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FACTORS INFLUENCING CONSUMERS TO SHOP ONLINE FOR COMPUTER/TELECOMMUNICATIONS EQUIPMENT

Ricardo Santos and Bráulio Alturas

Instituto Universitário de Lisboa (ISCTE-IUL), ISTAR-Iscte, Av. das Forças Armadas, 1649-026 Lisboa, Portugal
rjdss@iscte-iul.pt, braulio.alturas@iscte-iul.pt

Abstract: The Internet has become a constant presence in citizens' lives, and this has led to great changes in what is concerned with their way to buy products. The possibility of buying all the kinds of items online is particularly useful because there is no need to leave the comfort of their houses. In this study we intend to understand which are the aspects that influence the consumers to buy computer equipment and telecommunications in virtual stores. After a literature review in order to know the actual paradigm of the theme, and with the aim to determine the users' opinion, a survey was developed, which was distributed by email and within the social networks. Then the data was processed with SPSS, and it was obtained three main categories: Conditions and Image, Products and Deliveries, and finally Website design/ usability.

Keywords: virtual stores; e-commerce; online shopping, consumer satisfaction.

1   Introduction

Today we live in what is called the digital economy, that is, we are in the presence of a knowledge economy based on digital. In fact, the way we work, communicate, do business, live together, finally live is markedly influenced by the digital age [1].

Since the appearance of the Internet until today, there have been big changes in the way of purchasing products. Globalization and increasing use of the Internet has opened a window to create new shopping paradigms such as online shopping, the so-called e-commerce (electronic commerce), this concept helps to make the buyer's need to leave their home disappear. it is necessary to purchase a product, and nowadays there are more and more stores that do not have a physical space, the so-called virtual stores. These stores usually have a web page on which we can view the stock and place orders through an order management software (such as OSCommerce, Magento, etc.), and a payment guide for the buyer is then generated (this payment can be done through several platforms, for example: ATM, Paypall, etc.), with the order later being delivered to the buyer's address.

In recent years, we have witnessed a strong growth of products and services provided through multiple channels. This growth is strongly linked to the proliferation of e-services that increasingly operate in a multichannel environment, combining the Internet with physical facilities, phone and other channels of service delivery [2].

Currently there are numerous computer virtual stores, although in Portugal there is still a certain distrust in this type of business.

We all know people who are always suspicious of online stores, although members of the younger population already face this type of business with a certain normality (which may be motivated by being born at a time when the use of technologies and the Internet are a constant and almost a basic need). Often this distrust comes from negative experiences or simply not believing it works, which in the latter case makes it more difficult to change this type of belief.

The category of computer and telecommunications equipment was chosen considering that it belongs to one of the categories that represent one of the largest amounts of transactions, and in 2019 approximately 830 million dollars were spent on electronic equipment transactions, according to a study carried out by Datareportal with the support of various partners, including Hootsuite and We Are Social [3].

For this study, the following starting question was defined: which factors influence consumers to make purchases of computer/telecommunications material over the Internet.

The following objectives were also defined:

1 - Identify the main reasons that lead consumers to buy their computer / telecommunications equipment in virtual stores.

2 - Identify which factors have the greatest influence on the choice of virtual stores in terms of conventional stores, when making purchases.

3 - Identify which type of payment consumers prefer to make purchases in virtual stores.

2 Literature review

2.1 E-Commerce

E-Commerce or electronic commerce represents the process of buying and selling goods and services electronically through transactions using the Internet and other digital technologies [4].

In 1990, the World Wide Web appeared and became one of the main allies of E-Commerce. The tremendous growth of this system, in a few years, has greatly helped the growth of E-commerce, thus creating a kind of global online "Market Place", associated with a huge number of consumers, companies and countries [5].

E-Commerce is associated with three types of benefits [6]:

- Organizational benefits these are associated with reducing transaction costs and achieving operational efficiency;

- Informational benefits when E-Commerce facilitates access to product and market information, and improves communication and relationships between the company and its potential customers.

- Strategic benefits when E-Commerce promotes greater customer loyalty to the company, and creates opportunities to extend its reach and increase profits.

In Portugal, E-Commerce has been experiencing strong growth, one of the causes being the increase in the number of Internet users.

In Portugal, in 2019, 96 billion euros were spent on online purchases, according to a study carried out by ACEPI – Associação Economia Digital [7].

According to Turban et al. (2018) there are several types of online commerce that are distinguished by the parties involved in the transaction. Among the types of e-commerce we can mention [8]:

Business-to-Busisness (B2B): transactions in which both the buyer and seller are businesses.

Business-to-Consumer (B2C): transactions made between the company and the final consumer.

