



UNIVERSIDADE CATÓLICA PORTUGUESA

What is inhibiting Portuguese consumers from buying on-line?

The morphology of the barriers to online shopping in Portugal?

Master's Final Work in the modality of Dissertation presented to Catholic University of Portugal for the degree of master in Service Management

by

Luís Carlos Silva Morais Cavadas

under the supervision of

Prof. Dr. Susana Costa e Silva & Prof. Dr. António Manuel Valente de Andrade

Catholic University of Portugal, School of Economics and Management

July 2015

Acknowledgments

I would like to thank all the people who contributed in any way to the work described in this master thesis, and in particular to:

Prof. Dr. Susana Costa e Silva for her orientation, ideas and direct assistance during the progress of this dissertation;

Prof. Dr. António Manuel Valente de Andrade for his orientation, support and suggestions during the progress of this dissertation;

Prof. Dr. Maria da Conceição Portela for her help in the SPSS program.

Prof. Dr. Eva Oliveira and Prof. Dr. Manuela Maia for their help in the construction of the questionnaire;

My father Luís Filipe Cavadas, mother Maria Gabriela Cavadas, sister Sofia Cavadas and brother David Cavadas for their day to day help and support;

My grandparents Aida Carvalho Silva, António Carvalho Silva, Nair Cavadas, Víctor Cavadas, great grandmothers Almeirina Amorim de Carvalho and Amélia Morais and great-aunt Fernanda Amorim de Carvalho for their trust;

My friends Cláudia, Daniel, Fernando, Filipa, Isabel, Joana, Rita, Rui, Sérgio and everyone from Real and Leça for their affection and friendship;

To all that responded or shared the online survey for their time and effort;

Susana Cruz for her help in the correction and development of this master thesis and for her care and support in the difficulties encountered. Without her I wouldn't have finished this dissertation.

Abstract

This master thesis has the purpose of understanding some of the barriers to the e-commerce practices in Portugal. The Portuguese present a high level of internet penetration and internet activities, but engage in few online purchasing activities. This phenomenon is still not fully understood as the barriers for this online activity are still being debated worldwide. To understand the low e-commerce practices in Portugal a Literature Review was made, resulting in the selection of four constructs to be further studied: -Perceived Risks; -Perceived Ease of Use; -Perceived Usefulness; -Online Experience. A model was then proposed in order to understand the variation of the e-commerce practices that could be explained by the chosen constructs. The proposed model was tested in a sample of 101 respondents which allowed to find a positive correlation between the E-commerce Practices and the Perceived Ease of Use, the Perceived Usefulness, and the Online Experience constructs. A negative correlation was exposed between the E-commerce Practices and the Perceived Risks construct.

The high values presented in the Perceived Risks construct show that the Portuguese still show some uneasiness in the security and difficulties in the e-commerce practices. The perception of the many different risks presented in online shopping seem to be the main reason for the low number of online purchases. The solutions for lowering the perceived risks of online shopping may be to increase the online experience of the individuals, since it is negatively correlated with the perception of the risks, or to solve each sub-risk with the proper resolution.

Keywords: E-Commerce, Portugal, Perceived Risk; Perceived Ease of Use, Perceived Usefulness, Online Experience

Table of Contents

Acknowledgments.....	iii
Abstract	v
Table of Contents	vii
List of Figures.....	ix
List of Tables.....	x
1 Introduction.....	11
2 Literature Review and Model Development.....	13
2.1 E-commerce & Business.....	13
2.2 Advantages of Buying Online.....	14
2.3 Disadvantages of Buying Online.....	16
2.4 Trust.....	19
2.5 Demographic Variables	20
2.6 Internet and E-Commerce Practices in Portugal.....	22
2.7 Model Development.....	24
3 Methodology	27
3.1 Data Collection Instrument	27
3.2 Variables.....	29
4 Results	33
4.1 Overview.....	33
4.2 Confirmatory Factor Analysis	33
4.3 Model Analysis	36
4.4 Hypothesis Results	40
5 Discussion.....	41
5.1 Discussion of the Achieved Results	41
5.2 Portuguese Consumer.....	45
5.3 Possible Solutions to increase the E-Commerce in Portugal.....	46

6	Findings.....	48
	References	50

List of Figures

Figure 1 - Proposed theoretical model.....	26
Figure 2 - Model of the constructs' relationship with the E-commerce Practices	39

List of Tables

Table 1 - Advantages and disadvantages of E-commerce	18
Table 2 - Items of the constructs used in the online survey	30
Table 3 – Results from the Confirmatory Factor Analysis.....	34
Table 4 - Correlation between the E-Commerce and the other constructs.....	36
Table 5 - Achieved correlations between the constructs and the demographic variables in the survey	38
Table 6 - Results of research hypothesis.....	40
Table 7 - Mean age of married and single status	41

1 Introduction

The high internet penetration showed in Portugal, 61% of the population uses the internet at least on a weekly basis, would lead to the thought that online purchases would be high as well (EuroStats 2014). The reality is that the Portuguese do not use the internet for purchasing activities as much as they should when considering their online practices. Why are the Portuguese people so unwilling to buy online when compared to other countries in EU27? What are the variables that contribute to this phenomenon? Is it a cultural problem? There aren't many studies about the e-commerce business in Portugal with significant findings regarding the influencing variables and barriers. The findings regarding the correlations between the online purchasing habits and other variables are not certain as many of them have mixed findings. So the Portuguese demographic characteristics, habits, and thoughts may influence the e-commerce practice in different ways. The perception of the many risks presented in e-commerce, or the difficulties using this new technology may be behind the low online purchases.

In order to understand the reason for the low online purchases in Portugal, this dissertation uncovers the direct and indirect correlations between the e-commerce adoption and other variables. A survey will be made in order to find the real barriers that influence online purchasing for the Portuguese. A comparison and discussion will be conducted to understand the difference, or not, between the expected results and the findings.

This master thesis is divided into 7 chapters: "Introduction" – Where the problem, research gap, objectives and division of the work are explained; "Literature Review" – The studies and their findings regarding the e-commerce practices and its variables will be presented; "Model of Analysis" – A hypothesis of a model is created with the collected information; "Methodology" – The

chosen method to study the Portuguese reality is presented and explained;
“Results” - The results gathered from the empirical study are demonstrated;
“Discussion” – A discussion is held in order to understand the presented results;
“Conclusion” – The findings and limitations of the dissertation and suggestions for future studies are presented.

2 Literature Review and Model Development

Around 76% of the households in the EU population have internet connection, and about 62% of the individuals use it in their daily lives (Eurostats 2013). On the other hand, only 48% of the Portuguese use the internet on a daily basis and 62% have internet access in their household (Eurostats 2013). Still it is important to refer that there is a growth, between 2008 and 2013, of 63 and 51 percentage points in internet usage in the European Union and Portugal respectively (Eurostats 2013). Lastly, it should be mentioned that the average of individuals who have never used the internet in the U.N. and Portugal were 21% and 33% respectively (Eurostats 2013).

In 2000, only 6.7% of the worlds' population had used the internet. Nowadays nearly 40.4% have been reported using it. The growth has been constant and is expected to continue for the following years (Wellman and Haythornthwaite 2001)

2.1 E-commerce & Business

The internet, along with all its evolution and accessibility easiness has altered the way that many industries operate. The possibility of selling online led to a significant growth in companies like Amazon, E-bay, ASDA, among others.

Today, creating a business has become such a fast and uncomplicated process that e-commerce was elevated to a very competitive level, showing a great number of companies that prosper in selling online. Despite all these facts, it is not simple to succeed in e-commerce. The reality is that in order to prosper it is necessary to lead internet users to the companies' website and convince them to acquire the products.

With such an accessible business, presenting low costs and high number of possible customers, it's easy to understand why so many companies tried to succeed and profit with e-commerce. Every day new businesses are created with the intention of selling products or services online.

