of personal information to third parties not directly involved in the purchase online, thirdly, consumers have to participate in IT use on the website, and lastly, "there are concerns about the reliability of the open Internet infrastructure" that online store use to communicate with consumers. The researchers conclude that because of such factors that reduce consumers' perception of control, the theory of planned behavior makes a reasonable framework for analyzing B2C e-commerce, as perceived control is one of its main focal points of the theory.

Nevertheless, online shopping is considered to provide numerous advantages to the buyers. Jusoh and Ling (2012) specifically emphasize on such benefits as reduction in time for buyer's considerations, better buying decisions, smaller amount of time spent on invoice and order discrepancies, larger range of alternatives as well as a possibility to shop independent from time and location. Among other significant reasons to shop online rather than in a physical store are time efficiency, avoidance of crowds, competitive pricing and greater access to information (Lin 2007; Javadi et al. 2012).

Such characteristics as information presentation, navigation, ease of order are more important when shopping online rather than in a traditional way. Park and Kim (2003) discuss online store attributes that are critical for consumer to make a purchase: merchandise, customer service and promotion, navigation and convenience, and security.

- Merchandise refers to product-related aspects such as variety, assortment, and available information.

- Customer service includes sales clerk service for selection, answers to frequently asked questions, and payment and return policy. Promotion involves advertisement, sales, useful tips related to products.
- Navigation and convenience are related to user interface of an online store.
- Security involves protection of private and financial information (Park and Kim 2003).

In traditional shopping consumer has a salient source of trust, a salesperson, who provides individual with expertise and social interaction (Monsuwe et al. 2004).

Motivations to shop online consist of both utilitarian and hedonistic dimensions considering behavior of the buyers: 'problem solvers' seek efficiency and want to complete the task of purchasing online with less irritation, others seek entertainment and fun in the online shopping experience for its own sake (Holbrook 1994).

2.1.3 Consumer electronics and previous research

Consumer electronics are defined as "electronic products that are bought by people for their own use" (Cambridge Dictionary 2016). The Consumer Electronics Society explains that it includes products such as cellular phones and other personal communication devices, TVs, video and audio recorders and players, cameras, home security systems, etc. So, these are the products of everyday use by many people.

Most consumers research electronics online before buying an item, and the amount of time spent on information search is proportional to the price. However, around a half of those who spend average of 12 hours in information search online still result in buying an item offline in a traditional store (Kim and Forsythe 2010).

Of a particular interest is a research by Kim and Forsythe (2010), who emphasize higher risk connected to shopping consumer electronics online compared with 'low involvement products'. The inability to examine the product before purchase and lack of personal contact (with shopping assistant) are particularly strong concerns for consumers of electronics because of high prices and complexity of the items of this category. The researchers investigated acceptance of product virtualization technology (rotating the product on screen, examining its specific features – image, sound, etc. - through virtual technologies) to online shopping of electronics. They concluded that use of product virtualization technology can facilitate online

retailers because it decreases uncertainty regarding buying items of this category online (Kim and Forsythe 2010).

Furaiji, Łatuszyńska and Wawrzyniak (2012) conducted a study of factors that influence purchase of electric appliances based on consumers in Iraq (without inclusion of online context). Their findings showed that social factors, psychological factors and marketing mix have the strongest influence on buying decisions of electronics (Furaji et al. 2012).

Considering the lack of industry specific research, this study attempts to incorporate generalized theories of online behavior into perspective of consumer electronics. There is a great number of studies related to understanding of consumer behavior in e-commerce in general, including those that aim to determine influential factors. Among the most prominently used theories applied to estimating influences on buying decisions online are Theory of planned behavior (George 2004, Pavlou and Fygenson 2006), combination of Technology acceptance model with Flow theory and traditional consumer behavior theory (Koufaris 2002), integrating Technology acceptance model with trust (Gefen 2003, Heijden et al. 2003) and various extensions of Theory of planned behavior (Lin 2007).

With regards to established research questions, I choose to use a combination of Theory of planned behavior (TPB) and Technology acceptance model (TAM) as a main framework to analyze consumer's intentions to buy electronic devices in an online store. A combination of two models with further additional factors added is considered to be a reasonable approach because "strong theoretical and conceptual frameworks can be developed through an integration of constructs from different research traditions and disciplines" (Chan et al. 2003). TBP is essential to understand personal beliefs about buying consumer goods in a web-store, and TAM provides explanation of online consumer behavior from a technological point of view.

2.2 Theories of online consumer behavior

2.2.1 The Theory of Planned Behavior

The theory of planned behavior appeared as an extended version of the theory of reasoned action (Ajzen and Fishbein 1975) and has been widely applied as a framework for consumer behavior analysis in marketing since then. Focus of both theories lies on understanding the

intention of a person to perform a certain behavior (Ajzen 1991). Intentions reflect motivations that affect a behavior. Stronger intentions to behave in a specific way usually lead to a higher probability of such behavior. What differs the theory of reasoned action and the theory of planned behavior is consideration of behavioral control in addiction to intentions in the latter theory. The inclusion of perceived control makes the theory of planned behavior more suitable for online context than the theory of reasoned action as it allows to account for constraints of online shopping such as impersonal environment, complexity of IT use and uncertainties related to online shopping (Pavlou and Fygenson 2006).

The theory of planned behavior is based on three independent determinants of intention: attitude towards the behavior, subjective norm and the degree of perceived behavioral control. All the determinants have a direct influence on intentions: the greater the degree of perceived behavioral control and the better attitude and subjective norm towards the behavior, the stronger is an intention to perform the behavior. The relative significance of each component differs in different behaviors and situations (Ajzen 1991).

The antecedents of the components of the theory of planned behavior - attitude towards the behavior, subjective norm and the degree of perceived behavioral control – are 'salient information', or beliefs, relevant to behavior (Ajzen 1991:189). The theory divides the beliefs into three categories: behavioral beliefs that affect attitude towards the behavior, normative beliefs, which predetermine subjective norms, and control beliefs that predispose perceived behavioral control. The complete framework for the theory of planned behavior is illustrated below (figure 1).

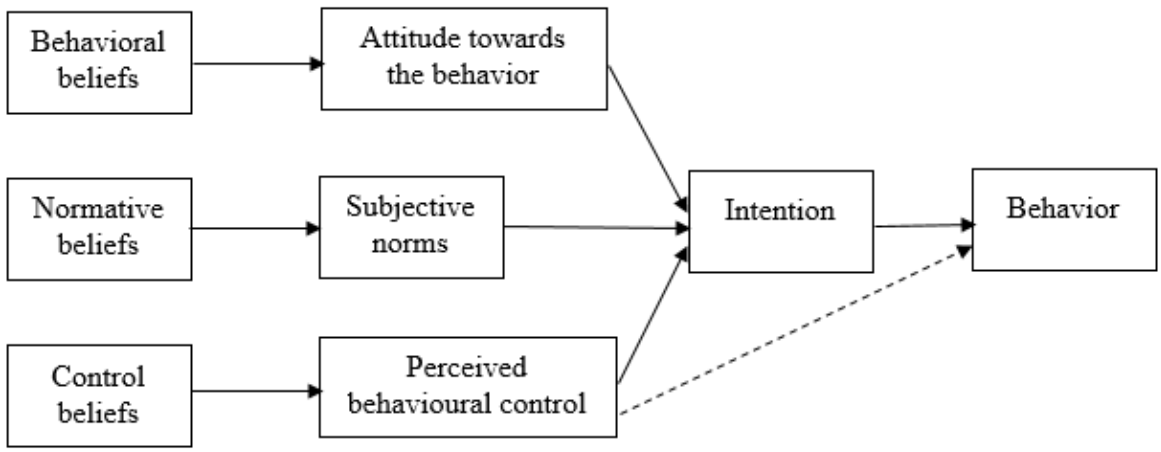

Figure 1: Framework of the theory of planned behavior (adapted from Ajzen (1991)).

- Behavioral beliefs and Attitude towards the behavior

Attitudes reflect whether a person identifies specific behaviour as positive or negative (Ajzen and Fishbein 1980). They evolve from the beliefs individual possesses about the object of attitude: objects are associated with specific attributes such as characteristics, events, and other objects. So, the beliefs connects the behavior to its attributes (outcome, costs, etc.) and an individual obtains a positive or negative attitude toward the behavior (Ajzen 1991).

- Normative beliefs and Subjective norm

Subjective norm refers to social pressure from a specific behavior: whether it will acquire approval or disapproval from people, the opinion of whom matters for the individual ('important others') (Ajzen 1991:195). Normative beliefs refer to possibility that 'important others' approve or disapprove a certain behavior. Subjective norm is assessed by weighing normative beliefs by the individual's wish to abide by other people's opinion (how important their approval is of a certain behavior) (Ajzen 1991).

- Control beliefs and Perceived behavioral control

Ajzen (1991:181) reasons that intention only results in a behavior if it is 'under volitional control', meaning that a person has or does not have a will to perform the behavior. Such will depends mostly on opportunities and resources, which constitute person's 'actual control' over the behavior. Since the theory is psychologically oriented, it examines 'perceived behavioral control' rather than actual in terms of its influence on intentions and actions. Perceived behavioral control is consistent with concept of perceived self-efficacy which means individual's apprehension of his/her ability to perform a certain action in specific circumstances (Bandura 1982:122). In other words, it could be viewed as one's level of confidence about own capability. In the framework of the theory of planned behavior perceived behavioral control is related to beliefs, attitudes, intentions, and behavior (Ajzen 1991). Control beliefs are based on experience from the past and information obtained from other people about resources and opportunities needed to perform a certain behavior: the more of them individuals believe they have, the greater is perceived control of the behavior. So, the beliefs about resources and opportunities determine perceived behavioral control.

The research problems of this study make it necessary to specify the abovementioned components of TPB in a greater detail with regards to online context and consumer electronics.

Attitude towards buying consumer electronics online

Attitude to online shopping comprises of general positive or negative feelings towards use of Internet as a shopping medium (Lin 2008). It refers to consumer's evaluation of desirability to purchase goods on a web-store (Pavlou and Fygenson 2006). Often attitude towards online transactions is estimated through individual's level of trust and risks he/she perceives can occur while shopping through the web-site.

Perceived risk negatively affect attitude towards online shopping (Heijden et al. 2003). The most relevant risks for online shopping include financial risk, quality risk, uncertainty about return policy and delivery (Javadi et al. 2012). The product category of consumer electronics is considered particularly risky in terms of online shopping because of high prices and complexity of the items (Kim and Forsythe 2010).

George (2004) considers beliefs about privacy and trustworthiness as underlying aspects that form attitude toward Internet purchasing. Trust in an online retailer is a central concept of many studies (Pavlou 2002) that prove its influence on attitude and intention to buy online. Privacy refers to risk of leak of personal information (George 2004).

