

Trust and Perceived Risk in Consumer Behaviour: A Preliminary Study in Electronic Commerce

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Abstract

The digital world has come to challenge companies, approaching everyone everywhere. Challenges that extend to all levels, not only economic, but also at a relational level, since the relationships themselves, and the way in which people relate and behave, have also undergone modifications. Its indefinite nature, among the news about the various unlawfulness that have occurred in the digital medium, make the online consumer develop a certain prudence in the use of this medium, especially in regard to their trust in it. Thus, it is clear the need for companies operating in this medium, in addition to addressing new business models and take advantage of the great benefits offered by this new digital era, including in their strategies the needs and expectations of their customers, achieving what build a reliable image. Taking into account the above, this paper seeks to understand the role of trust in the online environment in Portugal and technological information for users. In particular, a conceptual model, to be empirically tested, will be proposed and analysed. The authors suggest the relationship between different variables in the online context (i.e. trust, perceived risk, perceived usefulness, ease of use and purchase intention). From the analysis of these data it was possible to conclude that perceived risk and perceived ease of use presented a strong relationship with trust. Regarding the purchase intention, the variables that showed the greatest influence were perceived risk, perceived ease of use and trust. In an interdisciplinary perspective, the present manuscript presents contributions to the area of electronic marketing, relational marketing and consumer behaviour. In the end, some conclusions and next lines of research will be presented.

Keywords: trust, information technology, marketing, digital age

Introduction

The digital era came to challenge companies, approaching everyone, everywhere. Challenges that extend to all levels, not only economic, but also at a relational level, since the relationships themselves and the way in which people relate and behave also underwent transformations (Gitman & McDaniel, 2008). It is true that the evolution of technology has brought new business opportunities, but on the other hand it has also brought about changes in the behaviour of society, specifically its consumers, and that is why it is imperative to study and understand their behaviour so that can ally strategies that correspond with these new behaviours. In the last decade, digital age has come to transform society at a social and cultural level and create a consumer with greater decision-making power

(Hallikainen & Laukkanen, 2018). The increase in information and its easy access caused a change not only in the behaviours, but also in the needs and their demands. In these days, it is no longer possible to imagine the daily life of someone without a computer, a mobile phone or a tablet, and at any time anywhere the consumer can compare products, shops, services and prices. According to the National Institute of Statistics (INE), in 2018, 81% of Internet users accessed the network in mobility, using a smartphone (INE, 2017). It is precisely this rapid access and increase of information that makes the current consumer more experienced, demanding and an indispensable asset for companies. A profile that has undergone changes over time, moving to integrate the concept of online consumer, which is distinguished from traditional consumer.

This research examines this issue in the context of online commerce, particularly in the opinions, attitudes and habits of Portuguese consumers. In this way, the initial question of this research: 'What factors influence trust in the online context and technological information for the user in Portugal? Next, the most relevant topics are addressed, with recourse to bibliographical references. In the next section, we present the conceptual model and justify the choice of the variables and the hypotheses under study, as well as describing the entire methodology. Following the order, the following is a general overview of the subject in Portugal. Subsequently, the results obtained are analysed and discussed, as well as the answers to the objectives set. Finally, the main conclusions, limitations and suggestions for future research are presented.

Literature Review

The evolution of online commerce and consumer behaviour

The most common form of trade is one that is based on the existence of a physical store, a supplier/seller, a customer and all the dynamics that derive from the interaction between the three, the so-called "brick-and-mortar" (Barnes, Hinton, & Mieczkowska, 2004). In this type of channel (traditional/offline) it is possible to expose the product, touch, smell, test, change or even return, which allows the consumer to enjoy a complete shopping experience, although limited by the operating hours and location (Enders & Jelassi, 2000; Kim, Ferrin, & Rao, 2008). It was for many years the main form of transaction and sale of goods of the society but that quickly was transformed, not only by the evolution of the technology, but also by the needs and demands that the consumers and the own economy came to present (Koufaris , 2002). Online commerce brings countless advantages for consumers, such as, for example, getting alternatives at any time, compare products and compare prices (Pallant, Danaher, Sands, & Danaher, 2017). 65% of respondents admitted using the Internet to compare prices in other stores, 61% to search for information about products or services and 49% to see reviews. In the first place of research by products, where 52% of consumers cited at least one channel without connection and 59% an online channel, which shows that, despite the growth of online commerce, both types of commerce still have a significant weight in the consumer purchase process (KPMG International, 2017). In the event that there is a change in the quality of the information, it should be taken into account that the use of information technology, allow stores to be able to attract and retain more consumers (ACEPI, 2018). However, it must be remembered that with the use of online commerce consumers began to encounter some disadvantages in relation to offline commerce.