To succeed in this commerce, several questions should be taking in consideration, such as: Is there an easy way to bring customers to the website? Is it possible to convince the clients into buying? The first question may be answered by online or traditional marketing. Usually, the problem doesn't appear to be the capability of convincing users to visit the website. The natural dilemma seems to be how to convince the users into buying online. Why don't users take advantage of the benefits in buying online? In order to answer this question it is imperial to firstly understand a bit more of the e-commerce business and its adoption variables. Many authors have made several findings on what influences the consumer into buying and what are the barriers to this practice (Thompson, Vivien et al. 1999, Brynjolfsson and Smith 2000, Koufaris and Hampton-Sosa 2004). Davis (1989) created a model to predict and explain system usage based on two variables: Perceived Usefulness and Perceived Ease of Use. Based on this model, it is possible to understand why some people accept a new technology, in this case the e-commerce, and why others reject it. This model is one of the most used to predict technology adoption (Gefen and Straub 2000). Although some authors criticize this model on its lack of practical or questionable heuristic value (Hindman 2000), it is still used by many researchers (Parker, Hudson et al. 1989, Venkatesh and Davis 2000).

2.2 Advantages of Buying Online

Consumers have the advantage of comparing online products from different websites through a fast and easy research using web search engines such as Google or Yahoo! (Rotter 1967). The competition felt in e-commerce is of an

extremely high level given that the consumer has the ability to transform its buying process into an efficient and almost effortless choice (Koufaris and Hampton-Sosa 2004). This perspective is presented by Koufaris and Hampton-Sosa (2004) and Rotter (1967) that claim that “efficiency results primarily because of the cost of the information as well as the cost and time required of acquiring information is so low”.

Brynjolfsson and Smith (2000) discovered that the prices online, compared to the traditional retail outlets, were 8% to 15% lower. In sum, it is possible to understand that the customer has the ability of choosing where to buy, to compare multiple products with no effort and lower prices and choosing the delivery place, reducing even more the effort of picking it up.

With another point of view, Atif (2002) found that the five most common reasons to buy online are reduction of shopping time, timing flexibility, less physical effort, saving of aggravation and the opportunity to engage in impulse buying or directly responding to an advertisement.

Perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free from effort” (Davis 1989, Davis, Bagozzi et al. 1992). Davis studied the impact of the ease present in computer usage and the internet practice and concluded that there is a positive and significant correlation between the two. This phenomenon is easy to understand as in most systems, the easier the practice, the less effort will be required to the users, thereby increasing the likelihood of usage by the individuals. In order to simplify the online experience, different browsers were created resulting in user directed programs and a great number of browsers from which users can choose. These developments affect the ease to use the internet and, therefore, the e-commerce as the shopping must be done in a web browser. One can expect that if used in the online purchases example, the e-commerce’ perceived usefulness will display a significant and positive correlation with the e-commerce activities, since the online experience of an individual has been

proven to be positively correlated with online purchasing practices (Miyazaki and Fernandez 2000, Thompson 2001)).

Perceived usefulness is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Davis 1989, Davis, Bagozzi et al. 1992). This variable has a positive influence on the adoption of technology. Therefore, if used in the example of the e-commerce, one can expect that the e-commerce perceived usefulness has a significant and positive correlation with e-commerce activities (Gefen and Straub 2000).

2.3 Disadvantages of Buying Online

On the opposite side of the situation, a survey from Thompson (2002) concludes that over 70% of the internet users in Singapore that don't shop online find it difficult to judge product's or service's quality, don't feel comfortable shopping online and don't feel secure giving their credit card number through the internet. This survey is very useful in understanding that the non-practitioners of the e-commerce feel insecure about the outcome of the transaction. This can be explained by some concerns about several risks like credit card theft and product swindle, or through an unease in this recent and still not fully known commerce (Levin, Heath et al. 2003). Levin (2003) states that the lack of ability to see and touch the product, as well as the absence of personal service is a great disadvantage to the online commerce. Levin (2003) even concludes that these handicaps are greater in some products, usually the ones that have “high-touch” needs like clothing, and inferior in others, such as the “low-touch” products, like a computer software. Still the importance of tactile information such as smell, vision, touch, sound and even taste must be considered as it is present in offline shopping (Childers, Carr et al. 2001). The best example of businesses that have important tactile information are experienced in groceries stores or florists. Even the haptic attributes like texture,

hardness, temperature or the weight must be reflected as a disadvantage in online commerce (Childers, Carr et al. 2001) This handicaps must be taken into consideration since a consumer will become frustrated with his online purchasing experience and feel less confident in the product if a barrier to direct experience is felt (Childers, Carr et al. 2001).

Although the amount of internet users has grown in a fast and continuous rate, the number of online shoppers has not been able to accompany this kind of growth (Division 2015). Lardner (1999) blames this occurrence on the perception of a great number of risks inherent in e-commerce. Lardner (1999) even states that “there is a great lack of public confidence, which in turn poses a serious impediment to full-scale electronic commerce”. Pavlou (2003) describes perceived risk as a “subjective belief of suffering a loss in pursuit of a desired outcome”. The psychological perception of these possibilities is the most important variable to be understood when exploring why so many users refuse to use a technology that is so convenient and helpful (Pavlou 2003). The perception of any type of risk in buying online is negatively correlated to future online purchases (Liebermann and Stashevsky 2002). This relationship is found in apprentice and experience internet users although higher online experience will decrease the perceptions of the risks (Miyazaki and Fernandez 2000, Thompson 2001, Liebermann and Stashevsky 2002). Numerous theories have been created as this variable should be decomposed into the many risks, or “sub-risks”, and fears that users suffer from (Bettman 1973, Lardner 1999, Garbarino and Strahilevitz 2004). Bettman (1973) separates the risks into financial, physical, psychological and social. Others even consider the technological risk, which is the fear of technological complicated innovations, usually undergone by people of higher ages (Bélanger and Carter 2008). Corbitt et al. (2003) divides the risks into performance, financial, social, psychological and time risks.

It's important to separate the multiples types of risks as to fully understand

the actions that should be made in each case to increase the usage of the e-commerce. For instance, if a clutch of people present a higher perception of privacy risks, the solution may be to convince them that they will have confidentiality when visiting the website or buying online. But if the problem is a higher perceived product risk, the retailers will have to gain the users trust and confidence in order to sell.

The following table (table 1) resumes the advantages and disadvantages of the e-commerce for the companies and for the consumers.

Table 1 - Advantages and disadvantages of E-commerce

Company	
Advantages	Disadvantages
Fast and uncomplicated to create	High competitive level
High number of potential consumers	Need to convince consumers into buying
Low cost to create and maintain	
Consumer	
Advantages	Disadvantages
Fast, free and easy information	Credit card theft
Efficient and effortless process	Lack of ability to smell, touch, hear, taste and see
Cheaper	Social Risks
Less Physical effort	Psychological Risks
Timing flexibility	Performance Risks
Faster and easy to use	Time Risks
Possibility to answer an	Financial Risks

advertisement	
Possibility of buying impulsively	
Saving of aggravation	

2.4 Trust

Unlike the previously exposed examples, trust should be considered an essential and necessary condition to any online transaction. Trust is as important to the consumers as it is for the corporations (Kaluscha and Grabner-Kräuter 2003).

Many studies agree that trust is one of the most important variables in the e-commerce business (Salam, Lakshmi et al. 2005, Bélanger and Carter 2008). In order to increase the number of purchases the company must ensure that the consumer trusts the buying process and its employees. But what is trust? Many researchers have struggled to define trust considering it a “confusion potpourri” and even a “conceptual morass” (Barber 1983). Throughout the years most researches have agreed that trust is multidimensional and not unitary as it once was considered (Atif 2002, Salam, Lakshmi et al. 2005, Thompson and Liu 2005). Trust is defined as “an expectancy that the promise of an individual or group can be relied upon” (Rotter 1967) but its characterization and dimensions are still being debated as there are many theories and different findings (Bélanger and Carter 2008, Kim, Ferrin et al. 2008). Traditional transactions’ trust tends to be focused on personal relationships with the vendor as to online transactions has two targets of trust, the entity that provides the service, also known as the party trust, and the mechanism through which it is provided (Kim, Ferrin et al. 2008). Trust on the internet, also known as institution-based trust, is considered many times as the key predictor of e-commerce adoption (Pavlou and Gefen

2004). Atif (2002) goes as far as to say that the key to e-commerce success is to establish trusted transactions processes in which the seller creates an environment where the consumer can be relaxed and confident enough to perform an operation.