Consumer-to-Business (C2B): the customer announces a specific need for a product or service, and companies compete to provide it. An example of this type of commerce are sites such as Priceline.com and Booking.com, where the user indicates prices and the website representing several suppliers gives suggestions for the referred search.

Consumer-to-Consumer (C2C): The consumer sells products or services to another person directly. Examples of this type of commerce are the use of websites such as e-bay.

Intra-business (intraorganizational) Commerce: the company uses e-commerce internally in order to improve its operations. This type of commerce is also known as B2E (Business to its employees).

Govern-to-citizen (G2C) and others: Government provides services to its citizens through e-commerce technologies. Governments can do business with other government institutions (G2G) as well as companies (G2B).

Collaborative Commerce (c-commerce): there is an electronic collaboration between business partners. This cooperation usually takes place between partners in a supply chain.

Mobile Commerce (m-commerce): the transaction takes place through the use of a mobile device.

2.2 Virtual stores

A virtual store is a store that does not have physical space, these stores are only available online, but available to any consumer as long as he has Internet access [9].

These stores usually have a website which is available 24 hours a day, 365 days a year, on their pages we can see what products they have for sale and the respective stock, also having a system that allows users to place orders. These orders are made through order management software (such as: OSCommerce, Magento, etc.), these systems generate a payment form to be filled out by the buyer, according to Turban et al. (2018) the most common form of payment initially was through Debit / Credit cards, and in the late 90's an alternative called PayPall appeared that allowed bank details to be confidential, this form of payment (which was initially only available for transactions made on eBay), and together with debit/credit cards are the most used forms in

online store purchases, after payment is made, the order is shipped to the address specified by the buyer.

According to Barkhi and Wallace (2007) [9]and Carlson, O'Cass, and Ahrholdt (2013) [10] the most common reasons for consumers to choose this type of store is based on the fact that they have more competitive prices, being able to buy in a more practical way, have more information about the products and a greater variety of products.

Given the lower setup costs, lower cost per customer contact, and lower maintenance cost of virtual stores [11]. Virtual stores are able to have more attractive prices due to being able to have less expenses than a conventional store due to certain aspects:

- Not having physical space: this becomes a great advantage as there are no longer certain fixed expenses like conventional stores have, such as: renting space, electricity, water, etc.

- Not having a large number of employees: in a virtual store it is not necessary to have several employees to serve customers, replenish stocks, make payments because all this stock/order and payment management work is done by the order management software.

- Not having a lot of stock in the warehouse: this is another positive point, as it means less capital tied up as it is not necessary to deliver the product to the consumer at the time of purchase, but it must be shipped within the next 24 working hours (in most cases).

2.3   Online Consumer Behavior

With the development of the Internet and the growing number of users, there was a need to start studying the behavior of online consumers, in order to try to explain the buyer's decision-making process, thus addressing the perception that consumers have about a company and which the interaction they have or wish to have with it, whether by purchasing its products or contracting its services.

Consumer behavior is defined as the way in which consumers communicate with each other, how they gather and exchange information about products, how they obtain and consume them [11]. Marketers are adopting new strategies where they include blogs and social networks to reach out to new consumers quickly and efficiently, and also as a way of encouraging recurrent purchases, a reflection of consumer's loyalty to a particular brand or product [12].

There are several factors that influence consumer behavior [13]:

- Cultural factors: These factors influence the consumer's choice through the ideals of values, rituals, norms or traditions that were instilled throughout the consumer's life.

- Social factors: These factors interfere in consumer choice in relationships with other consumers; there are certain social groups that can influence the consumer in their purchase option (groups such as: family, groups of friends, forums groups, etc.); in addition, another social factor is the position and status of the consumer in society.

- Personal Factors: These types of factors vary from individual to individual, in addition to belonging to different personal groups, each consumer has certain individual

aspects that affect the purchase, for example: age, professional life, financial condition, among others.

- Psychological Factors: This type of conditioning helps the consumer to identify the need to acquire a certain product or service, thus identifying: their motivation is through: their learning, their ideologies, etc.

Computer and telecommunications equipment, as it usually represents a purchase with a relatively high cost, means that the purchase is well thought out. Buyers often seek opinions from others before making a purchase, such as digital influencers (DI), however recent research has shown that, although users take into account the opinion of DI in the purchase decision, they do not consider it as a direct influence on the purchase [14].

Literature on online shopping for computer and telecommunications equipment was not found, however, not being considered luxury products, they are often expensive products, and a recent study on online shopping for luxury goods found results suggesting that the eight ranked significant factors that represent the customer's perception of the online luxury shopping experience are in this order: e-buying experience, e-loyalty, e-risk, e-satisfaction [15].

3   Methodology

The methodology used was a quantitative and descriptive research. The purpose of the descriptive research is to describe or clarify characteristics of the group of participants in question and therefore a relationship is established between the questions to be asked and the object of study. When it comes to a descriptive research, as it is put into practice in this work, the researcher will conduct the interpretation and analysis of the study without interfering or manipulating the data.