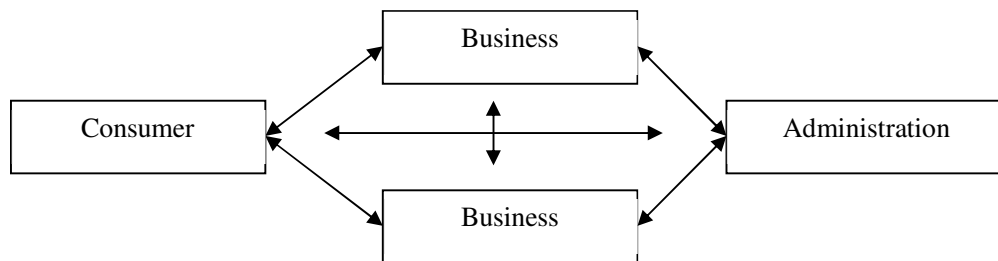


Figure 1: Types of business model in online commerce.

Source: ANACOM (2004).

Any form of business should have a model on what is the business that is developed and built, and online trading will not be the exception. Behind any marketing strategy runs a model that supports and defines its nature. In the electronic market, there are several models used by companies and even by the consumer. Despite the diversity, according to the ANACOM (2004), four types of models can be recognized, taking into account the type of actors involved in the transaction. As can be seen in Figure 1, they can be Business-to-Business (B2B), Business-to-Consumer (B2C), Business-to-Administration (B2A) and Consumer-to-Administration (C2A).

In the last 15 years, the range of online channels for the sale of products, available to the consumer has increased drastically, as an alternative to traditional stores. Understanding what leads the consumer to opt for one channel instead of the other has become increasingly important for the management of these same channels (Black, Lockett, Ennew, Winklhofer, & McKechnie, 2002). In an increasingly complex environment at all levels, both supply and demand, companies are forced to raise their levels of differentiation, to obtain competitive advantages. One of these strategies is precisely to understand your consumer, in the sense of finding the best formula, which includes various variables such as: their habits, the reaction to stimuli from the environment and society, their buying behaviour, decision making before several alternatives, but, above all, all the factors that influence them (Rani, 2014). For this, several investigations are necessary, so that you can discover and understand what motivates the consumer to choose a particular channel. Several studies have already shown the importance of perceiving which of these factors represent a greater influence on consumer behaviour. The companies providing service and sales of products, increasingly, have redoubled attention in this area, to define the best strategies and thus achieve their organizational objectives and especially financial (Muniady, Al-Mamun, Permarupan, & Zainol, 2014).

Kotler and Armstrong (2012) explain that the purchasing behaviour of a consumer goes through a process of decisions that are undergoing alterations, from the recognition of the need to its post-purchase behaviour. According to the same authors, this decision process consists of five stages: recognition of the need, search for information, evaluation of alternatives, purchase decision and post-purchase behaviour. In this follow-up, Kotler (1998) also explains that understanding the behaviour of consumers was never a simple task, since they claim to have a certain need or desire and, nevertheless, they act differently. Therefore, it is fundamental to analyse the way in which they make their decisions, what are the factors behind those same decisions and in what way these factors influence (Kotler & Armstrong, 2008). As Tanner and Raymond (2013, 2016) warn, it is not only the large companies that have the duty to do so, these "rules" extend to all, without exception. Rani (2014) describes that the consumer decision process is led by its culture, subculture, social class, groups, family, personality, psychological factors, among others, and influenced by cultural trends, as well as by the social environment. There are many processes that occur in decision making, but nothing else is the result of the relationship between all these factors (Kotler & Armstrong, 2012). Part of them uncontrollable by the marketing professionals but, on the other hand, with a lot of importance for the understanding of the entire process. The behavioural sciences provide a series of concepts and methods developed that help to perceive, predict and find ways to achieve control of this behaviour. In addition to these, sociology, psychology and anthropology are examples of areas/sciences that are involved in this very complex topic. As for the Kotler typology, from now on the purchasing decision process will be divided between 4 factors: cultural, social, personal and psychological (Kotler & Armstrong, 2012).

Consequently, it can be concluded that the behaviour of the consumer results from a complex relationship between all these factors and that, due to their nature, not being able to be controlled, they must be taken into account at the time of the construction of the strategy marketing (Champniss, Wilson, & Macdonald, 2015; Kotler & Armstrong, 2012).

Building trust in e-commerce

When a consumer makes a purchase on the Internet, his distance from the seller is unknown, nobody sees it, provides personal information and makes a payment in advance. Compared to traditional commerce, and due to the nature of this type of trade, for the seller, becoming a brand or a reliable company becomes a crucial factor

(Kim et al., 2008). In a varied set of decisive factors, such as the price, the modality of delivery among others, the truth is that in the end consumers only buy in trusted sites (KPMG International, 2017). As explained by Reichheld and Schefer (2000), when the consumers trust the seller, the probability of sharing personal information increases. However, this information will allow the seller to create a stronger and closer relationship with its customers, offering products or services that meet their individual needs and desires, which in turn will increase their trust level. This cycle can quickly become advantages in the relationship with the consumer, as well as in its position with respect to its competitors (Wang, Wang, & Liu, 2016). All these amendments raise certain ethical questions that must be rethought and analysed. Rita and Oliveira (2006) concentrate them in four main ones: intellectual property, freedom of expression, collection and use of online information, and digital networks and the situation of children. Issues that, basically, have as their common goal to transform the Internet into a secure medium of information, but which have also divided opinions.