Since attitude is a central concept in TBP consideration in online context, there is a need to estimate its influence on behavior in terms of this study regarding intention to buy electronics online. So, the following hypothesis is proposed:

H1: There is a positive relationship between attitude towards buying consumer electronics online and individual's intention to buy consumer electronics online.

Subjective norm with regards to buying consumer electronics online

Subjective norms in the context of online shopping refer to the influence of opinions of other people on individual's perception of e-commerce. Studies suggest that subjective norm should be considered with regards to two sources of influence: interpersonal and external (Lin 2007). Interpersonal influence refers to the influence of 'important others' – family, friends, colleagues etc. – who might have strong opinions about online shopping, specifically of

electronics. External influence includes mass media, expert opinions, online reviews and other non-personal information (Lin 2007).

Since people usually search for information about electronics before buying it, it is reasonable to assume that inquired knowledge from websites, reviews by other consumers and expert reviews influence person's decision of buying consumer electronics online.

So the research shows importance of interpersonal and external opinions, which together constitute subjective norms, for intention in online shopping Therefore we can draw a hypothesis:

H2: There is a positive relationship between subjective norm and individual's intention to buy consumer electronics online.

Perceived behavioral control of buying consumer goods online

Perceived behavioral control is comprised of consumer's perceptions of resources and opportunities that are needed for using online shopping (Lin 2007). It is believed to have a strong relationship with purchasing online (Khalifa and Limayem 2003). Personal behavioral control is a twofold concept: it involves personal perceptions of self-efficacy and perception of resourses needed to engage in a behavior (Ajzen 1991). In terms of online purchasing it means Individual's self-assessment of capability to shop online and availability of resources: equipment, time, and money (Lin 2007).

Equipment refers to Internet connection and a device that enables online browsing. Time is needed to get information about products and performing actual purchase. Money are a prerequisite for buying anything in general, and possibility to use a specific payment method is significant for online context (Pavlou and Fygenson 2006).

Consumer electronics are considered to be pricy items and researches mention extensive time needed to find out information before purchase (Kim and Forsythe 2010). Individual's intentions of buying durable goods often rely on personal opinion of a salesperson (Monsuwe et al. 2004), so he/she can estimate own self-confidence as insufficient to purchase items such as consumer electronics online.

Based on importance of perceived behavioral control to the context of my research, I suggest this hypothesis:

H3: There is a positive relationship between perceived behavioral control and individual's intention to buy consumer electronics online.

The main limitation of TBP for predicting consumer behavior when shopping online is the lack of technological perspective as it is strongly affected by informational technology, which was discussed in section 2.1.2. Therefore, for this study I choose to combine TBP with Technology acceptance model which provides inclusion of technological factors.

2.2.2 Technology acceptance model

Technology acceptance model (TAM) was first developed by Davis (1989, 1993) with intention to assess acceptance of information technology by users at a workplace. The spread of international technologies among various aspects of human life has led to numerous applications of TAM into different setting, including internet usage, web site usage, and explanation of motivations to online purchasing from technological point of view (Heijden et al. 2003).

The model is based on two determinants of technology acceptance: perceived usefulness and perceived ease of use. Complete framework of TAM is provided below (figure 2). Traditional TAM explains perceived usefulness as a measure of performance advantages people believe they get from using informational technology: to what extent using information system would improve job performance. Perceived ease of use refers to the difficulty an individual believes he would encounter while using information technologies (Davis 1989).

Gefen, Karahanna and Straub (2003:54) characterize perceived usefulness as "a measure of the individual's subjective assessment of utility", and perceived ease of use as "indicator of cognitive effort needed to learn and utilize the new IT". Perceptions of usefulness are concern with an outcome of the experience, while perceived ease of use is concerned with the process leading to a certain outcome (Monsuwe et al. 2004).

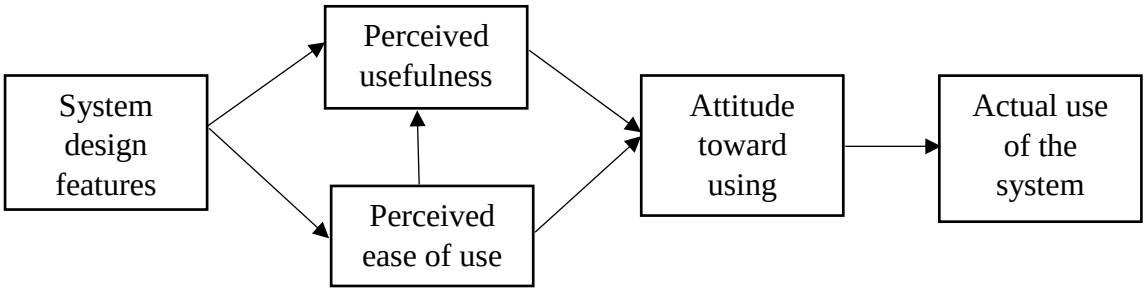

Figure 2: Technology acceptance model (Davis (1993)).

Attitude toward using online stores

Monsuwe, Dellaert and Ruyter (2004) in detail explain how each concept of traditional TAM can be explained through the point of view of online shopping. In the context of B2C e-commerce researchers identify shopping on the internet as a new technology, and person's performance (purchase or not) as the outcome of online shopping experience. Usefulness here would mean the "consumers' perception that using internet as a shopping medium enhances the outcome of their shopping experience" (effectiveness), while ease of use refers to an effort needed during the process of online shopping experience (simplicity) (Monsuwe et al. 2004: 107).

Effectiveness is often related to reduction of costs, time and other resources. Internet provides screened and comparison information for alternatives, so consumers may reduce the cost of information search and the effort in making purchasing decision (Park and Kim 2003). So, usefulness of a web store indicates perceived benefits (time and cost saving) as well as general appreciation of online stores as a medium to perform shopping.

Ease of use is often consistent with consumer's experience and level of knowledge about online shopping (Monsuwe et al. 2004). More experience and knowledge are believed to improve ease of use. Another aspect often related to the concept of ease of use is anxiety. Anxiety regarding ability to perform the behavior most likely will not lead to actual behavior (Hoffman and Novak 1996). Computer anxiety refers to "individual's apprehension or fear when facing the possibility of using computers", it decreases perceived ease of use of online shopping (Monsuwe et al. 2004:108).

Hedonistic motives are believed to be one of the important predictors of attitude towards online shopping (Kim and Forsythe 2010). Individuals are believed to derive fun and playful

experience from online shopping. Therefore, researchers discuss addition of 'enjoyment' construct to the modern view of TAM. It refers to degree of satisfaction that an individual gets from using technology apart from consequences of such usage. Online shopping has an intrinsic value ('enjoyment') that results from the experience of online shopping for its own sake. Usefulness and ease of use are considered to reflect utilitarian aspects of online shopping, and enjoyment refers to hedonistic aspects (Monsuwe et al. 2004).

TAM provides an important variable for this research – attitude toward using online stores in terms of usefulness, ease of use and enjoyment to estimate individual's intention to buy consumer electronics online, and the following hypothesis can be formulated:

H4: There is a positive relationship between attitude toward using online stores and individual's intention to buy consumer electronics online.

Limitations of TAM

There is a discussion of limitations of Technology acceptance model connected to online shopping, which refer to a number of influences the theory omits:

- Social factors
- Consumer traits
- Situational factors
- Product characteristics
- Trust (Monsuwe et al 2004, Dennis et al.2009).

This study incorporates social factors and trust through TBP as key influences for subjective norms and attitude toward buying consumer electronics online. Product characteristics influence is considered a key point of my investigation since its aim only at a specific product category – electronics. Therefore, every factor in my conceptual model (described below) is concerned with this specific category of goods. Consumer traits (personal background) and relevant situational factors will be incorporated in research separately.

2.3 Online consumer behavior and culture

The global expansion of online purchasing requires inclusion of aspects that differ by culture, not only personal factors (Smith et al. 2013). Researchers (Stafford et al. 2004; Zhou et al. 2007) discuss cross-cultural differences in online shopping patterns through Hofstede's (1991) dimensions: power distance, individualism, masculinity, uncertainty avoidance and long term orientation. Stafford, Turan and Raisinghati (2004) conduct that more masculine cultures tend have a more active role as online buyers. People from individualistic cultures are more likely to use Internet for personal purposes, including ecommerce, than people from collectivistic cultures. (Zhou et al. 2007).

To serve the goal of this study it is important to incorporate factors that are specifically important when online purchasing regards electronics, therefore consideration of cultural differences in trust are required.

Cultural environment of trust

Cultures differ in many ways and one of them is trust. Bianchi and Andrews (2012) proposed to address cultural differences in trust with a separate measure – cultural environment of trust – that influences consumer's intention to buy online. It addresses culture-specific perception of trust based on the view that some cultures are more trusting than the others. Cultural environment of trust reflects to what extent individuals tend to trust others based on their culture inherent propensity to trust (Bianchi and Andrews 2012).

Since trust is one of the essential aspects in both discussion of purchasing of consumer electronics as high-involvement goods, and online shopping in general, it seems reasonable to include a factor of cultural environment of trust into this research and estimate its influence on customers' online behavior. Hence the following hypothesis:

H5: There is a positive relationship between cultural environment of trust and individual's intention to buy consumer electronics online.

2.4 Conceptual framework

Theoretical findings allow to propose a model (fig. 3) that is believed to fulfill the needs of this study regarding research question 1: What factors influence consumer's intention to purchase electronics online?