Ferrin et al. (2008) and Borchers (2001) found that the consumers trust is negatively related to their perceived risk of a transaction and positively related to their intention to purchase. McKnight (2002) and Pavlou (2003) also found that the respondents that present higher values of trust are more likely to shop online. The inclusion of a third party in these online transactions seems to be a very reliable way to ensure higher trusting in the relationship of the buyer and seller. This practice seems to be increasing and must be understood by the consumers as an important barrier to most of their perceived risks. Trust plays a central role in the decision to overcome the perception of risk and insecurity (Borchers 2001, Corbitt, Thanasankit et al. 2003). As long as the e-commerce business continues to transmit the idea of multiple risks, trust will be an essential mechanism to persuade the consumers.

2.5 Demographic Variables

In this subchapter, several studies and findings concerning the relationships between some demographic variables and the e-commerce practices will be presented.

a) Gender

As showed by several studies the ordinary user belongs to the male gender (Thompson and Vivien 2000, Thompson 2001). In a different study researchers conclude that women are more likely to suffer from technostress, in other words, “physical and emotional burnout caused by inability to adapt to a new technology”, resulting in less perceived ease of use on computers and e-commerce practices (Thompson and Vivien 2000). Thompson and Vivien (2000)

also conclude that both genders find the computer to be useful, but men consider this technology easier to learn. This is an important consideration because the more comfortable a person is using the internet and the computer, more likely they will enjoy the e-commerce business (Gefen and Straub 2000).

Women are more concern with the numerous risks, like credit card theft, wrong perception of product, etc., that still exist in making an online purchase (Kehoe, Pitkow et al. 1998).

b) Age

Younger individuals are more likely to navigate the internet, as age has a negative relationship with internet usage (Elder, Gardner et al. 1987, Zeffane and Cheek 1993, Thompson 2001). It is also known that there is a positive relationship between internet use and online shopping, so it is expected that age would have a negative correlation with online shopping (Thompson 2001).

Younger individuals spend a lesser amount of effort when buying online and have an advantage in doing so (Sorce, Peroni et al. 1990, Zeffane and Cheek 1993). Older consumers are also more likely to suffer from technostress (Elder, Gardner et al. 1987). These differences are explained by Sorce, et al. (1990) that concluded that younger respondents consider online shopping as more convenient than older individuals.

A positive correlation was found between the variable age and four types of perception of risks (Liebermann and Stashevsky 2002).

c) Educational Levels

The difference in internet practices between high formal education and none/low education in inferior ages is minimum and has no significant meaning (Loof and Seybert 2009).

Igbaria (1993) also concludes that with higher educational levels there is less probability that the individual will suffer from technostress, thus facilitating the computer usage.

Two different studies, one from Alex Susskind et al. (2004) and other from

Yehoshua Liebermann et al. (2002), found a positive correlation between educational level and online buying. On another point of view, Larnder (1999) and Thompson (2001) found no traces of relationship between the two variables throughout their studies. Three types of risks have been proven to have a negative correlation with education (Liebermann and Stashevsky 2002). Unfortunately, no reason was found for this occurrence (Liebermann and Stashevsky 2002).

d) Income

There have been studies that conclude that income has a positive relationship with online shopping (Bagchi and Mahmood 2004). There aren't many studies that approach this variable in a rightful way as it has to be isolated from education, age, perception of risks, and other factors that may be indirectly meddled in the intended results.

e) Marital Status

Marital status has shown to have a significant correlation with online purchases (Bhatnagar, Misra et al. 2000). Despite this finding, married individuals present a significant higher value of perception of risks in e-commerce practices.

2.6 Internet and E-Commerce Practices in Portugal

The 2003 Mindshare Digital Normalness Index (MDNI) tries to understand the motivations of the users from 33 nations around the world. The study compares the behavior factors of information seeking: self-expression and communication, entertainment and transition with the infrastructure score of the country. The infrastructure score is given depending mainly on the connection speed and the number of connections made with laptops and computers. This value is very important to differentiate countries by their practical internet usage. Although Portugal presents an average infrastructure

score, it manages to have an above normal score in all variables except entertainment, achieving the first place in information seeking. The study only focuses on internet users and not on the general population. In the Portuguese case, there is a high level of internet penetration but there is still a great number of entities who don't use internet along with e-commerce, and these individuals should also be considered and studied. Still the study is very useful to conclude that the e-commerce practices are not so intrinsically related to infrastructures as previously thought, being influenced by other variables more important that should also be taken into account. There is a need to evaluate the main variables and then choose those that have or could have a higher impact in the e-commerce business.

There aren't many studies evaluating Portugal's information, and so it's not easy to understand the internet usage and the e-commerce business in this country. Despite this fact, the Eurostats from 2009 confirm that 48% of the households have internet access, placing Portugal 17 percentage points behind the Europe's mean. Still, comparing with 2006 information, there is a 16% increase in the EU27 and 13% in Portugal. Even though the internet use is below average, Portugal still has a good internet penetration but lacks online transitions as only 13% of the individuals have bought a service or product online in the last year. It's important to refer that the mean of individuals shopping online in the EU27 is 37%.

2.7 Model Development

Previous studies indicate that the perception of any type of risks in buying online affect negatively the e-commerce practices of an individual (Thompson 2001, Liebermann and Stashevsky 2002, Lim 2003, Kim, Ferrin et al. 2008). Some authors even state that the perception of any type of risks are the main reason why the e-commerce business hasn't been following the high internet penetration rate (Pavlou 2003). This construct should be considered the most important barrier to online consumption. The different kind of sub-risks are influenced by different variables (Liebermann and Stashevsky 2002). It is therefore expected that the perception of online risks will be negatively correlated with the e-commerce practices. The following hypothesis will be tested in this master thesis:

H1 = There is a significant negative correlation between the Perceived Risk variable and the E-commerce variable

The online experience of an individual has been debated to have a positive correlation with the online shopping practices (Thompson 2001, Liebermann and Stashevsky 2002, Garbarino and Strahilevitz 2004), so, more experienced web users are more likely to get involved in e-commerce practices. Thompson (2001) found that online purchasing has a significant and positive correlation with the online activities of downloading, browsing and messaging.

Some authors state that the online experience doesn't influence the e-commerce practices directly, as it affects the perceived risk of security and privacy which are negatively correlated to online purchases habits (Miyazaki and Fernandez 2000, Liebermann and Stashevsky 2002, Garbarino and Strahilevitz 2004). So, indirectly, online experience has an impact on e-commerce practices. It is therefore expected that if the internet usage becomes more ordinary around the world, the online experience of the consumers will rise and so will the online purchases. The following hypothesis will be verified

in this master thesis:

H2 = There is a significant positive correlation between the Online Experience variable and the E-commerce variable

Perceived ease of use of the e-commerce practices are expected to have a positive relationship with the online purchasing habits since the easier and free of effort the use of a system is, the more likely it will be adopted (Davis 1989, Davis, Bagozzi et al. 1992, Gefen and Straub 2000). The technological acceptance model, also known as TAM, is used in many different studies (Venkatesh and Davis 1994, Gefen 1997, Venkatesh and Davis 2000) and is one of the most important models to understand and predict technology adoption. The Perceived Ease of Use construct translates in the easiness of an individual in buying online spending less effort and time.

The following hypothesis will be tested later on in this master thesis:

H3 = There is a significant positive correlation between the Perceived Ease of Use variable and the E-commerce variable

The perceived usefulness of the e-commerce practices are expected to present a positive correlation with the online purchasing habits of an individual (Davis 1989, Adams D. A, Nelson et al. 1992, Davis, Bagozzi et al. 1992). Like the previous construct Perceived Ease of Use, the Perceived Usefulness is presented in the technological acceptance model. The model explains that the perceived usefulness of a technology is one of the instruments to determine and predict technology adoption. Like the previous construct, the perceived usefulness is used by many authors (Adams D. A, Nelson et al. 1992, Chin and Todd 1995). The following hypothesis will be tested in this master thesis:

H4 = There is a significant positive correlation between the Perceived Usefulness variable and the E-commerce variable

The theoretical model proposed is presented below in figure 1:

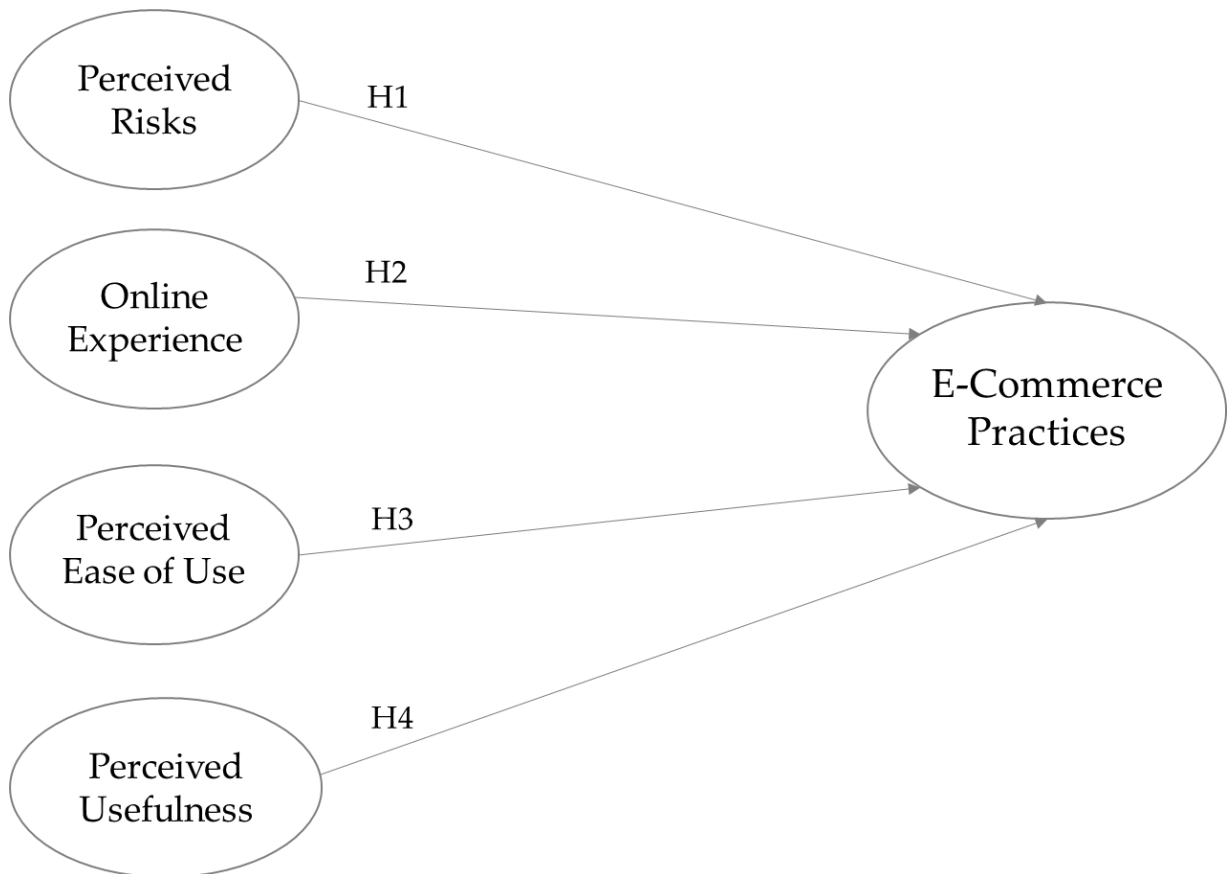


Figure 1 - Proposed theoretical model

The presented theoretical model (Figure 1) summarizes the selected hypothesis to be tested, analyzing the relationships between the chosen constructs and the E-Commerce Practices. The model will be tested using a Linear Regression to understand the importance of the constructs on the dependent variable (E-Commerce Practices).

3 Methodology

The chosen method of data collection was the online questionnaire, using, therefore, a quantitative approach. This method ensured an advantage in time, cost, efficiency and convenience of the respondents compared to the other deliberated methods. Many authors, researching similar subjects, have chosen the online questionnaire as their method of data collection (Thompson, Vivien et al. 1999, Liebermann and Stashevsky 2002, Verhagen and Dolen 2011). Five constructs and five demographic variables were chosen to enter the survey. The decomposition, modifications and origins of the constructs will be presented later in this chapter. The collected data was imported to the Statistical Package for the Social Sciences program, also known as SPSS. The collected information was used to test the hypothesis presented in the previous chapter and to understand the relationship between the chosen constructs and the demographic variables.

3.1 Data Collection Instrument

In order to analyze the proposed relationships and hypothesis, a questionnaire with 3 pages, 5 constructs, and 27 questions was created. The survey was based in other studies and translated from English into Portuguese to ensure the native language of the respondents. As Harzing and Maznevski (2002) stated “an instrument developed in one culture and language has to be translated into the language of the second culture, while at the same time preserving and maintaining the meaning of the original”, since presenting a English survey to Portuguese individuals could alter the understanding of the questions, the answers and the results. The survey was created using the “Kwiksurveys” software and then distributed using the online social network

“Facebook” and through e-mails. Others could share the link in order to acquire more responses. Before the divulgation of the survey, two pre-tests were made to ensure that the questionnaire didn't have interpretation problems, errors or miss translations. The first test showed two minor errors that were rapidly revised. The second test showed no problems. Each test consisted of 10 respondents. According to the pretests, only four minutes should be spent answering this questionnaire. All the participants were previously informed of the academic nature of the survey.

All questions were obligatory to answer, and no participant could advance to the next page or submit the answers with any missing query. In all questions, except for the gender and age of the respondent, there was given the possibility of answering “Don't Know / Don't Answer.” The survey was active and received answers for a period of 30 days. The questionnaire was divided into 3 pages that are summarized below.

In the first page, a multi-choice was presented in order to quantify the weekly online involvement of the individual in 4 activities. These questions used a Likert scale from 1, with the meaning of 0 minutes, to 7, implicating more than 8 hours. Afterward, a star rating was presented to evaluate the level of disagreement or agreement with different statements referring different risks of the e-commerce practice. These star ratings used a Likert scale where 1 meant “Totally disagree with the statement” and 7 “Totally agree with the statement”.

Four drop down list questions were then presented in order to evaluate the individuals' e-commerce practices. These also had a Likert scale to ensure compatibility with the additional questions. To finish the second page a new star rating, using the Likert scale, was then presented with the purpose of evaluation the individuals' perceived ease of use and usefulness of the e-commerce practices. The respondents had to enumerate the level of agreement or disagreement of 6 sentences, where 1 meant “Totally disagree with the statement” and 7 “Totally agree with the statement”. Three of the questions

were regarding the perceived ease of use and three regarding the perceived usefulness.

Lastly, the third page was composed by five demographic questions, gender, age, educational level, income and marital status, in order to characterize the individual.

3.2 Variables

To analyze the proposed relationships, five constructs were used: Perceived Risks; Online Experience; Perceived Ease of Use; Perceived Usefulness; E-Commerce. These constructs were used in other studies, presenting a Cronbach value higher than 0.70, and were slightly modified in order to fit together in the same questionnaire. One of the adjustments was the scale that had to be identical in all the constructs. A 7 Likert scale was chosen in order to ensure the possibility of a neutral response using the number 4 answer. The questions of the online survey are presented in the following table (table 2), to understand the construct components.

Author	Online Experience	Anchor	Chronbach α
(McKnight, Choudhury et al. 2002)	On average, how much time per week do you spend on each of the following web activities? 1. Reading the newspaper on the web? 2. Reading and/or posting messages in news groups? 3. Accessing information on the web about products and services you may buy? 4. Shopping (i.e. actually purchasing something) online?	[0 hours;more than 8 hours]	0,69
Perceived Risks			
(Corbitt, Thanasankit et al. 2003)	1. I believe that on-line purchases are risky because the products / services delivered may fail to meet my expectations. 2. I believe that on-line purchases are risky because the products / services delivered may be of inferior quality. 3. I believe that on-line purchases are risky because the products / services delivered may be dangerous to use. 4. I believe that on-line purchases are risky because the products / services may be available at a lower price somewhere else. 5. I believe that on-line purchases are risky because it may cause others to think less highly of me. 6. I believe that on-line purchases are risky because the products / services delivered may fail to fit well with my personal image or self-concept. 7. I believe that on-line purchases are risky in terms of time because the products / services delivered may fail to be delivered within the expected time frame.	[Strongly disagree;Strongly agree]	0,79
(Kim, Ferrin et al. 2008)	8. Purchasing from a Website would involve more financial risk (i.e. fraud, hard to return) when compared with more traditional ways of shopping.		0,83
Perceived Ease of Use			
(Klopping and McKinney 2004)	1. It is difficult to learn how to use the internet to do my shopping activities 2. I took a long time to learn to use the internet to do my shopping activities 3. I often become confused when I use the internet for my shopping activities	[Strongly disagree;Strongly agree]	0,85
Perceived Usefulness			
(Klopping and McKinney 2004)	1. Using the internet enables me to accomplish my shopping tasks more quickly 2. Using the internet makes it easier for me to shop 3. Overall, I find the internet useful for my activities	[Strongly disagree;Strongly agree]	0,88
E-Commerce Practices			
(Corbitt, Thanasankit et al. 2003)	1. I have purchase from the internet: 2. The value of my total online purchase is approximately: 3. The ratio of online purchase to total purchase in value is approximately: 4. I anticipate that my online purchasing within the next 2 years will be most likely to:	[Never;More than 5 times] [less than €10/more than €1000] [less than 1%/more than 20%] [decrease sharply;increase sharply]	0,8

Table 2 - Items of the constructs used in the online survey

The Online Experience construct from the McKnight et. al. survey (2002) used a 7 Likert scale identical to the one used in this master thesis. The authors reported a Cronbach for this construct equal to 0.69. This construct was measured through four questions regarding the number of hours that each individual spent on a weekly basis in four online practices, from a range of 0 hours to more than 8 hours.