It is possible to identify in the literature various theories that try to predict the impact of technology and confidence in human behavior. The original DeLone and Mclean model (1992, 2004) - DeLone and McLean's information systems success model or "D & M IS Success Model" - included six dimensions, including the quality of the system, the quality of the information and user customer satisfaction. However, in 2003 they updated the model, where they merged two dimensions and presented a new one to the original model: the quality of the service, so that a better general understanding of the quality of information systems and its influence on satisfaction and the intention of use. Being the trust in online commerce an issue that has caused various discussions and studies in the literature, Wang et al. (2016) developed a model to evaluate the success of sites in online commerce, integrating the D & M model and the Theory of commitment and trust, thus emphasizing the importance of the relationship between commitment and trust. In short, this theory presents as a premise the simultaneous adoption of commitment and trust as inseparable factors for the formation and maintenance of relations between consumers and sellers. "Consumers who have a positive relationship with an online seller, tend to develop a long-term commitment and loyalty" (Wang et al., 2016, p.628). Basically, the D & M model works as a theoretical basis, which complements the Theory of commitment and trust, allowing portraying the perceptions of consumers in relation to their intentions with online commerce, thus achieving a transactional vision through a relational marketing perspective. In other words, the model proposed by Wang, et al. (2016) integrates technical, transactional and relational factors, capturing the antecedents of commitment and trust, which are associated with online business contexts (Wang et al., 2016).

Another perspective on building trust in online commerce is that of Pavlou (2003). Following the application of Theory of Reasoned Action in a technological environment, Pavlou used the Technology Acceptance Model variables (perceived usefulness and perceived ease of use), as the main drivers of acceptance of online commerce, which integrated trust and perceived risk, proposing its model on the acceptance of online commerce by the consumer. Pavlou (2003) aimed to predict the acceptance of online commerce by the consumer, thus proposing a set of key factors for their retention in online purchases. The inclusion of trust and perceived risk was due to the fact that online commerce, due to its technological nature, operates in an environment of doubt and uncertainty. Also Kim et al. (2008) describe the perception of risk as consumer doubt about the outcome of their decisions, and therefore "an important barrier for consumers who are thinking of making an online purchase" (p. 547), making it one of the factors that influence the purchase decision. The authors explain that consumers when buying products / services online are exposed to risks: financial, functional, physical (for example in the purchase of medicines), social, among others. However, Bhatnagar, Misra, e Rao (2000), explain that there are three types of risk that stand out when talking about online commerce, being financial risk, product risk and information risk (security and privacy). Concerning trust, Pavlou (2003) defines it as "a feature of most economic and social interactions in which uncertainty is present" (p. 74), and states that it has always been an important and influential element of consumer behaviour, thus proving to be of great importance in the context of online commerce. As the author argues, "lack of trust has been pointed out as one of the main reasons why consumers do not get involved with online trading" (p.74). In conclusion, Pavlou shows the trust and perceived risk as a direct antecedent of the intention to buy, but also the trust presents itself as an indirect antecedent through perceived risk, perceived utility and perceived ease of use, which also have effect purchase intention. Regarding the dependent variables, purchase intention and current buying behaviour, the author has placed them as the main constructs that will determine

consumer acceptance through online commerce (Pavlou, 2003). The model then suggests that the reduction of uncertainty is a key factor in explaining the acceptance of online commerce, namely the B2C model, and deserves its due attention.

The development and study of various models and the vast literature on the subject only supports the idea that security issues can be an inhibitor for the development of electronic commerce, so it is necessary to find the best ways for this obstacle is overcome.

E-commerce in Portugal

Today, commerce is much more than simply selling goods, since now, more than ever, it includes a series of personalized services. In recent years there has been a great promotion of Portuguese commerce not only by the appearance of new business concepts, but also the demand of consumers. If, on the one hand, the behaviour, expectations and needs of the demand are quickly altered, on the other hand a rapid adaptation by the supply is urgent (Wang, Chen, & Jiang, 2009). After the opening of the Amoreiras shopping center in 1985, the world of "public" trade changed its mind and quickly conquered Portuguese consumers, making it a new emerging expression of urban commerce (Observatorio del Comercio, 2001). The changes continued to occur, and with the passage of time and with the advance of technology, the forms of trade and consumption began to shape this new reality. The increase in the power of advertising, the media to develop and accompany this technological evolution, the increase in the use of social networks, all this made the consumer also switch to opt for virtual commerce as a form of consumption.