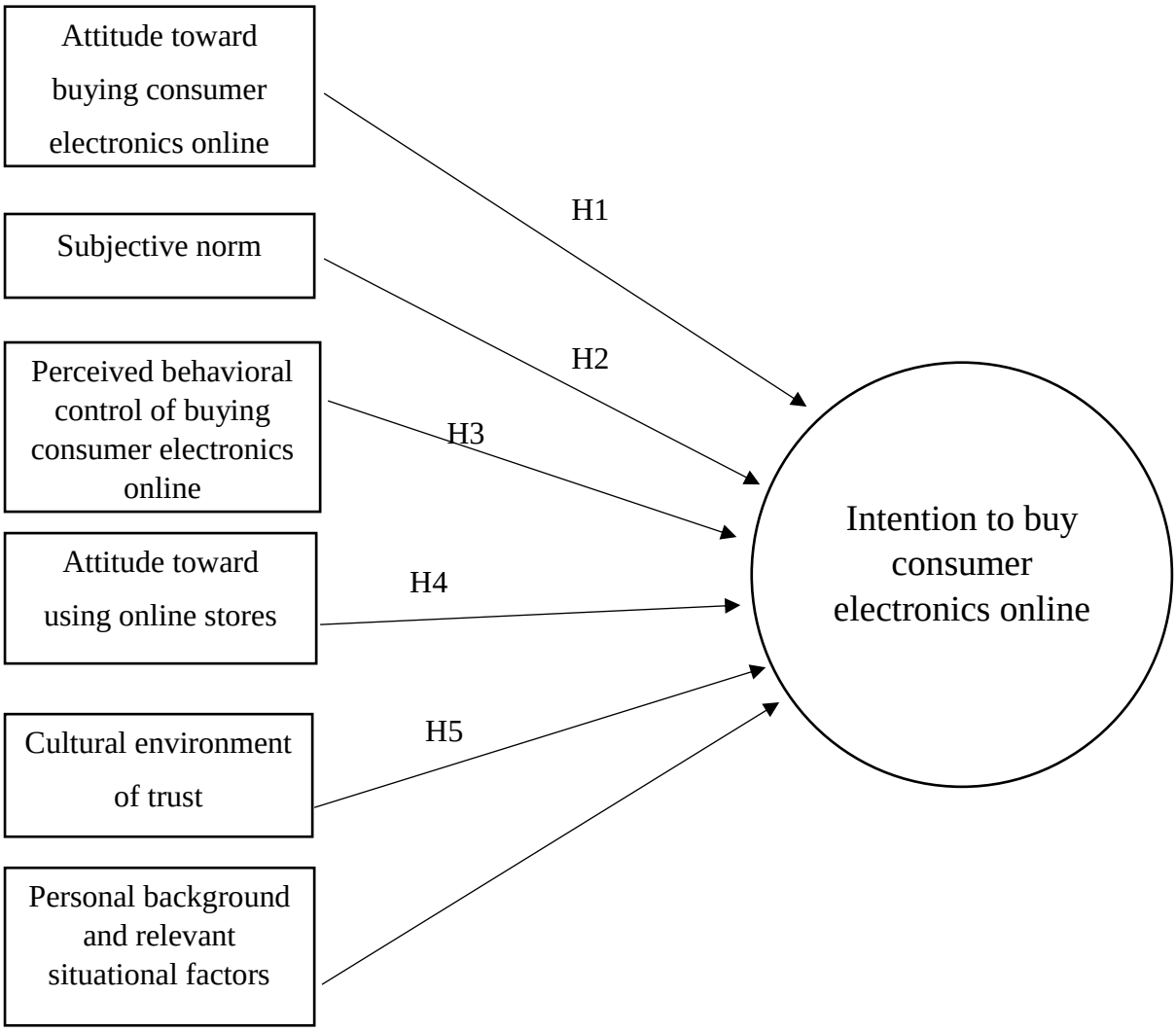

Figure 3: Proposed research model.

Intention to buy consumer electronics online is a dependent variable that allows to assess consumer buying behavior online. Intentions are motivational factors that imply the degree to which people are willing to attempt performing a behavior (Ajzen 1991). According to Theory of planned behavior, behavioral intention is "the most influential predictor of behavior; after all, a person does what she intends to do" (Pavlou and Fygenson 2006:117). Therefore, it is expected that intention to buy consumer electronics online leads to actual purchase.

Independent factors derive from Theory of planned behavior, Technology acceptance model, cultural influence on trust and were explained earlier. Personal background and relevant situational factors are control variables, added to increase model's quality.

The following hypotheses are to be tested in this study are presented in the table below.

Table 1: Hypotheses of the research.

H1	There is a positive relationship between attitude towards buying consumer electronics online and individual's intention to buy consumer electronics online.
H2	There is a positive relationship between subjective norm and individual's intention to buy consumer electronics online.
H3	There is a positive relationship between perceived behavioral control and individual's intention to buy consumer electronics online.
H4	There is a positive relationship between attitude toward using online stores and individual's intention to buy consumer electronics online.
H5	There is a positive relationship between attitude toward online stores and individual's intention to buy consumer electronics online.

The theoretical framework also provides concepts to be assessed, in addition to intention, across countries in order to answer research question 2: Is there a difference in intention to purchase electronics online and factors that contribute to it across countries? They are attitude towards buying consumer electronics online, subjective norm, perceived behavioral control, attitude toward using online stores when buying electronics online, and cultural environment of trust.

Chapter 3. Research methodology

This chapter describes the methodology used to find answers to the research questions. It includes the choice of research design, sampling method, way of data collection, pre-test, construct choice, construct measurement, quality of the research, sample description, and methods of data analysis.

3.1 Research design

The choice of research design means establishment of "a framework for data collection and its analysis" (Ghauri and Grønhaug 2010). In order to answer the research questions there was a need for data collection related to consumer behaviour on the internet. Due to insufficiency of suitable secondary data, I decided to collect primary data that would better match the objectives of this research (Easterby-Smith et al. 2015). A web-based cross-sectional survey was chosen as a method for data collection.

Cross-sectional surveys are used when researchers intend to analyse relationships between dependent and independent variables, which are measured at the same time, across different units in complex models (Easterby-Smith et al. 2015). The survey in this research is built to gather data on various variables that influence individual's intention to buy electronic devices in online stores with aim to examine all the occurring relationships between variables. Cross-sectional research designs are a part of positivist epistemology (Easterby-Smith et al. 2015:100).

3.2 Sampling design

Since sample is used to draw consequences about population, it is important to define the population for this study (Easterby-Smith et al. 2015). Population within this research consists of people who shop on the internet. Products such as mobile phones, cameras and other electronics has been in use for a long time, so it is assumed that every member of desired population has a sufficient amount of knowledge about them. However, in the beginning of the survey the term "electronics" is clarified and products of this category are named to avoid confusion with other electronic goods such as home appliances. Therefore the population is large, with approximately 1,3 billion in the world who use internet for shopping (eMarketer 2016).

Taking into account the population size and impossibility of creating a random sample that would represent the whole population, I decided to use a non-probability convenience sample as a sampling design, which is based on easy accessibility of respondents (Easterby-Smith et al. 2015). Since this research aims on understanding and testing the underlying theory, non-probability sampling method can be accepted as a way to figure out "the nature of the phenomenon under study" (Krishnaswami and Satyaprasad 2010:56).

3.3 Data collection

A self-completion questionnaire was created using a tool called Google Forms (Appendix 1). It started with a question "Do you shop in online stores?" in order to exclude recipients without online shopping experience. Those who answered "No" were redirected to the end of the survey and thanked for participation. Initially those who answered "No, but I am planning to in the future" were able to continue with other questions, but for this research they were excluded from the sample in order to ensure that everyone has certain experience with online shopping.

The questionnaire was initially created in English with aim to gather a lot of responses from different countries. Also because of the cross-cultural aim of the research, the questionnaire was translated to Russian language to get as many responses as possible from residents of Russian speaking countries, where a low percentage of population understands English.

The questionnaire was spread through such social networks as Facebook and VK and was available for completion during one week period. At first the link was distributed through my pages in social media and in groups, but it was later shared by friends to people who might be interested. This resulted in getting some characteristics of snowball sampling, in which initial respondents involve others (Easterby-Smith et al. 2015).

In order to get more responses, the questionnaire started with a paragraph dedicated to explain the nature and purpose of the research. The respondents were assured that their contribution would be important and valuable. Also, the confidentiality and anonymity were guaranteed. According to Easterby-Smith et al. (2015) establishing trust is the key to a higher level of responses, and trust in self-completion questionnaires is gained with assurance of importance of the task and security of information. Questionnaire took about 5 minutes to complete and required little disclosure of personal information, which are also the ways to get more responses.

As a result, there was a total of 178 responses, out of which 15 were excluded due to the negative answer on the question about online shopping experience (3 answered "No" and 12 answered "No, but planning in the future"). Also, there was 2 respondents younger than 18, whose answers were excluded. So, there were 161 eligible responses by adults with online shopping experience.

3.4 Pre-test

With aim to increase reliability of data and measurements I conducted a pre-test before spreading the link for the questionnaire. 10 friends and family members agreed to participate and provided their answers as well as feedback on the questionnaire, e.g. understanding of questions, design, comfort while taking it. The answers to pre-test were subjected to factor analysis and the measurements were corrected if needed. Recommendations about the questionnaire were taken into account and problems were fixed.

3.5 Construct measurement

In order to test hypotheses in this study there is a need to measure specific constructs such as: intention to buy consumer electronics online, attitude towards buying consumer electronics online, subjective norm with regards to buying consumer electronics online, perceived behavioral control of buying consumer goods online, attitude toward using online stores when buying consumer electronics and cultural environment of trust. When it is difficult to measure a construct directly, researchers select a set of measures that are assumed to indicate the construct, which get merged together to create a composite variable for representing a construct (Easterby-Smith et al. 2015). Since the constructs of this study are complex features of person's behaviour, each of them is measured as a combination of three variables, that were measured through statements in the questionnaire. This study focuses on people's attitudes and opinions, therefore the use of a five-point Liker scale is chosen as a measurement scale (Easterby-Smith et al. 2015). So, to evaluate answer each statement participants could choose one option out of 5: "Strongly agree", "Agree, "Neutral/Not sure", "Disagree" or "Strongly disagree".

There are three demographic and control variables in this research: gender (1-male, 2-female), age and occupation. Country of residence is an additional demographic variable.

Intention to buy consumer electronics online

This construct reflects a possibility that an individual will buy an item from consumer electronics category in the nearest future. The chosen period equals 12 months because products as mobile phones, cameras, gaming consoles and other electronics are expensive and quite durable, so

The following statements were chosen to reflect the construct (Limayem et al 2000):

1. I intend to purchase electronic devices in an online store in the next 12 months
2. It is likely that I will purchase electronic devices in an online store in the next 12 months
3. I want to purchase electronic devices in an online store in the next 12 months

Attitude towards buying consumer electronics online

This construct reflects how people feel about buying electronics online, whether they assess such action as a positive or a negative experience. It includes the perception of trust people have in online stores when it comes to buying such pricy goods as electronics. Also, it is important to reflect respondents' attitude to online stores versus regular stores. Thus, the following statements were chosen to measure the construct of attitude towards buying consumer electronics online (Pavlou and Fygenson 2006; Javadi et al. 2012):

1. Online stores are a suitable place to buy electronics
2. Online stores are a reliable and safe place to buy electronics
3. Online stores are a better place to buy electronics than physical stores

Subjective norm with regards to buying consumer electronics online

Subjective norm reflects how other "important" people and media influence person's decision to buy electronics in an online store (Lin 2007).