Corbitt et. al. (2003) measured the perception of risks through a seven question construct. The collected Cronbach was equal to 0.79. The original scale chosen by the authors consisted of a Likert 5 point scale. The scale presented in this master dissertation was altered to meet the previously stipulated guidelines and transformed into a 7 point Likert scale. In order to add the “payment risk,” another question was added from the Kim et. al. (2008) study. The construct was measured through 8 statements, referring to different kinds of risks that the respondent had to answer from 1, meaning “Strongly disagree” to 7 stars, meaning “Strongly agree”.

The Perceived Ease of Use and the Perceived Usefulness constructs withdrawn from the Corbitt et. al. (2003) study used a 5 Likert scale and reported a Cronbach of 0.85 and 0.88 respectively. The measure was altered into a 7 Likert scale to ensure consistency in the results. Both constructs were composed of three statements each, from which the respondent had to answer from 1, meaning “Strongly disagree” to 7 stars, meaning “Strongly agree”.

The remaining construct, the E-Commerce from the Corbitt et. al. (2003) study, reported a 0.80 Cronbach value. The first question measured how much the respondent purchased online. Originally the question had a 5 point scale answer where the higher response was “more than five times” but was changed in order to meet the 12 year difference from both surveys and to meet the 7 point scale. The higher response was changed to “more than twenty times”. The second question perceived the amount of money that was spent by the individual. The original answers already presented a suitable amount of money,

and so the only change was to alter the 5-point scale to a 7-point scale. The third question measured if the respondent believed that his online shopping purchases habits would increase, decrease or maintain in the next 2 years. The original 5-point scale was transformed to a 7-point scale where 1 meant “decrease sharply” and 7 “increase sharply”. The last question of the E-Commerce construct was to understand the ratio of the online purchases compared to the individuals’ total purchases. The original higher response was of 20%, which was altered to 25% since the scale was also altered from 5 to 7 point.

In the gender variable, the number 1 was given to the female gender and the number 2 to the male gender. The single individuals were given the number 1. The married, widowed, non-marital partnership and divorced were given the numbers 2, 3, 4 and 5 respectively.

4 Results

In this chapter, the information collected from the survey will be used to test the previously presented hypothesis, compare to the discussed studies and understand the relationship between the chosen constructs and the demographic variables.

4.1 Overview

The collected sample is composed by 101 inquiries which included 53,1% answers from female and 46,9% from the male gender with ages comprehended between 15 and 82 years old. The widowed, non-marital partnership and divorced answers were excluded from the marital status analysis since only eight individuals presented this status.

4.2 Confirmatory Factor Analysis

Using the SPSS program, a confirmatory factor analysis was conducted in order to measure the relationship between the observed and the unobservable variables and thus verify the hypothesis that the selected items are associated with specific factors.

The factor loading of each question represents the scales' validation for the analysis and measurement of specific constructs, demonstrating the correlation between the original variable and the factors (Hair et al., 2006). According to Hair (2006) the value of the factor loadings must be higher than ± 0.4 , being minimally accepted near this limit (Park, 2006). It is important to refer that all this statements are based on a significance level of 0.05 (Hair, Black et al. 2006).

The following table (table 3) presents the collected factor loadings for each question.

Table 3 – Results from the Confirmatory Factor Analysis

Construct	Abbreviation	Question	Factor Loading	Cronbach's Alpha	Nº of Items
Online Experience	OE	OE1	-0,487	0,716	4
		OE2	0,490		
		OE3	0,535		
		OE4	0,587		
Perceived Risks	PR	PR1	-0,675	0,819	8
		PR2	-0,573		
		PR3	-0,596		
		PR4	-0,649		
		PR5	0,737		
		PR6	0,622		
		PR7	0,517		
		PR8	-0,544		
Perceived Usefulness	PU	PU1	0,649	0,796	3
		PU2	0,608		
		PU3	0,583		
Perceived Ease of Use	PEU	PEU1	-0,559	0,821	3
		PEU2	0,624		
		PEU3	0,588		
E-Commerce	EC	EC1	0,769	0,855	3
		EC2	0,669		
		EC3	0,717		
		EC4	0,374		

In order to make the analysis easier and simpler a list of abbreviations was made. This abbreviations will be used from this point on. Any question regarding this variables will be abbreviated with the standard variable abbreviation and the regarding number (table 3). For instance, the second question of the E-Commerce variable will be given the name EC2.

As it can be observed, almost all of the chosen questions achieved a factor loading value superior to 0.4. The only one that did not meet this standard was the EC4, fact that resulted in its exclusion from the E-Commerce construct.

To validate the constructs enumerated before, a reliability analysis was

performed concerning each one of them. The output enabled the validation of all constructs with the Cronbach's Alpha superior to 0.700 as represented in table 3.

A bivariate correlation was executed in all five constructs, measuring the degree of relationship between two variables (Mertler and Vannatta 2002). Significant results are expressed by "Sig." values lower than 0.05, and negative/positive influence is given by the "correlation coefficient" positive or negative value (Susskind 2004).

The Online Experience variable was expected to have a significant correlation with the age, gender and educational level of an individual. The bivariate correlation confirmed a positive correlation with income (sig. =0.041; correlation coefficient = 0.215) and a negative correlation with age (sig. =0.006; correlation coefficient = -0.279) and marital status (sig. =0.003; correlation coefficient = -0.313).

Three significant correlations were found with the Perceived Risk variable, these were age (sig. =0.00; correlation coefficient = 0.462), educational level (sig. =0.001; correlation coefficient = -0.336) and marital status (sig. =0.007; correlation coefficient = 0.294) of an individual.

The Perceived Usefulness showed a significant correlation with the age (sig. =0.041; correlation coefficient = -0.208) and the income (sig. =0.04; correlation coefficient = 0.215) of the respondent.

The Perceived Ease of Use demonstrated a significant correlation with the age (sig. =0.00; correlation coefficient = -0.431), educational level (sig. =0.002; correlation coefficient = 0,316), and the marital status of an individual (sig. =0.002; correlation coefficient = -0.327).

The E-Commerce variable presented a positive correlation with the income (sig. =0.00; correlation coefficient = 0.385) and a negative correlation with the age (sig. =0.005; correlation coefficient = -0.294), and marital status (sig. =0.016; correlation coefficient = -0.267), of an individual.

When comparing the E-Commerce variable with the other constructs the Perceived Risk demonstrated a negative correlation (sig. =0.00; correlation coefficient = -0.517) contrary to the Online Experience (sig. =0.00; correlation coefficient = 0.616), Perceived Usefulness (sig. =0.00; correlation coefficient = 0.489), and Perceived Ease of Use (sig. =0.004; correlation coefficient = 0.306), that showed a positive correlation. These values are presented in table 4.

Table 4 - Correlation between the E-Commerce and the other constructs

Correlation				
Construct	Perceived Ease of Use	Perceived Risk	Perceived Usefulness	Online Experience
Pearson Correlation	,306**	-,517**	,489**	,616**
Sig. (2-tailed)	0,004	0	0	0
N	85	81	87	88

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

4.3 Model Analysis

As expected the Online Experience construct demonstrated a negative correlation with the age of the respondents (Thompson 2001). The anticipated correlation between the Online Experience and the gender of an individual did not verify. No studies were taken into account regarding the Online Experience construct correlating with the income level and marital status of the respondents, but both were verified.