Forsythe and Shi (2003), among other authors, argue that the online commerce model is considered as the fastest growing area on the Internet. This evolution has been reflected in the growth rates that continued to increase in the last 10 years, which exceeded the results obtained in traditional channels (Doherty & Ellis-Chadwick, 2010). According to the e-commerce barometer in Portugal, in 2014, 66% of the sites in the study said they had increased their sales volume compared to the previous year, and 24% said that this volume was over of 1 million euros (ACEPI, 2015). According to ACEPI's annual study, e-commerce and online purchases are growing in Portugal and at the end of 2016 some 873.000 Internet domains were recognized in .pt. In 2017, online purchases in Portugal amounted to 4.6 million euros, only in the B2C market, and the expectation for 2018 is for growth. Indicators for the development of the digital economy in Portugal revealed that in 2025 the percentage of the population that uses the Internet will be moved to 91, and 59 the percentage of consumers who use the Internet to make online purchases. The fashion and clothing sector and the technology sector have the highest online sales rate, although the study also foresees a significant increase in the food and supermarket sector (ACEPI, 2018). With this change in online commerce, consumer behaviour has also changed. The digital age brought with it a new profile, the online consumer profile. According to the results published recently by Statistic National Institute (INE) on the use of information and communication technologies, presented in Figure 2, in 2018, 79% of Portuguese families had Internet access at home (INE, 2018).

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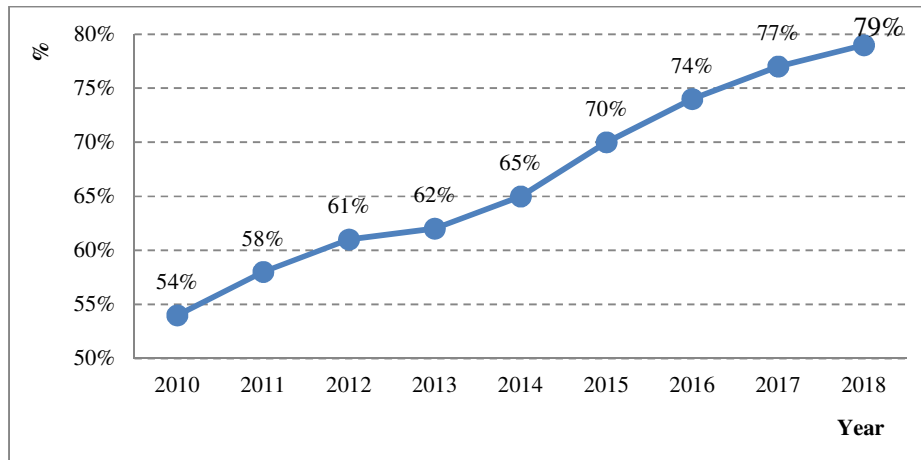


Figure 2: Proportion of households with Internet connection, Portugal (2010-2018).

Source: INE (2018).

The barometer of the Internet in 2018 study, a reference of the study Marktest in the use of Internet in the Portuguese population and the behaviour of Portuguese Internet users, finds that in relation to Internet access for mobile access first time exceeded the use by computer. According to these data, in a universe of more than 6 thousand respondents, 57.9% used the mobile phone to access the Internet, while 55.2% used the computer. Nowadays, it is searched and bought anywhere. As for the other media, 19.1% accessed the Internet through the tablet, 9.3% through TV and 5.8% through the game console. In general, the study reveals that the use of the Internet increased again this year, reaching the highest value, until then, of 70.9% (Grupo Marktest, 2018). This explosion in the use of the Internet on a global scale resulted in an exponential growth of electronic commerce throughout the world, with influences not only economic, but also sociocultural (Bexiga, 2018). This penetration rate has been of great importance, since it has caused changes in several businesses, such as, for example, in movie rental stores, called "video stores" (Zebra Technologies, 2018). The use of Internet in Portugal, such as commerce, has been increasing, and as can be seen in the figure 3, also published by INE, in 2018 37% of residents in Portugal between 16 and 74, He informed that it had been carried out in 57% in 2017 (Eurostat, 2018), which stood at 57% in 2017 (Eurostat, 2018).

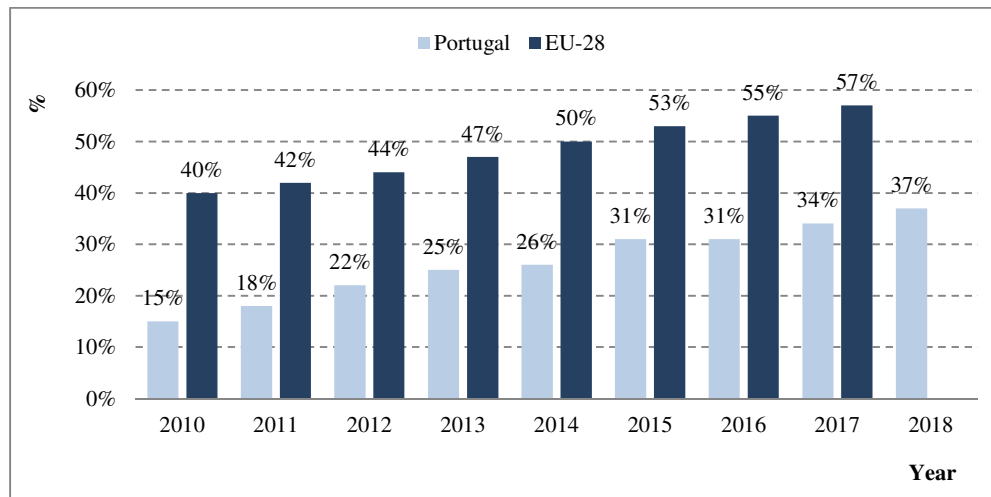


Figure 3: Proportion of people aged between 16 and 74 who have used e-commerce, Portugal and EU-28 (2010-2018).