1. People that are important to me (family, friends) would buy electronic devices online
2. People that are important to me (family, friends) would recommend me to buy electronic devices online
3. Media (advertisement, online reviews, social media posts etc.) encourages me to buy electronics online

Perceived behavioral control of buying consumer goods online

The concept of Perceived behavioral control helps to assess individual's ability to perform an action and availability of required resources. Perceived behavioral control of buying consumer goods online includes perceptions on ease of such action, possibility of problem occurrence and availability of time. Time is considered of special importance when buying such complex and pricy items as electronics because of necessity of preliminary research and comparison (Kim and Forsythe 2010). Other resources such as equipment, money and availability of a payment method were omitted from this construct because the sample includes only people who shop online (first question excluded other respondents) and it presumes that they are in possession of required equipment (computer, smartphone etc.), payment methods and also have money for it. The measures of this concept therefore are (Lin 2007):

1. I know where and how to buy electronics online
2. I feel that buying electronics online is not problematic
3. I have enough time to buy electronics online

Attitude toward using online stores when buying consumer electronics

This construct reflects individual's attitude to online shopping as an experience that involves use of technology. It combines perception of easiness, effectiveness and enjoyment of such experience (Monsuwe et al. 2004, Park and Kim 2003), which were reflected through the following measures:

1. It would be easy for me to navigate online stores and make a payment if I wanted to buy electronics online
2. I find it enjoyable to use online stores for buying electronics
3. I can save time and/or money if I buy electronics through an online store

Cultural environment of trust

Trust is an essential component in online shopping research. While personal perceptions on trustworthiness of internet purchases get reflection through the construct Attitude towards buying consumer electronics online, it is of significant importance to investigate cultural

environment of trust as a culture inherited tendency to trust others. The measures were adopted from Bianchi and Andrews (2012):

1. A high degree of trust exists in my family
2. People in my community trust each other
3. I live in a high trust society

3.6 Research quality

According to Easterby-Smith et al. (2015) the criteria for judging the quality of a study depends on adopted philosophical viewpoint on validity, generalizability and reliability. This research is built on a positivist paradigm.

From the point of view of positivist epistemology, validity of research means "elimination of plausible alternative explanation" (Easterby-Smith et al. 2015:103). In other words, it refers to the accuracy of the research. This research is built on two widespread models of estimating individual's intention – Theory of planned behaviour and Technology acceptance model. The use of both models in online context showed significant results in different settings, however has not been previously conducted with regards to consumer electronics. Therefore, strong theoretical background confirms the validity of this research, however, setting specific bias can occur.

Reliability refers to the quality of measures that contribute to underlying concepts (Easterby-Smith et al. 2015). Reliability of the constructs in this research is evaluated by Cronbach's alpha coefficient and explained in great detail in section 4.1.1.

Generalizability means the extent to which the results of the study can be applied to other contexts. Since this research is based on non-random convenience sampling, its generalizability is under concern. The sample choice was considered adequate for the purpose of this study, but it cannot verify high generalizability.

3.7 Sample description

Out of the 161 eligible respondents there were residents of ten countries: 82 respondents from Norway, 57 from Ukraine, 10 from Russia, 3 from The Netherlands, 2 from Nepal, 1 from each USA, UK, Australia, Vietnam, Germany, Poland and Kuwait. 64,6% of all respondents were females. Age varied from 18 to 67 years old. Most of the respondents (47%) have a full-time

job. Among the other occupation groups the biggest are students (15,5%) and those with a part time job (14%).

Table 2: Sample characteristics

Characteristics		Total sample	Norwegian sample	Ukrainian sample
Gender	Female	104 (64,6%)	43 (52,4%)	45 (79%)
	Male	57 (35,4%)	39 (47,6%)	12 (21%)
Age	Age range	18-67	19-67	18-63
	Median age	28	30.5	24
Occupation	student	25 (15,5%)	13 (15,8%)	3 (5,3%)
	full-time job	76 (47,2%)	29 (35,4%)	42 (73,7%)
	part-time job	23 (14,3%)	15 (18,3%)	8 (14%)
	student + job	17 (10,6%)	14 (17%)	-
	retired	6 (3,7%)	3 (3,7%)	2 (3,5%)
	unemployed	10 (6,2%)	6 (7,3%)	2 (3,5%)
	other	4 (2,5%)	2 (2,4%)	-
Number of respondents		161	82	57

Because there were not enough worldwide answers, I decided to limit my sample to only Norwegian residents and investigate research question 1 based on the findings from it. Sample from one country is more homogenous and therefore, more suitable for theory testing. For the cross-national comparison with regards to research question 2, I decided to analyze Ukrainian sample and use it to compare the findings with the Norwegian sample as two independent groups.

The questionnaire's distribution time was restricted; therefore the number of respondents was low and unequal in the samples. Norwegian sample size of 82 respondents represents the population of Norwegian online shoppers. It equals approximately 3.3 million Norwegians (Postnord 2016). This sample size corresponds to margin of error of 11% with 95% confidence interval. Ukrainian sample of 57 participants demonstrates the margin of error of 14% with 95% confidence interval for the population of 3.7 million online shoppers in Ukraine (Ecommerce Europe 2015). So, the Norwegian sample better represents its population, which justifies its choice as a main sample for theory validation.

Norwegian sample is almost equally represented by males (48%) and females (52%). The age varies between 19 and 67. Most of the respondents have a full-time job or a part-time job. In

the Ukrainian sample 79% are women, age varies from 18 to 63. Predominant group of occupations is full-time workers.

As for the frequency on online shopping, assessed by the first question in the questionnaire, 42% of Norwegian respondents claimed to have regular shopping experience while 58% shopped online sometimes. In Ukraine regular shoppers consist 49% of the sample versus 51% occasional online buyers.

3.8 Methods of data analysis

This section describes the methods of quantitative data analysis that were applied in this research. IBM SPSS statistical software was used to analyze the data. Exploratory factor analysis, correlation analysis, and multiple linear regression were performed in order to find answer on research question 1; Mann-Whitney U test was used to compare cross-national data and answer research question 2.

Exploratory factor analysis summarizes data in a way that shows patterns that can be easily understood (Yong and Pearce 2013). I used one of the methods in exploratory factor analysis, principal component analysis, to confirm that the measures for each construct "match together" and can be computed into one variable.

Correlation shows whether there is a relationship between two variables. I examined Pearson's correlation coefficients in a correlation matrix to understand covariance between the variable. Coefficient varies between -1 and +1 and allows to estimate the direction (positive or negative) of the relationship between variables (Ghauri and Grønhaug 2010).

Multiple linear regression is a statistical approach, in which two or more dependent variables are applied to explain the dependent variable (Ghauri and Grønhaug 2010). I used it to build a model that would allow to estimate factors that influence intention to buy electronics online and test the hypotheses.

Nonparametric Mann-Whitney U test is used for comparing two independent groups. It is a nonparametric equivalent of the independent group *t* test used when sample sizes are quite small and unequal (Zimmerman 1987). It uses ranked scores to estimate whether the data is evenly distributed evenly in both groups. If the test parameter equals more than 0,05, there is a difference between groups in distribution of a tested variable (Easterby-Smith et al. 2015). I

used it to compare data between Norway and Ukraine and estimate significant differences in variables to answer research question 2.

Chapter 4. Analysis and discussion

This chapter provides empirical results for the research. It consists of the analysis of the Norwegian sample by factor analysis, correlation analysis and multiple regression analysis. It also provides discussion on the findings and compares the findings between Norway and Ukraine. It concluded by estimating significant differences in variables between the countries.

Summary of the findings for the Ukrainian sample is provided in appendix 3. As it was argued previously, the Norwegian sample has more representativeness and is chosen for theory testing. All the considerations for analysis of Ukrainian sample follow similar patterns and justifications.

4.1. Analysis of the Norwegian sample

4.1.1. Reliability of the constructs

When a construct consists of several measures it is important to determine its internal reliability, which indicates how the items work together, whether they measure the same thing. Cronbach's alpha coefficient measures the reliability. Acceptable level of reliability is indicated by a value greater than 0.7 (Easterby-Smith et al. 2015). Cronbach's alpha coefficients for Norwegian sample are presented in the table below.

Table 3: Cronbach's alpha for Norwegian sample

Construct	Measures	Cronbach alpha
Intention to buy consumer electronics online	I intend to purchase electronic devices in an online store in the next 12 months It is likely that I will purchase electronic devices in an online store in the next 12 months I want to purchase electronic devices in an online store in the next 12 months	.911
Attitude towards buying consumer electronics online	Online stores are a suitable place to buy electronics Online stores are a reliable and safe place to buy electronics Online stores are a better place to buy electronics than physical stores	.872
Subjective norm with regards to	People that are important to me (family, friends) would buy electronic devices online	.694

buying consumer electronics online	People that are important to me (family, friends) would recommend me to buy electronic devices online *Media (advertisement, online reviews, social media posts etc.) encourages me to buy electronics online*	*if item deleted – .845*
Perceived behavioral control of buying consumer goods online	I know where and how to buy electronics online I feel that buying electronics online is not problematic I have enough time to buy electronics online	.840
Attitude toward using online stores when buying consumer electronics	It would be easy for me to navigate online stores and make a payment if I wanted to buy electronics online I find it enjoyable to use online stores for buying electronics I can save time and/or money if I buy electronics through an online store	.634
Cultural environment of trust	*A high degree of trust exists in my family* People in my community trust each other I live in a high trust society	.598 *if item deleted - .672*

The constructs of Intention, Attitude towards buying consumer electronics online and Perceived behavioral control have high Cronbach's alpha values of greater than 0.8. Subjective norm construct had a 0.694 coefficient, and removal of the third measure (media effect) would increase it significantly to 0.845, which suggests that the measure of media influence does not fully integrate with other measures of Subjective norm. So, I decided to eliminate it from the construct. Same logic was used with regards to the construct of Cultural environment of trust. It appeared that the measure of trust in the family was not strongly related to other measures, and its removal increased the reliability, so I decided to eliminate it as well, which increased the constructs Cronbach's alpha to 0.672. As a result, there were two constructs with reliability of slightly below 0.7 (Attitude toward using online stores when buying consumer electronics (0.634) and Cultural environment of trust (0.672)). Despite lower reliability, I decided to proceed with these constructs because of their theoretical significance. Researchers also suggest that lower levels of Cronbach's alpha can be accepted in marketing research (Park and Jun 2003).

4.1.2 Factor analysis

Firstly, I estimated factor loading for each individual construct to determine how separate items load together (Appendix 2). The result showed strong loadings from 0.69 to 0.94. According to Hair et al (1998), when sample size is around 85, like in the case of Norwegian sample, significant factor loadings would be those of 0.6 and higher, so the results of Norwegian sample show good levels of factor loadings.

Afterwards I conducted exploratory factor analysis for all the measures together using Varimax rotation (table 4.1.2). Only values of higher than 0.3 were included in the output to illustrate only meaningful results and make the table more readable. The number of factors (components) to retain (3) was based on Kaiser's criterion of eigenvalue above 1 and the scree test (Yong and Pearce 2013). The fact that number of components does not correspond to desired number of constructs (6) can mean that some measures are more related than others. The number of measures in this research was minimal because the goal was to create a short and clear questionnaire to get more responses. More measures can strengthen each construct and make it more distinctive from others. We can see that based on the strongest loading measures the three components capture different statements: component 1 – statements on opinions about online shopping of electronics, component 2 - statements on other people's opinions, component 3 – statements on cultural environment of trust.