The Perceived Risk construct verified, as anticipated, a positive correlation with the age and marital status and a negative correlation with the educational level of the individuals.

The Perceived Usefulness construct showed the expected negative correlation with age and an unanticipated positive correlation with the income

level of the respondents.

The Perceived Ease of Use demonstrated, through the collected results, to have a significant correlation with the age, educational level and marital status of the individuals. The first two correlations were expected by Zeffane, Cheek (1993) and Igbaria (1993) although no information was collected regarding the marital status relationship with the Perceived Ease of Use construct.

As expected the E-Commerce construct verified a positive correlation with the income level and a negative correlation with the age of the individuals. The online purchasing habits seemed to also have a negative and unexpected correlation with the marital status of the respondents.

With the intention of summarizing all the identified and significant correlations in the collected sample, table 5 is presented. It can be used to compare the previously expected outcomes versus the real achieved results. It is important to refer that none of the results attained stood against the ones expected at the beginning of this study although some correlations had been obtained when none was expected and vice-versa.

Table 5 - Achieved correlations between the constructs and the demographic variables in the survey. “+” and “-“ signs refers to the type of correlations between variables and “N.C” means “No Correlation”.

Variables	Age	Gender	Income	Marital Status	Education
Perceived Risk	+	N.C.	N.C.	+	-
Perceived Usefulness	-	N.C.	+	N.C.	N.C.
Perceived Ease of Use	-	N.C.	N.C.	-	+
Online Experience	-	N.C.	+	-	N.C.
E-Commerce	-	N.C.	+	-	N.C.

The proposed model in this master thesis demonstrates the expected relationships between the chosen constructs (figure 1). Using once again the Statistical Package for the Social Sciences, a linear regression was used in order to test the expected relationships simultaneously (Landau and Everitt 2004). The model presented the construct E-Commerce as the dependent variable and the Perceived Risk, Perceived Usefulness, Perceived Ease of Use and Online Experience as the independent variables. A linear regression is a method of analysis for assessing the strength of the relationships between each of a set of exploratory variables, also known as the independent variables, and a single response, also known as dependent variable (Susskind 2004).

The model presented a R value of 0.719, indicating a high level of correlation between the variables and a R² of 0.517, demonstrating how much variation of the dependent variable can be explained by the independent variables, in other words, 51,7% of the answers regarding the E-Commerce construct, could be explained by the chosen independent variables (Susskind 2004). The ANOVA sig. value, which was 0,00, indicated that the null hypothesis, specifying that the chosen variables for the model are not related, was rejected (Susskind 2004).

The model presented in figure 2 shows the standardized coefficients Beta above and the t-value below the arrow, representing each relationship.

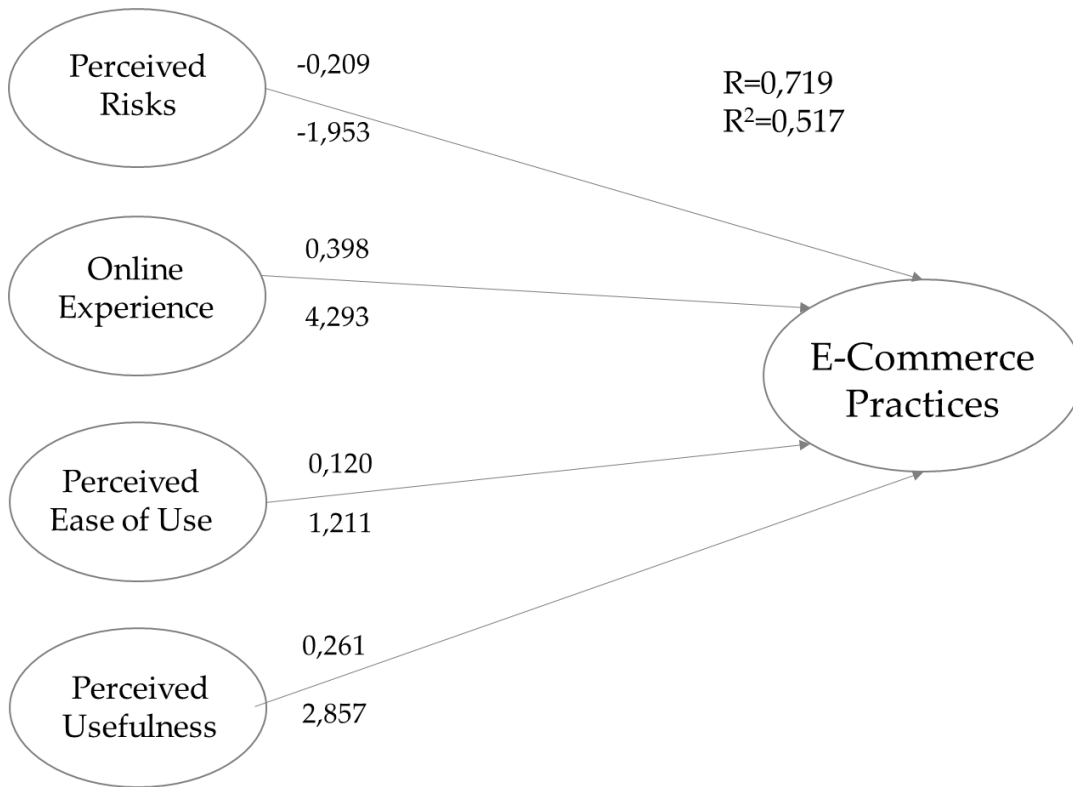


Figure 2 - Model of the constructs' relationship with the E-commerce Practices

4.4 Hypothesis Results

The conclusions regarding the correlation between the E-Commerce variable and the Online Experience, Perceived Ease of Use, Perceived Usefulness, and Perceived Risk were the expected. The four hypothesis are supported to a 99,9% significance level. The following table (table 6) resumes the findings and displays the collected data.

Table 6 - Results of research hypothesis.

<i>Hypothesis</i>	Explanation	Coefficient values	Sig. Value	Conclusion
<i>H1</i>	There is a significant negative correlation between the Perceived Risk variable and the E-Commerce variable	-0,517	0	Supported
<i>H2</i>	There is a significant positive correlation between the Online Experience variable and the E-Commerce variable	0,616	0	Supported
<i>H3</i>	There is a significant positive correlation between the Perceived Ease of Use variable and the E-Commerce variable	0,306	0,004	Supported
<i>H4</i>	There is a significant positive correlation between the perceived Usefulness variable and the E-Commerce variable	0,489	0	Supported

5 Discussion

In this chapter, the results of the survey will be discussed and debated. Each construct will be presented, and each relationship with the demographic variables debated. Finally, possible solutions for the low e-commerce adoption in Portugal will be presented.

5.1 Discussion of the Achieved Results

a) Online Experience

As expected and discussed in chapter 2, the Online Experience construct demonstrated a negative correlation with age. Although there were no collected data regarding the correlation, the marital status variable showed a negative correlation. To perform the statistical analysis of this variable, the value “1” was attributed to the single status and “2” to the married individuals. As mentioned above, all other status were ignored due to the low number of answers acquired. The fact that this correlation has had a negative connotation means that single individuals presented higher online experience than married ones. As it can be easily understood, married individuals were, in general, older than single, as it is presented in table 7.

Table 7 - Mean age of married and single status

Marital Status	Age Mean
Single	25,78
Married	51,46

As demonstrated earlier, older individuals had lower online experience, which can relate both age and marital status with this construct. It is important to state that the number of answers from married people was only 13 and with such low values the conclusions were not as strong as one would desired. Concerning the gender variable, no correlation was found, against what was expected. An explanation for this result may be the fact that the majority of the collected sample was placed in younger ages and significant differences in gender concerning online experience were mainly present in older age groups.

As explained previously in this dissertation, one could expect a positive or no correlation between the educational levels of the tested sample and its online experience, the results showed that the second theory was verified. This could be justified by the idea that new generations have internet access in almost everywhere. Today, internet is a common service and is present in the majority of Portuguese homes.