Source: INE (2018).

Meanwhile, the data published by the Eurobarometer revealed that almost half of the Portuguese (46%) still prefer to make their purchases in physical stores, compared to 26% of the EU, that is, only 39% report a preference for virtual stores, compared to 63% in the EU. The study also shows that this lower percentage may be related to the concern of the Portuguese against the misuse of their personal data and the management and security of their payments. All these data, in addition to providing proof that online commerce in Portugal is growing (although not at the same of the EU), leave no doubt that the future of trade passes through the integration of physical and virtual stores, providing consumers with diversified, but above all, personalized experiences (Zebra, 2018, Cetelem, 2018).

Methodology and Research Design

In this section we present all the options adopted so that this empirical research can respond to the objectives set from the beginning of this work, trying to understand the phenomenon of consumer behaviour in the online environment. After the bibliographic review previously exposed, the research methodology that was best able to answer the research question was established: What factors influence (and in what way) the trust and predisposition of consumers for online commerce?

In an attempt to explain which factors influence the trust and predisposition of the consumer, in this phase all the variables to be included in the study were defined, taking into account all the bibliographic analysis carried out, and following the research order proposed by Martínez and Ferreira (2010). With the defined variables and objectives, the survey was prepared. The adoption of a method of collecting data of a quantitative nature, through the application of surveys, made it possible to demographically characterize the profile of consumers, describe their purchasing behaviour and, therefore, evaluate the influence of the variables in it. After the elaboration of the survey and its correct correction, it was made available to the whole population, and the answers obtained, analysed by the statistical software SPSS, giving utility and meaning to the collected data, will be presented and discussed more ahead. Thus, the study supports a style of descriptive research. Bearing this in mind, it is also important to refer and highlight in this section, the presentation of the proposed conceptual model, which was constructed from the literature consulted on the subject in question. This model, which served as the basis for the definition of the hypotheses, as well as the preparation of the subsequent collection of empirical data.

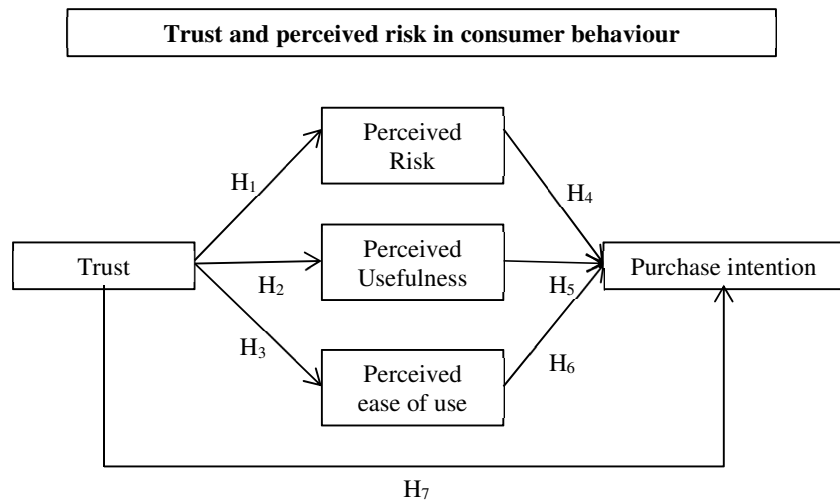


Figure 4: Proposed conceptual model.

The development of a research around hypotheses is the best way to conduct it. According to Quivy and Campenhoudt (2008), a hypothesis is a provisional proposal that comes to provide a common thread to the research, helping to choose the criteria for data collection, which will be analysed so that this assumption is verified, when confronted with reality. The 5 variables presented in the conceptual model, came to give rise to the

7 research hypotheses, which presuppose the existence of a relation between them, and which can now be empirically tested (Figure 4). It is from this analysis that we can answer the main question of this dissertation, and therefore, it is assumed that: Hypothesis 1 (H₁): Trust has a negative relation with perceived risk; Hypothesis 2 (H₂): Trust has a positive relation with perceived usefulness; Hypothesis 3 (H₃): Trust has a positive relation with perceived ease of use; Hypothesis 4 (H₄): The perceived risk has a negative relation with the purchase intention; Hypothesis 5 (H₅): The perceived usefulness has a positive relation with the purchase intention; Hypothesis 6 (H₆): The perceived ease of use has a positive relation with the purchase intention; Hypothesis 7 (H₇): Trust has a positive relation with purchase intention. In this study, the sampling process consisted of the use of a random sample, since the surveys were published through the DOCS Google platform and distributed by known electronic addresses and by social networks (Facebook), so that their free access to person. The survey was put online during the month of August 2018.