Table 4: Factor analysis for Norwegian sample

Rotated Component Matrix			
	Component		
	1	2	3
Intention: I intend to purchase electronic devices in an online store in the next 12 months	**.682**	.338	
Intention: It is likely that I will purchase electronic devices in an online store in the next 12 months	**.745**	.362	
Intention: I want to purchase electronic devices in an online store in the next 12 months	**.731**		
Attitude: Online stores are a suitable place to buy electronics	**.728**	.345	
Attitude: Online stores are a reliable and safe place to buy electronics	**.795**	.322	
Attitude: Online stores are a better place to buy electronics than physical store	**.545**	.451	

Subjective norm: People that are important to me (family, friends) would buy electronic devices online		**.844**	
Subjective norm: People that are important to me (family, friends) would recommend me to buy electronic devices online		**.883**	
PBC: I know where and how to buy electronics online	**.744**		
PBC: I feel that buying electronics online is not problematic	**.785**		
PBC: I have enough time to buy electronics online	**.773**		
TAM: It would be easy for me to navigate online stores and make a payment if I wanted to buy electronics online	**.678**		
TAM: I find it enjoyable to use online stores for buying electronics	**.700**		
TAM: I can save time and/or money if I buy electronics through an online store	**.544**		
CET: People in my community trust each other			**.797**
CET: I live in a high trust society			**.845**
Explained variance	44,6%	10,6%	8,1%

Component 1 explains 44,6% of the variance and is loaded by measures that represent intention, attitude to online shopping, perceived behavioural control and attitude to using online stores. Component 2 explains 10,6% of the variance and shows loading of measures that represent intention, attitude to online shopping and subjective norm. Component 3 explains 8,1% of the variance and is loaded by the measures of cultural environment of trust.

The three measures of intention are strongly loaded onto component 1 (from 0,69 to 0,75) with weaker cross-loadings to component 2 (from 0,34 to 0,36). Their internal reliability was proven with a high Cronbach's alpha value of 0,9 (table 4.1.1), so they can be computed into one construct - Intention to buy consumer electronics online and represented by variable Intention.

The three measures of attitude to online shopping are strongly loaded to component 1 (from 0,55 to 0,8) with weaker cross-loading to component 2 (from 0,35 to 0,45). Cronbach's alpha value of 0,87 showed their internal reliability, so it justifies that they can be computed into one construct - Attitude towards buying consumer electronics online, and represented by variable Attitude.

The two measures of subjective norm load strongly on the component 2 (0,84 and 0,88) and have Cronbach's alpha of 0,85. Therefore, they can be computed into one construct - Subjective norm with regards to buying consumer electronics online, and represented by variable Subjective norm.

The three measures of perceived behavioural control show strong loading on component 1 (from 0,74 to 0,78) and high internal reliability with Cronbach's alpha of 0,84, so they can be computed into one construct - Perceived behavioural control of buying consumer goods online, which was represented by variable PBC.

The three measures of attitude to online stores (TAM) have significant loading on component 1 (from 0,54 to 0,7). With Cronbach's alpha of 0,63 their internal reliability cannot be considered high; however, they do not have other cross-loadings, which shows that they are consistent in their meaning. So, for the purpose of this study I decide to compute them together into one construct - Attitude toward using online stores when buying consumer electronics, which was represented by variable Attitude_TAM.

The two measures of cultural environment of trust load strongly to concept 3 (0,79 and 0,85) and have high internal reliability (0,67), so I compute them into one construct – Cultural environment of trust, which was represented by variable CET.

4.1.3 Correlation analysis

Correlation matrix (table 4.1.3) shows relationships between variables assessed with Pearson's coefficient.

Table 5: Correlation matrix for Norwegian sample

	Intention	Attitude	Subjective norm	PBC	Attitude_TAM	CET
Intention	1					
Attitude	.679**	1				
Subjective norm	.408**	.485**	1			
PBC	.561**	.623**	.362**	1		
Attitude_TAM	.687**	.716**	.394**	.670**	1	
CET	-.049	-.099	.101	.059	-.019	1

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

PBC – Perceived behavioural control, CET – cultural environment of trust, Attitude_TAM – attitude towards using online stores

The output shows that most of the variables have significant correlation. Only Cultural environment of trust (CET) has no significant correlation with other parameters. It shows that in the Norwegian sample there was no relationship detected between trust in society and aspects of online shopping.

Other variables have positive correlation that ranges between weak and strong. As for Intention, it has strong correlation with Attitude and Attitude_TAM and moderate correlation with Subjective norm and PBC. It means that increase in those variables leads to increase in intention to buy electronics online.

Among other variables, the strongest correlation is between Attitude and Attitude_TAM, which shows that attitude to buying online strongly depends on attitude to using technology while doing so and vice versa. Also, there are strong correlations between Attitude and PBC, and Attitude_TAM and PBC.

So, the correlation matrix shows many links between intention and other variables and gives grounds to multiple regression analysis. Cultural environment of trust was kept in the model for theory validation purposes and for further comparison between Norway and Ukraine.

4.1.4 Multiple linear regression and hypotheses testing

I used multiple linear regression to test the five hypotheses that were outlined in the theoretical part of the study. Proposed research model was built to test the relationship between the dependent variable (Intention) and independent variables. The result of the analysis is presented in the table.

The model's adjusted R^2 equals 0,56, which indicates that 56% of the variation is explained by this model, so the predicting power of the model is quite high. Statistical significance of the coefficients is determined by level of *p* (Sig.), where it has to be below 0,05 to confirm significance of the coefficients.

Multicollinearity issues were checked through the VIF (Variance inflation factor). When its level is above 10, it is usually a sign of multicollinearity problem in the model. This is not the case for the model in this research, as every VIF value is below this threshold. So, there is no multicollinearity issue in the model.

Table 6: Multiple linear regression analysis for Norwegian sample

Model	Unstandardized Coefficients		Standardized Coefficients	t	p (Sig.)	Statistics VIF
	B	Std. Error	Beta			
(Constant)	-.082	.959		-.086	.932	
Attitude	.332	.153	.259	2.166	**.034**	2.618
Subjective norm	.108	.116	.082	.930	.356	1.418
PBC	.134	.191	.077	.700	.486	2.208
Attitude_TAM	.592	.190	.366	3.110	**.003**	2.546
CET	-.001	.137	-.001	-.007	.995	1.092
Age	-.002	.008	-.016	-.202	.841	1.135
Gender	-.539	.178	-.235	-3.024	**.003**	1.108
Occupation	-.009	.049	-.015	-.193	.848	1.066

Dependent variable: Intention

R^2=0.559

PBC – Perceived behavioural control, CET – cultural environment of trust, Attitude_TAM – attitude towards using online stores

Regression output allowed to obtain the following results for hypotheses testing.

H1 stated that there is a positive relationship between attitude towards buying consumer electronics online and individual's intention to buy consumer electronics online. Based on the results from multiple linear regression output for Attitude (*t=2,17; p=0,034*), H1 is **accepted**. It means that there is a strong relationship between attitude to online shopping of electronics and intention to buy electronics in online stores. The analysis proves that attitude towards buying electronics online has a statistically significant impact on explanation of consumer's intention. The value of b-coefficient can be interpreted like so: an increase in attitude by 1 point contributes to increase in intention by 0,33, all other factors remaining the same.

H2 stated: "There is a positive relationship between subjective norm and individual's intention to buy consumer electronics online". Subjective norm has no significance is the model (*t=0,93; p=0,356*), so this hypothesis is **rejected**. Despite the moderate correlation between parameters (0,4), which shows a positive relationship, subjective norm is not regarded statistically significant in explanation of consumer's intention to buy electronics in online stores. So, consumer's perceptions about opinions of other people on online shopping are not proven as a strong factor of influence on intentions to purchase in the context of this study.

H3 stated that there is a positive relationship between perceived behavioral control and individual's intention to buy consumer electronics online. Based on obtained values (t=0,7;

p=0,486) this hypothesis is **rejected**. Despite the moderate correlation between intention and perceived behavioral control (0,56), the analysis shows that perceived behavioral control has no statistically significant power to explain intention to buy consumer electronics online.

The findings from the first three hypotheses show that only one component of the Theory of planned behavior, attitude, can be used for explaining intention in this model.

H4 stated that there is a positive relationship between attitude toward using online stores and individual's intention to buy consumer electronics online. Based on the data (t=3,11; p=0,03) this hypothesis was **accepted**. It means that the attitude toward using online stores has a significant influence on the explanation of consumer intention to buy. The value of b-coefficient can be interpreted like so: an increase in attitude towards using online stores by 1 point contributes to increase in intention by 0,592, all other factors remaining the same. Attitude toward using online stores has the highest influence on intention in this model.

This shows the importance of the Technology acceptance model when shopping behavior is examined in online context and supports the studies that link TAM to research in online consumer behavior.

H5 stated: "There is a positive relationship between cultural environment of trust and individual's intention to buy consumer electronics online". Based on the obtained values (t=-0,007; p=0,995) it was **rejected**. So, cultural environment of trust does not have a statistical significance in explanation of intention to buy electronics online. Moreover, the evidence of correlation analysis shows the lack of any relationship between the constructs. So, it can be concluded that the concept of trust in culture has no statistically significant explanatory power in analysis of consumer intention to purchase online. But this might be the case for Norwegian sample. Norway is considered a country with one of the highest levels of social trust (Newton 2001). But a fairly recent activity, such as online shopping, can be nevertheless regarded outside the usual individual's propensity to trust.