The positive correlation found between the demographic variable income, and the Online Experience construct was not anticipated because there were no studies previously identified that would approach this issue in a precise manner. However, a positive correlation with a challenging meaning was obtained. This may happen due to the use of new technologies such as tablets and smartphones that allow the user to surf the internet in almost any place in the world. Despite its benefits, these technologies are still expensive products and not affordable by everyone, mainly when taking into consideration the economic situation of the country and the high prices of internet packages. One can then infer that individuals with financial capacity to buy these products will, in general, show better results in this construct.

b) Perceived Risks

As expected the Perceived Risks construct had a positive correlation with age. Conversely, the absence of relation between this construct and the demographic variable gender was not anticipated at all. A possible reason for such phenomenon was the lack of correlation between the construct Online Experience and gender which, if present, would indirectly lead to a correlation with the construct being discussed. In other words, what would influence the risks perception would not be the gender by itself but the online experience which would be lower in female individuals. Given this, it would be wise to perform new studies with higher number of inquiries also controlling the Online Experience construct

There was not much information available about the existing relationship between income and risk perception, but as it could be verified, no significant correlation was obtained in the tested sample.

The positive correlation with marital status was expected and could be justified by taking into consideration what has been discussed in the Online Experience construct regarding this demographic variable. This means that, as the married sample of individuals presented higher ages, it was expected that this variable responded in the same way as the age variable. Such concept can be validated or discarded through a new study where age could be a controlled variable in order to understand the true correlation between marital status and perceived risks.

It was anticipated that education would present a negative correlation with this construct, and it was verified. The negative correlation found, appeared to demonstrate that users with higher educational degrees felt less apprehensive than the others.

c) Perceived Ease of Use

There was no data collected relating the construct Perceived Ease of Use with the demographic variables income and marital status. The first showed no correlation, but the second demonstrated a negative correlation. Once again it is important to refer that the meaning of this result must be further analyzed by studies with a control over the age variable.

The expected positive correlation found with the education variable could lead to the conclusion that higher educated individuals perceived a greater ease to use of the e-commerce. This phenomenon should be considered and should be further studied with higher detail.

The expected negative correlation between this construct and age was confirmed although the same could not be said to the gender variable.

d) Perceived Usefulness

Unlike the previous constructs fewer data was collected relating any correlation with the chosen demographic variables. There was no relationship between this construct and the gender, marital status and education variables. There was however an unexpected positive correlation with the income variable. This occurrence seemed to have no explanation whatsoever and should be considered as a unique correlation of this sample, until a further study is made in order to fully understand it. The negative correlation with the age variable was expected and verified.

e) E-Commerce Practices

The demographic variable gender, against the expectations, showed no correlation with online shopping habits. This occurrence could be explained by the abnormal equality in online experience found in both genders in the sample. The gender correlation had many different findings but when the online

experience was controlled the same results were found (Thompson and Vivien 2000). It is important to understand if this is a sample phenomenon or if it happens in Portugal in general. If so, one may conclude that only the online experience influences the online purchasing habits, and if this variable is controlled the gender, normally with difference in internet usage and experience, plays no role in this commerce.

As expected there was a significant positive correlation between income and the E-Commerce construct. There was very few to conclude from here since it would be very unusual not to find this occurrence. As explained before, higher income values lead to superior online purchases habits.

The negative and significant correlation between the E-Commerce construct and the age variable could be explained by the theory exposed before. Since there was no control over other variables, older individuals presented higher Perception of Risks and lower Perception of Ease of Use, Usefulness and Online Experience which were positively correlated with the online purchasing habits of an individual.

Against expectations, the marital status variable demonstrated a negative correlation with the E-Commerce variable. This could be explained, like all the other correlations with this demographic variable, with the specific characteristics found in the married sample since they had a higher age mean than the single individuals.

As expected there was no correlation between the collect samples educational levels and their online purchasing habits.

5.2 Portuguese Consumer

If one combines all of the collected and significant data, it could describe the characteristics of a typical Portuguese e-commerce consumer. He is young of age and possess a high income. These demographic characteristics are not of the

typical Portuguese since around 42% of the population has a higher age than 50. It is still important to refer that some studies foresee a superior age mean in the general population of the E.U. (Malanowski, Özcivelek e Cabrera, 2008). The mean income in Portugal is relatively low comparing with the rest of the Europe. If the marital status is also taken into account then roughly 52.82% of the population is married, influencing directly or indirectly the online purchasing habits.

5.3 Possible Solutions to increase the E-Commerce in Portugal

The conclusion may seem simple by decreasing the perception of risks and increasing the online experience, perception of usefulness and ease of use of the Portuguese, but the task is far more difficult than that. To increase the perceived ease of use of individuals, classes could be provided but the costs would be overwhelming. This construct seemed to be the most efficient since it influences the perception of risks negatively and the online experience and e-commerce habits positively, even though its collected mean was relatively high. The solution seems to be in the lecture of computer, internet and online purchasing in school since the costs are relatively low. Important to refer that this is a long-term solution.

Since the collected answers showed a high mean on Perceived Usefulness, this construct did not seem to be problematic since the advantages of online purchasing appear to be present in the mind of the Portuguese.

The Online Experience responses found in the collected sample were relatively low and should be regarded as problematic for the e-commerce habits. In order to solve this problem the internet should be accessible to all, regarding of their age, income, and other demographic variables. The new technological advances, like tablets, smartphones and smartwatches, that continuously

appear, seem to help this cause.

It is important to mention that the Portuguese seemed to have perceived four of the eight types of risks as troublesome. These were the "PR1", fear that the product/service will fail to meet their expectations, "PR2", the fear that the product/service will be of inferior quality, "PR7", the fear that the product/service will fail to be delivered within the expected time frame and "PR8", the fear of financial risks such as fraud, difficulty in devolution, etc. These must be considered and treated as main barriers to the e-commerce growth in Portugal. It is therefore imperative to ask these questions: Does the Portuguese e-commerce business fail at this points? Do the Portuguese have too high expectations? Does the fact that Portugal is isolated from his European peers aggravates any of the risks? Further studies should be made in order to understand this phenomenon and to achieve the most efficient way to resolve them.

Since Portugal is situated in the corner of Europe, without many terrestrial passages for product importation, the following issues are important because the e-commerce is a global business. The delivery cost and time may be superior in Portugal due to its geographical position, if the company is not Portuguese. It is important to ask: Does it take longer to deliver the products from other countries? Is the financial risk greater? Does the quality worsens?

6 Findings

This master thesis has helped to further understand the Portuguese variables for online purchases. The perception of usefulness and ease of use have been proven to have a positive correlation with the e-commerce practices, as expected from the technology acceptance model (TAM). The online experience as also been proven to have a positive correlation with the Portuguese online shopping habits. The only construct to present a negative correlation was the Perception of Risks. As the null hypothesis were rejected, the chosen variables must be considered important and capable of influencing the online purchasing practices of the Portuguese consumers.

Regarding the demographic variables it is important to refer that the high age of the Portuguese increased the perception of risks and lowered the e-commerce consumption. The age variable also had a negative impact in the online experience, where younger individuals seemed to have higher values, and thus higher e-commerce practices. The correlation found between the educational level and the Perception of Ease of Use and the Perception of Risks results in an indirect relationship with the e-commerce practices and should be studied. It is imperative to refer that the correlations found between education and Perceived Ease of Use and Perceived Risk may be of great importance in order to understand if the education levels do interfere with the online purchasing habits of an individual. For last, the gender variable seemed to have no influence whatsoever in any of the discussed variables. It should be determined if the online experience of both genders is, in fact, like it was found in this sample, equivalent, by creating a new study where their online experience is compared.

In sum, although the Portuguese may seem to spend a great number of hours seeking information online, the perception of risks seemed to inhibit the online

shopping practice. The demographic characteristics, such as age and income of the Portuguese, seemed to aggravate the perception of the risks associated with the e-commerce habits, reducing its practice.

Limitations of the Dissertation & Suggestions for Future Studies

The number of inquiries that were analyzed can be considered relatively low in order to determine if the findings were, or not, relevant to the Portuguese habits. The survey was available online but most of the answers collected represent the Porto district. It is important to understand if the individuals from other cities around Portugal show the same behaviors and patterns. The number of individuals that represented the married status was also low. The amount of answers from individuals with lower education was also relatively low.

In order to ensure that the results represented the Portuguese reality, a study should be made with a greater number of respondents to guarantee that the marital status, age and educational levels have a greater diversity. This study should be capable of concluding if, in fact, there is a correlation between the marital status and the perception of risks, online experience and e-commerce practices as well as the correlation between the educational levels and the perception of risks and ease of use.