With the context of the theme defined, an inquiry was elaborated, supported by a questionnaire with closed answers, used as a data collection technique for this study.

This survey consists of the application of a questionnaire with a set of closed questions, which are defined through previous studies, with the objective of evaluating what the consumer most values when he makes his purchases. For the elaboration of the questionnaire, it was focused on 3 studies elaborated by different authors:

The study carried out by Chen, Ling, Ying, and Meng (2012) [16] entitled "Antecedents of Online customer satisfaction in China", which was based on the study on which aspects Chinese consumers paid more attention to when shopping, where concluded that Chinese users had web design as the strongest independent variable in the influence of customer satisfaction.

Another study was carried out by Barrutia and Gilsanz (2013) [17] entitled "Electronic Service Quality and Value: Do Consumer Knowledge-Related Resources Matter?", in this study the authors intended to understand whether electronic quality services were related to knowledge of the user and in turn the result of their experience, the authors having concluded that when the user's knowledge is aware of the specialist's quality services, it brings value to the consumer's satisfaction, in turn when the information contained is not at the level of the consumer, it tends to bring worse user

experiences. Therefore, it is worth trying to match the information provided by the specialist (in this case the seller) to the knowledge of its consumers.

The last study in focus was carried out by Rocha (2021) [18] under the name "Framework for a global quality evaluation of a website" with the objective of proposing a high-level structure for a global evaluation of the quality of a website, having concluded that the Website quality is strategically important for organizations and for the satisfaction of their customers, and that this should be based on measuring quality in three main dimensions: content, service and technique.

For a better interpretation, the questionnaire was divided into three groups:

1st Group: Characterization of the respondent.

2nd Group: Analysis of past purchases by the respondent (This group of questions depends on a question from the first group being only presented based on this answer)

In this group, all questions asked were closed-response according to a Likert-type scale from 0 to 5, with 0 being no opinion, 1 totally disagreeing and 5 totally agreeing, all questions were mandatory.

3rd Group: Analysis of respondent preferences.

In this group, all questions asked were closed-response according to a Likert-type scale from 0 to 5, with 0 being no opinion or no answers, 1 not very important and 5 very important, all questions were mandatory.

The distribution of these questionnaires was done by sending emails to various contacts on an email list (these emails were used to reach a part of the population not so present on social networks, namely the elderly population). Distribution was also carried out by sharing the hyperlink to the questionnaire on Facebook, with the request for each person to share it in order to reach a greater number of possible recipients, in order to obtain a varied sample of respondents.

This questionnaire was online between September 5, 2018 and April 30, 2019, with a convenience sample 197 responses being obtained, of which only 191 responses were validated and subsequently processed and analyzed through statistical treatment using IBM SPSS 24 Statistics.

4   Analysis and discussion of results

Based on the results obtained through the analysis of the responses collected in the questionnaires, the characterization of the individuals surveyed is presented, based on the order of the questions.

The first question being related to the gender of the participants, we can conclude that of the 191 respondents, 54% (103 participants) of the respondents are male and 46% (88 participants) are female.

In the second question, respondents were asked about their age, and in the data analysis they were segmented into 5 groups: 18-25 years old, 26-35 years old, 36-45 years old, 46-55 years old and Over 55 years old. 38% (72 participants) of respondents belonging to the first group, 29% (56 participants) to the second group, 17% (33 participants) to the third group, 11% (20 participants) to the fourth group and finally 5% (10

participants) to the fifth group (Figure 3). A mean of 32 years was obtained and a mode of 23 years was calculated (22 participants aged 23 years).

In the third question, each respondent was asked about their level of education, with three response options: basic education, secondary education and higher education. It was found that 6% (11 participants) have basic education, 36% (68 participants) have higher education and the remaining 58% (112 participants) have higher education.

In the fourth question, each respondent was asked how often they used the Internet, with three possible answers: daily, several times a week and 2/3 times a week (since the survey was distributed by various online tools it would not make sense to have an option for individuals who are not Internet users).

It can be concluded that 95.5% (183 participants) of respondents use the Internet daily, 4% (7 participants) use the Internet several times a week and 0.5% (only 1 participant) use the Internet 2/3 times per month which demonstrates the strong position that the Internet has today as mentioned above.

In the fifth question, respondents answered if they have ever made online purchases of computer/telecommunications equipment, having obtained positive responses in 60% (114 individuals) of the sample and the remaining 40% (77 individuals) answered that they had never made purchases.