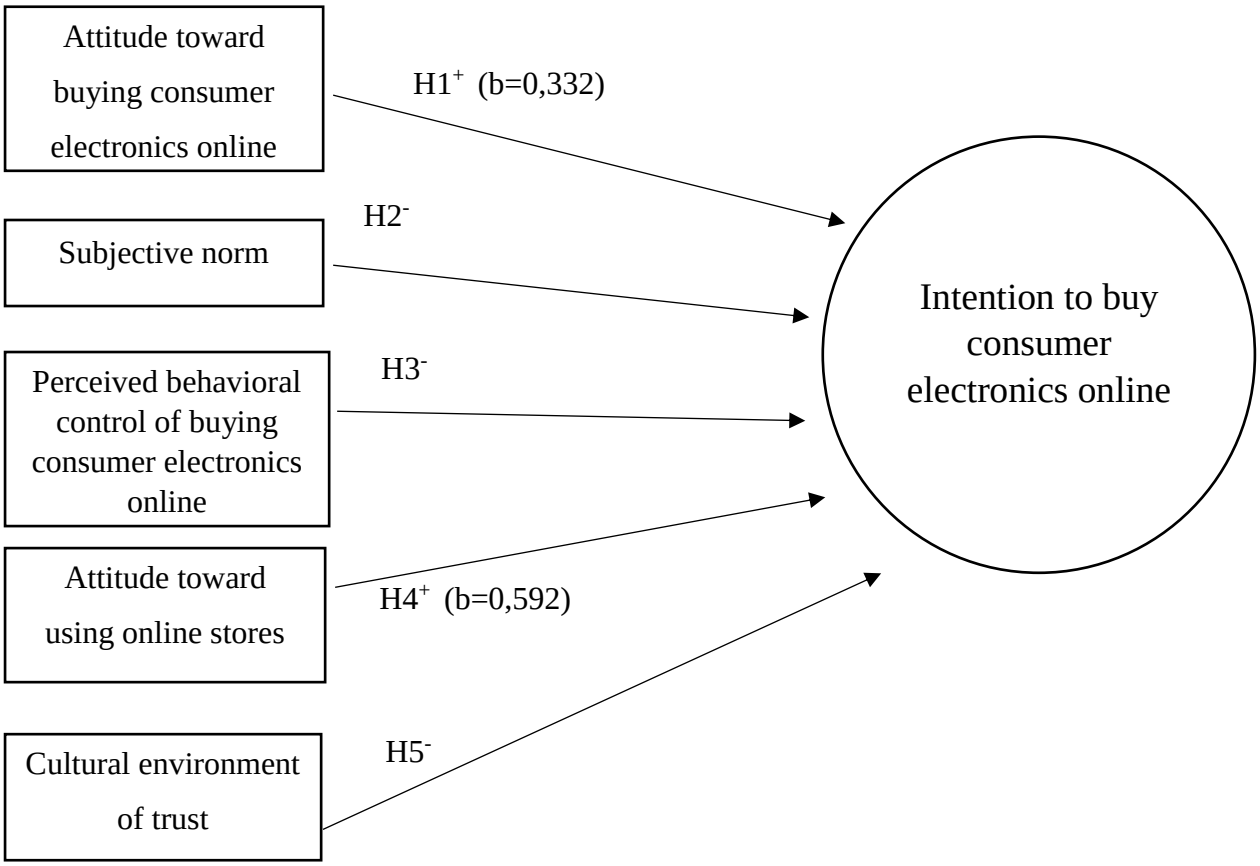

Figure 4. Hypotheses testing results

Regression also showed significance of one of the control variables in this model, the gender variable *(t=-3.024; p=0,03).* The value of b-coefficient equals -0,539, which means that males have stronger intention to buy electronics online than females. This can be explained by the fact that women tend to perceive more risk when buying online than man (Garbarino and Strahilevitz 2004).

As for control variables of age and occupation, they were proven insignificant. I tried to group them (occupation: student, works, does not work; age: groups by age), but it did not give any significant impact on the regression model.

4.2. Cross-national analysis between Norway and Ukraine

This section aims to find the answer for the second research question 2: Is there a difference in intention to purchase electronics online and factors that contribute to it across countries?

4.2.1 Discussion of the findings from separate analyses.

The result of analysis separately for Norway and Ukraine showed quite a difference validation of the proposed theoretical model. With a high explanatory power (R^2=0,56), multiple regression analysis of Norwegian sample allowed to accept two underlying hypotheses (H1 and H2). For Ukrainian sample, it was possible to accept only one hypothesis (H1), however the explanatory power of the model is low (R^2=0,17) (appendix 3). Also, correlation matrix for the Norwegian sample showed that intention correlates with all other constructs except cultural environment of trust. Correlation matrix for the Ukrainian sample showed that intention only correlates with attitude towards buying consumer electronics online.

Table 7: Results of hypotheses testing in Norway and Ukraine

	Norway	Ukraine
H1: There is a positive relationship between attitude towards buying consumer electronics online and individual's intention to buy consumer electronics online.	**accepted**	**accepted**
H2: There is a positive relationship between subjective norm and individual's intention to buy consumer electronics online.	rejected	rejected
H3: There is a positive relationship between perceived behavioral control and individual's intention to buy consumer electronics online	rejected	rejected
H4: There is a positive relationship between attitude toward using online stores and individual's intention to buy consumer electronics online.	**accepted**	rejected
H5: There is a positive relationship between cultural environment of trust and individual's intention to buy consumer electronics online.	rejected	rejected

4.2.2 Difference in level of variables between Norway and Ukraine

Analysis of level of variables in cross-cultural research estimates differences in specific variables in the countries compared (Ghhauri and Grønhaug 2010). One way of doing so is by comparing the means of each variable across countries. Figure 5 allows to visualize means of the variables in Norway and Ukraine, considering that statements were valued from 1 (strongly disagree) to 5 (strongly agree).

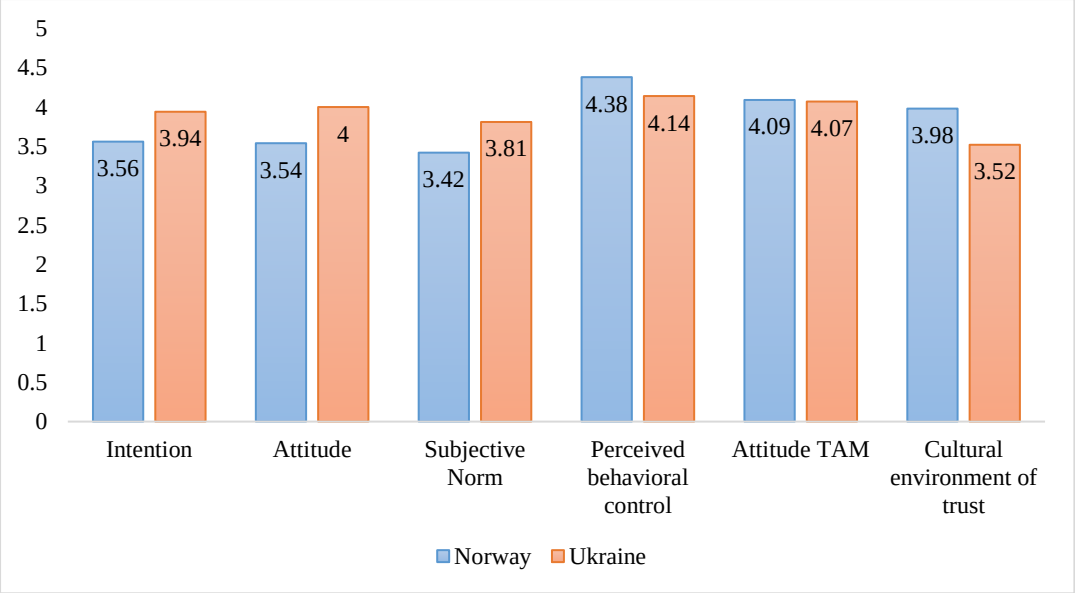

Figure 5: Comparison of means: Norway and Ukraine

We can see that there are certain differences in the most variables. It shows that Ukrainians demonstrate greater intention to buy electronics online. They also show a more positive attitude to buying and higher value of subjective norm in online shopping. Norwegians assessed the role of perceived behavioural control more positively. The level of attitude to using inline stores is on about the same level. Level of cultural environment of trust is higher in Norway. But these are just visual comparison of the means. There is a need for a test for statistical significance of such difference.

I chose to use a nonparametric Mann-Whitney U test because of the difference sizes of Norwegian and Ukrainian samples and quite small sample sizes. I assessed separately the main variables (table below) and the measures that consisted them (appendix 3).

Table 8: Mann-Whitney test results for the constructs

	Country	**N**	**Mean Rank**	**Sum of Ranks**	**Mann-Whitney U**	***p* (Asym p. Sig. (2-tailed))**
Intention	Norway	82	64.85	5317.50	1914.500	.067
	Ukraine	57	77.41	4412.50		
Attitude	Norway	82	61.76	5064.50	1661.500	.003*
	Ukraine	57	81.85	4665.50		
	Norway	82	62.29	5107.50	1704.500	.005*

Subjective Norm	Ukraine	57	81.10	4622.50		
PBC	Norway	82	75.26	6171.50	1905.500	.056
	Ukraine	57	62.43	3558.50		
Attitude_TAM	Norway	82	70.66	5794.50	2282.500	.813
	Ukraine	57	69.04	3935.50		
CET	Norway	82	79.58	6525.50	1551.500	.000*
	Ukraine	57	56.22	3204.50		

* Indicates a significant difference between the three groups at the level of 0.05 tested by Mann–Whitney U test

Mann-Whitney test shows that the construct of intention shows no significant difference between groups (*p=0,067>0,05*). It means that people in Norway and Ukraine assessed intention to buy electronics online in a similar way, so cultural differences appear to not affect the intention. However, more in-depth analysis of separate items (appendix 3) shows that among the three items of intention, one shows significant difference between groups ("It is likely that I will purchase electronic devices in an online store in the next 12 months"). It reflects a difference in perception of probability of online purchases in Norway and Ukraine, which can be caused by cultural differences.

There are three constructs that show significant difference between Norway and Ukraine - Attitude towards buying electronics online, Subjective norm, and Cultural environment of trust. Residents of Norway have a different attitude towards buying electronics online (*p=0,003*) than residents of Ukraine. But, only one measure supports such dissimilarity ("Online stores are a better place to buy electronics than physical store"). It means that there are different opinions on online stores as an alternative to physical stores in Norway and Ukraine. It may depend on many culture-specific issues, for example, higher riskiness of local online stores, or greater loyalty to certain stores etc.

As for the construct of Cultural environment of trust, the cultural differences was expected and confirmed by analysis (*p=0,00*). However, only opinions on the statement "I live in a high trust society" differ significantly. This is supported by research on trust in society, which usually estimates Norway as a country with one of the highest levels of social trust in the world (Newton 2001). Meanwhile, Ukraine is a developing country with general distrust in political and governmental institutions (Stepanenko 2006).

Subjective norm (*p=0,005*) is regarded differently across countries. Both measures of this construct show significant difference between groups. It indicated that perceptions of other people opinions on purchasing electronics online are dissimilar between countries.

Perceived behavioral control and Attitude towards using online stores do not show a significant difference between groups based on Mann-Whitney test. Separate statements within constructs differ, but it does not significantly contribute to the constructs. It shows that people in Norway and Ukraine perceive control they have over the process and technological aspects of using online stores is a similar way.

Chapter 5. Conclusion, implications, and limitations.

5.1 Conclusion

This research had a two-fold goal. First task what understanding the intention to purchase electronics online and its antecedents. Research question 1 stated: *What factors influence consumer's intention to purchase electronics online?* Second part of the research aim to estimate whether such intentions differ across counties. And research question 2: *Is there a difference in intention to purchase electronics online and factors that contribute to it across countries?*

Proposed research model was constructed based on research literature on intentions, specifically Theory of planned behaviour and Technology acceptance model. It implied that intention was affected by attitudes to buying electronics online, subjective norm, perceived behavioural control, attitudes to online stores and cultural environment of trust. Five hypotheses were drawn to test this effect.