A study should be made in order to understand if the location of Portugal worsens the quality or costs of the products or services sold online and thus resulting in higher levels of perceived risks.

References

- Adams D. A, R. R. Nelson and P. A. Todd (1992). "Perceived Usefulness, Ease of Use and Usage of Information Technology: A Replication." MIS Quarterly **16**(2): 227-247.
- Atif, Y. (2002). "Building Trust in E-Commerce." IEEE Internet Computing(JANUARY): 18-24.
- Bagchi, K. and M. Mahmood (2004). " A Longitudinal Study of a Business Model of On-line Shopping Behavior Using a Latent Growth Curve Approach." AMCIS 2006 Proceedings: Paper 240.
- Barber, B. (1983). The Logic and Limits of Trust. New Rutgers University Press. Brunswick, NJ.
- Bélanger, F. and L. Carter (2008). "Trust and risk in e-government adoption." Journal of Strategic Information Systems **17**: 165–176.
- Bettman, J. R. (1973). "Perceived Risk and Its Components: A Model and Empirical Test." Journal of Marketing Research **10**(2): 184-190.
- Bhatnagar, A., S. Misra and H. R. Rao (2000). "On risk, convenience, and Internet shopping behavior." Communications of the ACM **43**(11): 98-105.
- Borchers, A. (2001). "Trust in Internet shopping: a test of a measure- shopping on the World Wide Web, Int. J. Electronic Comment
instrument." Proceedings of the 7th Americas Conference on Information Systems: 799–803.
- Brynjolfsson, E. and M. Smith (2000). "Frictionless Commerce? - A Comparison of Internet and Conventional Retailers." Management Science **46**(4): 563-585.
- Childers, T. L., C. L. Carr, J. Peck and S. Carson (2001). "Hedonic and utilitarian motivations for online retail shopping behavior." Journal of Retailing **77**: 511–535.
- Chin, W. W. and P. A. Todd (1995). "On the Use, Usefulness, and Ease of Use of Structural Equation Modeling in MIS Research: A Note of Caution." MIS Quarterly **19**(2): 237-246.
- Corbitt, B., T. Thanasankit and H. Yi (2003). "Trust and e-commerce: a study of consumer perceptions." Electronic Commerce Research and Applications **2**: 203–215.
- Davis, F. D. (1989). "Perceived Usefulness, Perceived Ease Of Use, And User Acceptance Of Information Technology." ABI/INFORM Global **13**(3): 317-340.
- Davis, F. D., R. P. Bagozzi and P. R. Warshaw (1992). "Development and test of a theory of technological learning and usage." Human Relations **45**(7): 660–686.
- Division, I. T. U. I. a. U. N. P. (2015). "Internet Live Stats."
- Elder, V. B., E. P. Gardner and S. R. Ruth (1987). "Gender and age in technostress: effects on white-collar productivity." Government Finance Review **3**(6): 17-21.
- Garbarino, E. and M. Strahilevitz (2004). "Gender differences in the perceived risk of buying online and the effects of receiving a site recommendation." Journal of Business Research **57**: 768–775.
- Gefen, D. (1997). Building Users' Trust in Freeware Providers and the Effects of this Trust on Users' Perceptions of Usefulness, Ease of Use and Intended Use. Ph.D. Dissertation, Georgia State University.

- Gefen, D. and D. Straub (2000). "The Relative Importance of Perceived Ease of Use in IS Adoption: A Study of E-Commerce Adoption." Journal of Association for Information Systems **1**(8).
- Hair, J., W. Black, B. Babin, R. Anderson and L. Tatham (2006). "Multivariate Data Analysis." Prentice Hall, Upper Saddle River, New Jersey **6**.
- Hindman, D. B. (2000). "The Rural-Urban Digital Divide." Journalism and Mass Communication Quarterly **77**(3): 349-360.
- Kaluscha, E. A. and S. Grabner-Kräuter (2003). "Empirical Research in Online Trust: A Review and Critical Assessment." International Journal of Human-Computer Studies.
- Kehoe, C., J. Pitkow and K. Morton (1998). "Eighth WWW user survey."
- Kim, D. J., D. L. Ferrin and H. R. Rao (2008). "A Trust-Based Consumer Decision Model in Electronic Commerce: The Role of Trust, Risk, and Their Antecedents." Decision Support Systems **44**(2): 544–564.
- Klopping, I. M. and E. McKinney (2004). "Extending the technology acceptance model and the task-technology fit model." Information Technology, Learning, and Performance Journal **1**(22): 35-48.
- Koufaris, M. and W. Hampton-Sosa (2004). "The development of initial trust in an online company by new customers." Information & Management **41**: 377–397.
- Lardner, J. (1999). "I know what you did last summer and fall." US News & World Report **126**(15): 55.
- Levin, A. M., C. E. Heath and I. P. Levin (2003). "Product category dependent consumer preferences for online and offline features and their influence on multi-channel retail alliances." Journal of Electronic Commerce Research **4**(3): 85-93.
- Liebermann, Y. and S. Stashevsky (2002). "Perceived risks as barriers to Internet and e-commerce usage." Qualitative Market Research: An International Journal **5**(4): 291-300.
- Lim, N. (2003). "Consumers' perceived risk: sources versus consequences." Electronic Commerce Research and Applications(2): 216–228.
- Loof, A. and H. Seybert (2009). Industry, trade and services, EuroStat.
- McKnight, D. H., V. Choudhury and C. Kacmar (2002). "Developing and Validating Trust Measures for e-Commerce: An Integrative Typology." Information Systems Research **13**(3): 334–359
- Mertler, C. A. and R. A. Vannatta (2002). "Advanced and Multivariate Statistical Methods - Practical Applications and Interpretations." Pyrczak Publishing **2**: 12-22.
- Miyazaki, A. D. and A. Fernandez (2000). "Consumer perception of privacy and security risks for online shopping." Working Paper, University of Miami.
- Parker, E. B., H. E. Hudson, D. A. Dillman and A. Roscoe (1989). "Rural America in the Information Age: Telecommunications Policy for Rural Development." Lahnam, MD: University Press of America **43**.
- Pavlou, P. A. (2003). "Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model." International Journal of Electronic Commerce **7**(3): 69–103.
- Pavlou, P. A. and D. Gefen (2004). "Building effective online marketplaces with institution-based trust." Information Systems Research, **15**(1): 37–59.
- Rotter, J. (1967). "A new scale for the measurement of interpersonal trust." Journal of Personality **35**(4): 651-665.

- Salam, A. F., I. Lakshmi and P. Prashant (2005). "Trust in E-commerce." Communications of the ACM **48**(2): 73-77.
- Sorce, P., V. Peroni and S. Widrick (1990). "Attitude and age differences in online buying." International Journal of Retail & Distribution Management **33**(2).
- Susskind, A. M. (2004). "Electronic Commerce and World Wide Web Apprehensiveness: An Examination of Consumers' Perceptions of the World Wide Web." Journal of Computer-Mediated Communication **9**(3).
- Thompson, T. S. H. (2001). "Demographic and motivational variables associated with Internet usage activities." Internet Research **11**(2): 125-137.
- Thompson, T. S. H. and J. Liu (2005). "Consumer trust in e-commerce in the United States, Singapore and China." Omega, International Journal of Management Science: 22-38.
- Thompson, T. S. H. and L. K. G. Vivien (2000). "Gender differences in internet usage and task preferences." Behaviour & Information Technology Journal **19**(4): 283-295.
- Thompson, T. S. H., L. K. G. Vivien and L. Y. C. Raye (1999). "Intrinsic and extrinsic motivation in Internet usage." Omega - The International Journal of Management Science **27**: 25-37.
- Venkatesh, V. and F. D. Davis (1994). "Modeling the Determinants of Perceived Ease of Use." Proceedings of the Fifteenth International Conference on Information Systems: 213-227.
- Venkatesh, V. and F. D. Davis (2000). "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies." Management Science **46**(2): 186-204.
- Verhagen, T. and W. V. Dolen (2011). "The influence of online store beliefs on consumer online impulse buying: A model and empirical application." Information & Management **48**: 320-327.
- Wellman, B. and C. Haythornthwaite (2001). "The internet in Everyday Life." American Behavioral Scientist **45**(3): 363-382.
- Zeffane, R. and B. Cheek (1993). "Profiles and correlates of computer usage: a study of the Australian telecommunications industry." Computers in Industry **22**: 53-69.