In the sixth question respondents who answered affirmatively to the last question (114 individuals) were asked to indicate for each type of equipment (computers and telecommunications) which type(s) of equipment they had already purchased and how often they purchased this equipment. In terms of computer equipment, it was possible to see that 31% (35 individuals) have never purchased computer equipment, 40% (45 individuals) do so annually, 19% (22 individuals) every six months, 6% (7 individuals) monthly and finally 4% (monthly).

About telecommunications equipment 26% (30 individuals) have never purchased online telecommunications equipment, 55% (63 individuals) purchase annually, 12% (13 individuals) purchase every six months, 1% (only 1 individual) purchase monthly and finally 6% (7 individuals) shop weekly.

In Table 1, we can see a statistical analysis of all the sub-questions of question 7, having calculated the mean, median and standard deviation for each of the questions. These results show that consumers attach greater importance when choosing virtual stores based on physical stores. As can be seen, the factor that respondents attributed more importance to was "The products are properly packaged and arrive intact", and the factor that respondents attributed less importance to was "I like the color combination of this store's website".

Table 1. Question 7 - In relation to the reason(s) that leads you to shop at this store(s), evaluate the following statements according to your level of agreement.

Question	Mean	Median	Standard Deviation
7.1 Based on my past experience, I know this store is honest.	2,5	3	2,2
7.2 Based on my past experience, I know this store delivers what it promises customers.	2,5	3	2,2
7.3 Based on my past experience, I know this store is to be trusted.	2,5	4	2,2
7.4 Based on my past experience, I know this store is trustworthy.	2,5	3	2,2
7.5 The information present in this store is relevant to my purchasing decisions.	2,2	3	1,9
7.6 I like the layout of this store's website.	1,7	1	1,7
7.7 I like the color combination of this store's website.	1,5	1	1,7
7.8 The website of this store is well organized.	2	3	1,8
7.9 The products are delivered within the stipulated time.	2,5	3	2,2
7.10 The products are properly packaged and arrive intact.	2,6	4	2,3
7.11 I am only asked for the personal information necessary for the product transaction.	2,3	3	2,1
7.12 The store's data privacy policy is very explicit.	2,2	3	2,2

In Table 2, we can see a statistical analysis of all the sub-questions of question 8, having calculated the mean, median and standard deviation for each of the questions. As can be seen, the factor that respondents attributed more importance to was "Price of products", and the factor that respondents attributed less importance to was "Design of the store's website".

Table 2. Question 8 - At the time of purchase, what importance do you give to each of the following factors.

Question	Mean	Median	Standard Deviation
8.1 The information present in the store must be complete .	4,1	4	1
8.2 The information present in the store must be current .	4	4	1
8.3 The information present in the store must be easy to understand .	3,9	4	1
8.4 Type of payment that the store provides .	4,1	4	1,1
8.5 Delivery system provided by the store .	4	4	1,1
8.6 Design of the store's website .	2,9	3	1,3
8.7 Store website be user-friendly	3,5	3	1,2
8.8 Price of products .	4,4	5	0,9
8.9 Variety of Products .	4,1	4	1
8.10 Shipping Costs .	4	4	1,1

Finally, in relation to question 9, it was found that respondents had to answer which payment method they preferred to use, it was observed that more than half, 58% (111 individuals) prefer to use payment through ATM reference when paying their bills, 19% (36 individuals) prefer to use the PayPal option, 11% (20 individuals) prefer by credit card and the remaining 12% (23 individuals) prefer other forms of payment.

5   Conclusion

From a sample collected from 191 individuals, we retained that 60% of these individuals have already shopped online in virtual stores, which demonstrates the importance that this type of business is beginning to represent in society. Thus, it is important to know which aspects consumers give more importance when choosing online shopping instead of traditional commerce.

Based on previous studies, the aspects that users attach most importance to in a virtual store were chose.

Bearing this in mind, it is possible to understand that when creating a virtual store there are certain aspects to take into account, a well-organized website with a good layout and a correct color scheme, having a very explicit data privacy policy and a Careful product information.

On the other hand, the virtual store itself must also have its principles established, honor commitments with customers, meet delivery deadlines and make sure that the orders reach the consumer intact, thus becoming a trustworthy and honest store, so that consumers have confidence in it.

It was also concluded that most respondents, more specifically 58%, prefer payment via ATM reference as payment method for their purchases.

Aiming with this study to identify the main reasons that lead consumers to buy their computer/telecommunications equipment or virtual stores; identify the factors with the highest level of influence in the choice of virtual stores in terms of conventional stores and identify the type of payment preferred by consumers to make purchases in virtual stores, with these objectives as we can verify which are the 3 main categories that consumers have gave more importance, having been described in each of these categories which aspects consumers had in consideration in relation to the purchase of conventional stores. It was also identified which type of payment consumers prefer.

The main limitation of this study is the sample size, consisting of only 191 respondents, which cannot lead us to generalizations based on the results obtained.

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