Primary data was collected via an online questionnaire. It consisted of five groups of statements regarding proposed factors of influence and questions about country of residence, gender, age, and occupation. As a result, there were two main groups of respondents based on their country of residence. Norwegian sample showed better representativeness and was chosen as a main sample for answering research question 1 and testing the hypotheses. Ukrainian sample was analysed as well in order to provide data for answering research question 2. The data was analysed in IBM SPSS. Hypotheses testing was based on results from multiple linear regression model. Cross-national differences were distinguished with the use of Mann-Whitney U test.

The following results can be concluded based on the quantitative analysis:

Firstly, multiple regression analysis showed that only two out of the five proposed hypotheses were accepted. It proved that attitude towards buying consumer electronics online and attitude towards using online stores affect individual's intention to purchase electronics online. So, the framework of Theory of planned behavior was partially supported, while Technology acceptance model was fully supported by the research. The findings mean that intention to buy consumer electronics online is stronger when people have a positive opinion about such action, believe in safety of the procedure, value online stores more than physical stores, experience no technological difficulties, perceive online shopping time and money-saving, and experience

joy from using online stores. Subjective norm, perceived behavioral control and cultural environment of trust were not proven to have a significant influence on the intention. It was also concluded that males in Norway demonstrate stronger intention to buy electronics in online stores.

Secondly, Mann-Whitney U test showed that there is no significant difference in intention to buy electronics online between Norwegian and Ukrainian online shoppers. However, it was concluded that there is a significant difference in attitude towards buying electronics online, cultural environment of trust and subjective norm. Norwegian and Ukrainian respondents demonstrated different views on their perception of online stores for buying electronics, differently accessed the role of important others' opinions, and rated trust in their societies differently. Such dissimilarities most likely have cultural reasons. Norwegians and Ukrainians have similar opinions on perceived behavioural control and attitude to using online stores in the context of buying electronics.

This study made several important contributions to research literature:

Firstly, it was one of the few studies on online shopping behaviour intended to understand intention for a specific category of goods, consumer electronics. Secondly, it addressed cross-cultural differences in buying consumer electronics in online stores and estimated that intention to buy electronics online does not differ in examined countries. Thirdly, it contributed to the attempts of creating a universal model of online behaviour by combination of TPB, TAM and cultural environment of trust. Fourthly, this the first study of cross-cultural differences in online behaviour between Norway and Ukraine.

5.2 Implications

Results of this study can be useful to the managers and marketers of online stores that sell consumer electronics. It can give them a better understanding of what drives consumer's intention to make a purchase on their website.

Attitude towards buying consumer electronics online was proven to have a great influence on consumer's purchase intention. Managers of online stores can use it to increase sales by emphasizing how shopping on their website is a positive experience. Ensuring safety of the shopping process is one way, so it is necessary to provide security and fraud-protection. Marketing campaigns should address complete safety of online shopping experience in the store. It can also be beneficial to create an image that the online store has certain benefits,

which are unavailable in a physical store. It can be achieved by providing a greater selection of products, instant customer service that is available 24/7, lower prices, and unique information on the products.

Another factor that to a large extent affects intention to purchase electronics online is attitude towards using online stores. This construct addressed technological aspects of online shopping process. So, online stores should provide easy and satisfying shopping experience. It can be achieved by improving the quality and design of the web-page, creating apps for tablets and mobile phones, include easy guides that explain every step of online shopping, include features like product comparison. Marketing campaigns should emphasize how online shopping is a joyful experience and how it can be efficient in terms of time and money saving (fast delivery, benefits for frequent customers).

The study also found that males in Norway have stronger intention to buy electronics online. So, marketers should target males when it comes to electronics for example by using direct advertisement on social media and male-targeted marketing campaigns.

Online retailers that operate internationally should take into account that consumers from different countries may differ in their intention and factor that influence it. So, for global online retailers that want to attract more customers from Norway and Ukraine it is a valuable information that there is no difference in intention to purchase electronics in online stores, and in attitude to using online stores between the countries. But, the attitude towards buying consumer electronics online differs, and must be addressed accordingly.

Therefore, online store managers can influence attitude towards buying electronics online and attitude towards using online stores, which influences intention.

5.3 Limitations and further research

This study has several limitations in terms of sampling and construct measurement. Further research is needed to strengthen research literature on online consumer behavior with regards to various product categories.

The use of a non-random convenience sample does not ensure the generalizability of the study. Considering practical impossibility of getting a list of all the members of population who shop online, the use of convenience sample in this case was justified. But a random sampling method

could make it possible to apply the results to the whole population. I suggest using random sampling in the further research to strengthen generalizability of the results. Questionnaire could be send to random users of online stores, for example random members of online stores' pages on social media.

Another limitation of this study lies within measurement of some construct. Some of the construct were difficult to measure. There were three statements to estimate each construct in the questionnaire, and it has made it quite long. Adding more measures could result in lower number of responses. Because of the reliability assessment, one measure was removed from the constructs of subjective norm (media influence) and cultural environment of trust (family trust). It weakened the constructs and could aggravate the regression results. In the further research, it is recommended to include more measures for computing independent variables. It is also important to include media influence into the study of consumer's intentions online.

The construct of cultural environment of trust did not show much influence on the aspects of online shopping in this study. For the further research it is, however, recommended to estimate whether this construct proves more important in the study of low-trust societies. Also, the influence of personal trust propensity on intention can be estimated.

When it comes to the cross-national part of the study, it analyzed existence of the differences in some constructs between countries. Understanding what cultural specifics lead to such dissimilarities can be a part of further research. Also, more countries can be analyzed and compared.

Despite these limitations and suggestions for further research, this study gives a good comprehension of the factors that affect the intention to buy electronics online.

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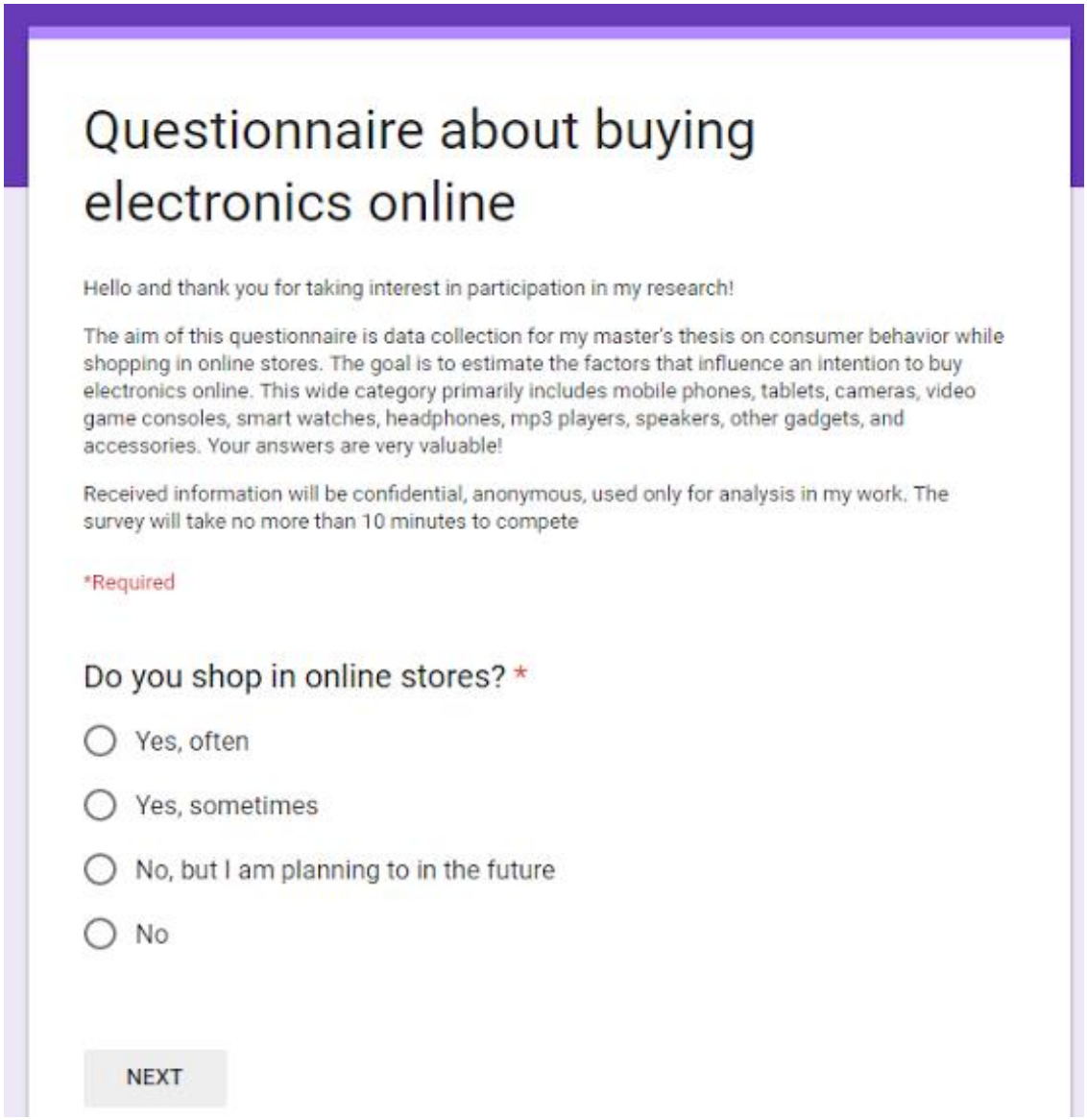
Appendix 1



Questionnaire about buying electronics online

Hello and thank you for taking interest in participation in my research!

The aim of this questionnaire is data collection for my master's thesis on consumer behavior while shopping in online stores. The goal is to estimate the factors that influence an intention to buy electronics online. This wide category primarily includes mobile phones, tablets, cameras, video game consoles, smart watches, headphones, mp3 players, speakers, other gadgets, and accessories. Your answers are very valuable!