All the scales of measurement, given every year, were organized to obtain clarity and avoid redundancies in the answers, and for each one a Likert scale composed of 6 points was used, a type of psychometric scale that varies between 1 = totally disagree, 2 = strongly disagree, 3 = partly disagree, 4 = partly agree, 5 = strongly agree and 6 = totally agree. This type of scale is widely used, among many other situations, in measurements of attitudes, levels of opinion, satisfaction, motivation, and presents as advantages its criteria to be precise and easy to work and greater reliability when compared with other types of scales (Chomeya, 2010). As Hill and Hill (2008) point out, opinions and attitudes are presented as bipolar variables, and the use of an odd scale increases the tendency of respondents to assume a conservative response, does not run the risk of assuming a negative or positive opinion of a certain subject.

The coding, processing and analysis of the data collected from the respective surveys were carried out with the SPSS, which allowed an advanced statistical analysis. The use of this software also allowed us to verify the hypotheses and perceive the relationship between the variables, as well as enabling two types of analysis: univariate, for the study relative to the profile data of the respondents, and bivariate, for the study of the associations among the variables of the proposed conceptual model. In this sense, and taking into account the ordinal nature of the scales of measurement, we used techniques of descriptive statistics (such as relative frequencies, modes and medians) and correlation (in this case, the Spearman correlation coefficient). In order to guarantee the validity of the variables under study, it was fundamental to verify the reliability of the scales used and for this, the values of Cronbach's Alpha were analysed. In general, all scales presented adequate reliability values for the analysis of the variables. In order to proceed to the descriptive analysis of the variables of the conceptual model, descriptive statistics techniques were applied, such as the relative frequencies, mode (most frequent value) and median (central value), for each of the items that make up each of the variables under study. In this investigation all constructs were measured and evaluated as first-order constructs, except trust, and all of them were analyse by 3 items, except trust with 6.

As already mentioned, Chen and Dhillon (2003) presented trust, as an attitude, modelled as a second order construct, measured by three sub-constructs: integrity, competence and benevolence, which were presented according to the scales used by Oliveira et al. (2017), Hong and Cho (2011) and Chen and Dibb (2010). So, about the trust, it can be seen from mode that the most common values in all items attributed by the respondents are values 5 and 6. In general, a positive level of agreement is found, with frequency values above 28% for level 5 ('strongly agree') and above 18% for level 6 ('totally agree'). It is important to highlight the level of scale 3 ('partly disagree') for the items in the 'benevolence' category, which presented both higher values when compared to the remaining items of the variable. This may show that although respondents admit some trust in the websites they use or used, yet almost 14% attributed a negative level to item 1 and almost 10.5% a negative level to item 2. Overall, respondents rely on sites on which they responded to this survey, however some disagree in part that they are concerned about their interests, or that they would do nothing to disadvantage them.

About to the variable 'perceived risk', a 3 items scale was used for its measurement, which was based on the scales included in the studies by Grabner-Kräuter and Faullant (2008) and Suh and Han (2003). In general, a positive level of agreement can be observed with this variable, with values above 29% and 25% for levels of scale 5

('strongly agree') and 6 ('totally agree'), respectively. It should be noted that scale level 4 ('partly agree') presented frequency values between 17% and 27% for the 3 items, which can be explained by the fact that they have factors such as 'privacy' in their description, "Personal data" and "personal information", which in the context under study exert some weight on the response. This scenario is further reinforced by the frequency values presented for level 1 ('totally disagree'), which, unlike the other items of the whole model, were the ones with the highest values. With emphasis on this scenario, mode and the median have both registered level 5 of the scale, which leads to the conclusion, and taking into account all the facts already mentioned, that respondents still have some resistance in relying entirely on sites, even if they have already been used or continue to use them.

As regards the variable 'perceived usefulness', it was composed of 3 items, adapted by the scales used in the studies of Pavlou and Fygenon (2006), Corbitt, Thanasankit, and Yi (2003) and Pavlou (2003), and show values above 30% and 41%, for scale levels 5 ('strongly agree') and 6 ('strongly agree'), respectively. Scale level 4 ('partly agree') presented values lower than 13.30%. As for the mode and median, gave values of 6 for item 1, 6 and 5, in the same order, which suggests that the answers of the respondents showed positive levels of agreement regarding the usefulness that the sites that used or used.

For the variable 'perceived ease of use', it was adapted the scale that Pavlou (2003) used in the investigation of his model on consumer acceptance of online commerce. It was measured by a scale of 3 items, which presented favourable values in relation to the use of the sites that the respondents used or used. The level of agreement was positive, since it presented more than 39% of the answers at scale level 6 ('totally agree') and more than 41% in level 5 ('strongly agree'). Regarding mode and median, both presented values of scale of 5 for items 2 and 3, and values of scale of 6 and 5, for item 1, respectively. In general, it can also be concluded that this variable presented positive concordance levels for the 3 items, regarding the ease of use of the sites.