Received information will be confidential, anonymous, used only for analysis in my work. The survey will take no more than 10 minutes to compete

*Required

Do you shop in online stores? *

- ◯ Yes, often
- ◯ Yes, sometimes
- ◯ No, but I am planning to in the future
- ◯ No

NEXT

Please give some information about yourself

Indicate your gender *

- ○ Male
- ○ Female

How old are you? *

Your answer

What is your country of residence? *

Your answer

Your occupation

- ☐ student
- ☐ full-time job
- ☐ part-time job
- ☐ unemployed
- ☐ retired
- ☐ Other:

BACK NEXT

For the next questions please indicate to which extent you agree with the following statements

I intend to purchase electronic devices in an online store in the next 12 months *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

It is likely that I will purchase electronic devices in an online store in the next 12 months *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

I want to purchase electronic devices in an online store in the next 12 months *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

Online stores are a suitable place to buy electronics *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

Online stores are a reliable and safe place to buy electronics *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

Online stores are a better place to buy electronics than physical store *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

People that are important to me (family, friends) would buy electronic devices online *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

People that are important to me (family, friends) would recommend me to buy electronic devices online *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

Media (advertisement, online reviews, social media posts etc.) encourages me to buy electronics online *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

I know where and how to buy electronics online *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

I feel that buying electronics online is not problematic *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

I have enough time to buy electronics online *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

It would be easy for me to navigate online stores and make a payment if I wanted to buy electronics online *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

I find it enjoyable to use online stores for buying electronics *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

I can save time and/or money if I buy electronics through an online store *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

A high degree of trust exists in my family *

- ○ Strongly agree
- ○ Agree
- ○ Neutral/I am not sure
- ○ Disagree
- ○ Strongly disagree

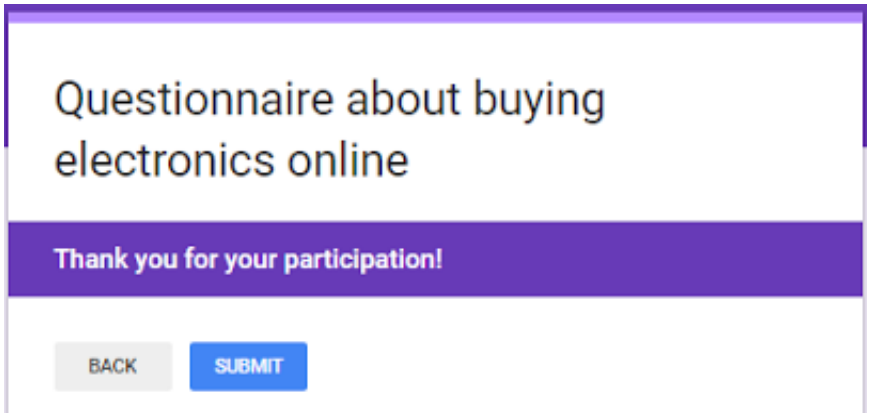
People in my community trust each other *

- Strongly agree
- Agree
- Neutral/I am not sure
- Disagree
- Strongly disagree

I live in a high trust society *

- Strongly agree
- Agree
- Neutral/I am not sure
- Disagree
- Strongly disagree

BACK NEXT



Appendix 2

Factor loadings

Measures	Factor loading Norway	Factor loading Ukraine
Intention		
I intend to purchase electronic devices in an online store in the next 12 months	.937	.940
It is likely that I will purchase electronic devices in an online store in the next 12 months	.950	.898
I want to purchase electronic devices in an online store in the next 12 months	.877	.899
Attitude		
Online stores are a suitable place to buy electronics	.907	.849
Online stores are a reliable and safe place to buy electronics	.915	.841
Online stores are a better place to buy electronics than physical stores	.854	.814
Subjective norm		
People that are important to me (family, friends) would buy electronic devices online	.931	.905
People that are important to me (family, friends) would recommend me to buy electronic devices online	.931	.905
Perceived behavioral control		
I know where and how to buy electronics online	.856	.887
I feel that buying electronics online is not problematic	.904	.928
I have enough time to buy electronics online	.853	.716
Attitude TAM		
It would be easy for me to navigate online stores and make a payment if I wanted to buy electronics online	.692	.746
I find it enjoyable to use online stores for buying electronics	.798	.813
I can save time and/or money if I buy electronics through an online store	.790	.865
Cultural environment of trust		
People in my community trust each other	.754	.865
I live in a high trust society	.754	.865

Appendix 3

Analysis of the Ukrainian sample

1. Cronbach's alpha (Ukraine)

Construct	Measures	Cronbach alpha
Intention to buy consumer electronics online	I intend to purchase electronic devices in an online store in the next 12 months It is likely that I will purchase electronic devices in an online store in the next 12 months I want to purchase electronic devices in an online store in the next 12 months	.895
Attitude towards buying consumer electronics online	Online stores are a suitable place to buy electronics Online stores are a reliable and safe place to buy electronics Online stores are a better place to buy electronics than physical stores	.775
Subjective norm with regards to buying consumer electronics online	People that are important to me (family, friends) would buy electronic devices online People that are important to me (family, friends) would recommend me to buy electronic devices online *Media (advertisement, online reviews, social media posts etc.) encourages me to buy electronics online*	.348 *if item deleted - .771*
Perceived behavioral control of buying consumer goods online	I know where and how to buy electronics online I feel that buying electronics online is not problematic I have enough time to buy electronics online	.806
Attitude toward using online stores when buying consumer electronics	It would be easy for me to navigate online stores and make a payment if I wanted to buy electronics online I find it enjoyable to use online stores for buying electronics I can save time and/or money if I buy electronics through an online store	.687
Cultural environment of trust	*A high degree of trust exists in my family* People in my community trust each other I live in a high trust society	.615 *if item deleted - .662*

After removal of problem measures (media influence and family trust) the most of the constructs demonstrate acceptable level of internal reliability with Cronbach's alpha of higher that 0,7. Values for cultural environment of trust and Attitude toward using online stores when buying consumer electronics are accepted for this research (mathematically their values equal 0,7 if shortened to 1 decimal).

2. Factor analysis of the Ukrainian sample

Rotated Component Matrix[a]			
	Component		
	1	2	3
Intention: I intend to purchase electronic devices in an online store in the next 12 months		**.867**	
Intention: It is likely that I will purchase electronic devices in an online store in the next 12 months		**.840**	
Intention: I want to purchase electronic devices in an online store in the next 12 months		**.866**	
Attitude: Online stores are a suitable place to buy electronics	.333	.426	**.547**
Attitude: Online stores are a reliable and safe place to buy electronics	.329		**.607**
Attitude: Online stores are a better place to buy electronics than physical store		.407	**.694**
Subjective norm: People that are important to me (family, friends) would buy electronic devices online			**.861**
Subjective norm: People that are important to me (family, friends) would recommend me to buy electronic devices online			**.784**
PBC: I know where and how to buy electronics online	**.786**		
PBC: I feel that buying electronics online is not problematic	**.893**		
PBC: I have enough time to buy electronics online	**.619**	.356	
TAM: It would be easy for me to navigate online stores and make a payment if I wanted to buy electronics online	**.702**		
TAM: I find it enjoyable to use online stores for buying electronics	**.577**		
TAM: I can save time and/or money if I buy electronics through an online store	**.694**		
CET: People in my community trust each other	**.681**		
CET: I live in a high trust society	**.511**		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

3. Correlation matrix (Ukraine)

	Intention	Attitude	Subjective norm	PBC	Attitude_TAM	CET
Intention	1					
Attitude	.394**	1				
Subjective norm	-.034	.471**	1			
PBC	.254	.347**	.066	1		
Attitude_TAM	.241	.417**	.234	.709**	1	
CET	-.062	.149	.312*	.483**	.380**	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Intention significantly correlates only with one other variable – Attitude towards buying electronics online, moderate level of 0,39.

4. Multiple linear regression (Ukraine)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.537[a]	.288	.170	.70631

There is a low level of R^2. The model explains 17% of the variance.

Model	Unstandardized Coefficients		Standardized Coefficients	t	p (Sig.)	Statistics VIF
	B	Std. Error	Beta			
(Constant)	3.275	.998		3.281	.002	
Attitude	.440	.199	.357	2.210	**.032**	1.762
SubjectiveNorm	-.192	.169	-.176	-1.132	.263	1.629
PBC	.098	.196	.099	.502	.618	2.637
Attitude_TAM	.153	.235	.122	.651	.518	2.387
CET	-.146	.132	-.168	-1.108	.274	1.544
Age	-.004	.011	-.049	-.352	.726	1.314
Gender	-.367	.253	-.195	-1.450	.154	1.217
Occupation	-.052	.145	-.052	-.359	.722	1.397

VIF values validate no multicollinearity issues in the model.

Only one coefficient – Attitude towards buying electronics in online stores – is significant (*t=2,2; p=0,32*). So, for the Ukrainian sample only one hypothesis (H1) can be accepted. The others (H2 – H5) are declined due to their insignificance (p-values more than 0,05).

Appendix 4

Mann-Whitney test results for the items

Construct	Item	Country	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2-tailed)
Intention	I intend to purchase electronic devices in an online store in the next 12 months	Norway	65.57	5376.50	1973.500	.104
		Ukraine	76.38	4353.50		
	It is likely that I will purchase electronic devices in an online store in the next 12 months	Norway	64.17	5262.00	1859.000	**.032***
		Ukraine	78.39	4468.00		
	I want to purchase electronic devices in an online store in the next 12 months	Norway	67.03	5496.50	2093.500	.277
		Ukraine	74.27	4233.50		
Attitude	Online stores are a suitable place to buy electronics	Norway	65.12	5340.00	1937.000	.067
		Ukraine	77.02	4390.00		
	Online stores are a reliable and safe place to buy electronics	Norway	69.54	5702.00	2299.000	.861
		Ukraine	70.67	4028.00		
	Online stores are a better place to buy electronics than physical store	Norway	55.34	4538.00	1135.000	**.000***
		Ukraine	91.09	5192.00		
Subjective Norm	People that are important to me (family, friends) would buy electronic devices online	Norway	64.59	5296.00	1893.000	**.041***
		Ukraine	77.79	4434.00		
	People that are important to me (family, friends) would recommend me to buy electronic devices online	Norway	61.34	5029.50	1626.500	**.001***
		Ukraine	82.46	4700.50		
Perceived behavioral control	I know where and how to buy electronics online	Norway	77.05	6318.00	1759.000	**.006***
		Ukraine	59.86	3412.00		
	I feel that buying electronics online is not problematic	Norway	70.98	5820.50	2256.500	.707
		Ukraine	68.59	3909.50		
	I have enough time to buy electronics online	Norway	74.74	6128.50	1948.500	.065
		Ukraine	63.18	3601.50		
Attitude_ TAM	It would be easy for me to navigate online stores and make a payment if I wanted to buy electronics online	Norway	79.87	6549.00	1528.000	**.000***
		Ukraine	55.81	3181.00		
	I find it enjoyable to use online stores for buying electronics	Norway	63.16	5179.00	1776.000	**.010***
		Ukraine	79.84	4551.00		
	I can save time and/or money if I buy electronics through an online store	Norway	69.49	5698.00	2295.000	.843
		Ukraine	70.74	4032.00		
Cultural env. of trust	People in my community trust each other	Norway	71.54	5866.50	2210.500	.538
		Ukraine	67.78	3863.50		
	I live in a high trust society	Norway	81.23	6661.00	1416.000	**.000***
		Ukraine	53.84	3069.00		

* Indicates a significant difference between the two groups at the level of 0.05 tested by Mann–Whitney U test