Finally, and perhaps being part of the most relevant variables, since it is the result of the whole process that has been described in this study, the variable 'purchase intention'. We also used 3 items, which were based on the scales used in the studies by Oliveira et al. (2017) and Pavlou (2003). It was observed that for the scale level of 5 ('strongly agree') values above 35% were observed. Level 6 ('totally agree') took values higher than 41% for items 2 and 3, which did not happen with item 1, which presented a relative frequency of 22.38%. This low value can be explained, as happened in the case of item 3 of the variable perceived risk, by the fact that a factor sensitive to the respondents is referred to as "personal data", which may have influenced the level of scale chosen, which in this case went down to levels 4 and 5. Supporting this idea, mode and median show this difference, when they present levels 6 and 5 respectively for items 2 and 3, which did not happen with item 1, which presented level 5 for both.

As for the hypothesis test, and according to the classification published by Marôco (2014) regarding Spearman's correlation coefficient, it can be concluded from the results that all variables (with the exception of perceived risk) present a positive and statistically significant relation. Considering this conclusion it can reject the null hypothesis ($H_0: r_s = 0$) among all the cases under analysis, checking the hypotheses defined for this research ($H_1: r_s \neq 0$), which makes it possible to verify the existence of a strong intensity relation between the variables.

Conclusions and next lines of research

Technological evolution is the great cause for most of the changes that have occurred, from cultural, social, political, economic, personal and even psychological changes, all of them on a global scale. The environment and the relationships that are built in it stopped happening only in physical space, happening also in a space without defined location: the virtual space. The development of technology has brought with it innumerable positive aspects: the global communication that today is fundamental; the democratization of knowledge throughout the world, made possible through the connections that information systems have acquired; the medicine that attended to great evolutions; the very world that has become a small town where everyone is connected, and endless other advantages. The needs and expectations of the consumer have undergone changes with these technological advances, so that companies in this sector had to reinvent themselves and, inevitably, evolve themselves as well.

The improvement of behaviour models originated the development of new business models, which in turn originated new forms of communication between companies and consumers, and vice versa.

To answer the research question stated above, it can be perceived that there is a clear relation between the trust shown by the respondents, with the various variables of a relational nature (such as perceived risk, perceived usefulness and perceived ease of use) and finally with the purchase intention. Being that all of them evolve in the same sense with the exception of perceived risk, whose evolution occurs in the opposite direction. Basically, and after the analysis of the collected data and statistical results, this conceptual model allows explaining the construction of trust and the predisposition that the consumer has in the online environment, being this made from the influence and relation among various factors. Which make the trust and its relation with perceived risk factors, usefulness and ease of use, a complex process (Kitukutha & Oláh, 2018). And last, but not least, from the model is also perceived the influence that trust has on the final behaviour of the online consumer. Basically, when interpreting the conceptual model in the framework of this research, it can be said that the trust that exists in an online point of sale is strongly associated with its level of acceptance of online commerce, being that all these factors, individually and as a whole, determine the predisposition and behaviour of the consumer.

As in any study and investigation, after the analysis and conclusions, points to be improved are recognized and suggestions that in the future will complement and add value to scientific knowledge in general. Despite the contribution that the variables included in the proposed model had in this research, as possible suggestions, the inclusion of new variables and new antecedents that transform the study of trust in the most complete online medium is considered first. Among several hypotheses, variables of a cultural and age nature are proposed.

References

- Barnes, D., Hinton, M., & Mieczkowska, S. (2004). Managing the transition from bricks-and-mortar to clicks-and-mortar: a business process perspective. *Knowledge and Process Management*, 11(3), 199-209.
- Bexiga, S. (2018). Tendências para 2018 no e-commerce conduzem Portugal para fase 4.0. *O Jornal Económico*. Available at: <https://bit.ly/2U1b9lp>.
- Bhatnagar, A., Misra, S., & Rao, H. (2000). On risk, convenience, and Internet shopping behavior. *Communications of the ACM*, 43(11), 98-105.
- Black, N., Lockett, A., Ennew, C., Winklhofer, H., & Mckechnie, S. (2002). Modelling consumer choice of distribution channels: An illustration from financial services. *International Journal of Bank Marketing*, 20(4), 161-173.
- Cetelem. (2018). O Observador Cetelem. Lisboa: Banco BNP Paribas Personal Finance, S.A. Available at: <https://bit.ly/2Kgc7ZC>.
- Champanis, G., Wilson, H., & Macdonald, E. (2015). Why Your Customers' Social Identities Matter. Canada: *Harvard Business Review*.
- Chen, J., & Dibb, S. (2010). Consumer trust in the online retail context: Exploring the antecedents and consequences. *Psychology and Marketing*, 27(4), 323-346.
- Chomeya, R. (2010). Quality of Psychology Test Between Likert Scale 5 and 6 Points. *Journal of Social Sciences*, 6(3), 399-403.
- DeLone, W., & McLean, E. (1992). Information Systems Success: The Quest for the Dependent Variable. *Information Systems Research*, 3(1), 60-95.
- DeLone, W., & McLean, E. (2004). Measuring e-Commerce Success: Applying the DeLone & McLean Information Systems Success Model. *International Journal of Electronic Commerce*, 9(1), 31-47.
- Doherty, N., & Ellis-Chadwick, F. (2010). Internet retailing: the past, the present and the future. *International Journal of Retail & Distribution Management*, 38(11/12), 943-965.

- Enders, A., & Jelassi, T. (2000). The Converging Business Models of Internet and Bricks-and-Mortar Retailers. *European Management Journal*, 18(5), 542-550.
- Forsythe, S., & Shi, B. (2003). Consumer patronage and risk perceptions in Internet shopping. *Journal of Business Research*, 56(11), 867-875.
- Gitman, L. J., & McDaniel, C. (2008). The future of business: The essentials to building your career. *Mason, OH: Cengage Learning*.
- Grabner-Kräuter, S., & Faullant, R. (2008). Consumer acceptance of Internet banking: the influence of Internet trust. *International Journal of bank marketing*, 26(7), 483-504.
- Hallikainen, H., & Laukkanen, T. (2018). National culture and consumer trust in e-commerce. *International Journal of Information Management*, 38(1), 97-106.
- Hill, M., & Hill, A. (2008). *Investigação por Questionário*. (2a ed). Lisboa: Edições Sílabo.
- Hong, I., & Cho, H. (2011). The impact of consumer trust on attitudinal loyalty and purchase intentions in B2C e-marketplaces: Intermediary trust vs. seller trust. *International Journal of Information Management*, 31(5), 469-479.
- Kim, D., Ferrin, D., & Rao, H. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems*, 44(2), 544-564.
- Kim, Y., & Peterson, R. (2017). A Meta-analysis of Online Trust Relationships in E-commerce. *Journal of Interactive Marketing*, 38, 44-54.
- Kitukutha, N., & Oláh, J. (2018). Trust and E-Commerce-Case Study on Jumia Company. *The Annals of the University of Oradea. Econ. Sci*, 27, 313-319.
- Kotler, P. (1998). *Administração de Marketing: análise, planejamento, implementação e controle*. (5a ed). São Paulo: Atlas
- Kotler, P., & Armstrong, G. (2008). *Princípios de Marketing*. (12.ª ed). São Paulo: Pearson Prentice Hall.
- Kotler, P., & Armstrong, G. (2012). *Principles of Marketing*. (14.ª ed). Nova Jersey: Pearson Education Inc.
- Koufaris, M. (2002). Applying the technology acceptance model and flow theory to online consumer behavior. *Information Systems Research*, 13(2), 205-223.
- KPMG International. (2017). *The truth about online consumers. 2017 Global Online Consumer Report*. Suíça: KPMG International Cooperative.
- Marôco, J. (2014). *Análise Estatística com o SPSS Statistics*. (6ª ed). Report Number.
- Muniady, R., Al-Mamun, A., Permarupan, P., & Zainol, N. (2014). Factors influencing consumer behavior: A study among university students in Malaysia. *Asian Social Science*, 10(9), 18-25.
- Oliveira, T., Alhinho, M., Rita, P., & Dhillon, G. (2017). Modelling and testing consumer trust dimensions in e-commerce. *Computers in Human Behavior*, 71, 153-164.
- Pallant, J., Danaher, P., Sands, S. & Danaher, T. (2017). An empirical analysis of factors that influence retail website visit types. *Journal of Retailing and Consumer Services*, 39, 62-70.
- Pavlou, P. (2003). Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. *International Journal of Electronic Commerce*, 7(3), 69-103.
- Quivy, R., & Campenhoudt, L. (2008). *Manual de Investigação em Ciências Sociais*. (5a ed). Lisboa: Gradiva Publicações.
- Rani, P. (2014). Factors influencing consumer behaviour. *International Journal of Current Research and Academic Review*, 2(9), 52-61.

- Reichheld, F., & Schefter, P. (2000). E-Loyalty: Your Secret Weapon on the Web. Canada: *Harvard Business Review*, 105-113.
- Suh, B., & Han, I. (2003). The Impact of Customer Trust and Perception of Security Control on the Acceptance of Electronic Commerce. *International Journal of Electronic Commerce*, 7(3), 135-161.
- Tanner, J., & Raymond, M. (2013). *Principles of Marketing*. (2.^a ed). Boston: Flatworld.
- Tanner, J., & Raymond, M. (2016). *Principles of Marketing*. (3.^a ed). Boston: Flatworld.
- Wang, C., Chen, C., & Jiang, J. (2009). The impact of knowledge and trust on E-consumers' online shopping activities: An empirical study. *Journal of Computers*, 4(1), 11-18.
- Wang, W., Wang, Y., & Liu, E. (2016). The stickiness intention of group-buying websites: The integration of the commitment–trust theory and e-commerce success model. *Information and Management*, 53(5), 625-642.
- Zebra Technologies. (2018). A nova ordem do varejo: Estudo sobre o futuro dos consumidores 2018. Available at: <https://bit.ly/2PdZKuY>.