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THE INFORMATION QUALITY EFFECT: ENHANCING USER ENGAGEMENT AND PURCHASE INTENT IN E-COMMERCE

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Abstract: The way customers make purchasing decisions has evolved in the digital age, with consumers utilizing both online and offline channels to research products, compare prices, and find the best deals. This shift in consumer behavior necessitates research that helps businesses effectively integrate various communication channels to provide superior service and enhance overall company performance. Understanding the determinants of customer purchase intention is essential in this context. E-commerce, driven by the internet's rapid expansion, has garnered considerable attention from both researchers and marketing professionals. The changing landscape of customer behavior in the multimedia environment, characterized by multiple screens and communication channels, presents new research opportunities. This study aims to explore the impact of social media and digital technology on customer experiences and the decision-making process. By examining these emerging consumer behaviors, businesses can adapt their strategies to meet evolving customer preferences.

Keywords: customer behavior, purchase intention, e-commerce, multimedia environment, social media, digital technology

1. Introduction

Customers are changing the way they purchase, they are online and offline searching websites, visiting physical stores, using smartphones and tablets to get information, compare products and prices and, then, find the best purchase option. For that, the need of research to help managers integrate the communication channels in a high digital world is emerging, impacting better service to customers and company's performance (MSI, 2014a). With such customer behavior change, it is necessary, also, the understanding of the antecedents or determinant factors of customer purchase intention.

Looking at a better understanding of customers' behavior and the determinant factors of their purchase intention, it is important to note that e-commerce is getting attention from researchers and market professionals, since the internet allows the rapid growth of marketing channels (Liang and Huang, 1998; Alkasassbeh, 2014). Moreover, the Marketing Science Institute sets as research priorities for the period of 2014-2016, to understand customers and their consumption experience. Therefore, research gaps emerge around the new customers' behaviors, that emerged in the multimedia environment, of multiple screens and communication channels, looking at understanding how social media and digital technology change customers' experiences and the path they follow to decide and effectuate their purchases (MSI, 2014b).

Although the use of internet to shop, mainly of goods, keeps increasing and popularizing (Van Noort, Kerkhof and Fennis, 2008), the e-commerce has become an activity to be managed by retail market (Lian and Yen, 2013).

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The total e-commerce potential in B2C (Business-to-Consumer) can only be effectively reached if customers feel comfortable and safe in performing online transactions with retailers, including unknown retailers (Cheung and Lee, 2000; Benamati, Serva and Fuller, 2006). Therefore, to assure this business segment and online transactions succeed, it is essential to understand why customers are willing, or not, to buy products online, that is, investigate the factors that affect their purchase intention on internet websites (Wang, Yeh and Liao, 2013).

Some studies that address online purchase intention, it is noticeable the focus on trust (Gefen, Karahanna and Straub, 2003; Chiu, Hsu, Lai and Chang, 2012), one of the most relevant constructs in organizational behavior studies and, mainly, linked to relationship marketing (Morgan and Hunt, 1994; Shepard and Sherman, 1998). However, Lewicki, McAllister and Bies (1998) highlight the importance of knowing not only the positive expectation (trust) intrinsic to relationships or commercial interactions, but also the negative expectation, that is, distrust.

Therefore, not only customer's trust must be encouraged, but also manage and minimize the distrust impact (Riquelme and Roman, 2014), that perhaps may nourish in relation to online shopping websites.

The presence of distrust, consequently, has attracted research interest because of the negative impact it causes in business relationships and transactions, exercising a more critical role than trust, since the negative information or experience tends to predominate over the positive information or experience in the customer's decision making process (Singh and Sirdeshmukh, 2000; Ou and Sia, 2010). This way, studies reveal the superior effect of distrust over trust when the customer considers evolving in a transaction that evolves risk, as, for example, buying on the internet (Cho, 2006; Chang and Fang, 2013).

Another negative factor that can interfere customers' purchase intention and that have already gotten attention in this context is perceived risk (Pires, Stanton and Eckford, 2004; Van Noort, Kerkhof and Fennis, 2008). Perceived risk is the one that customers perceive and that can be related to the product, the environment (website or sponsoring company) and/or the purchase process itself (Ko, Jung, Kim and Shim, 2004; Brosdahl and Almousa, 2013). For Forsythe and Shi (2003), customers may hesitate buying on the internet because of the concerns with perceived risk, including financial aspects, time evolved in purchasing and psychological aspects (for example, fear, doubt, uncertain), among others.

Seeking for product on the internet, customers incur cognitive "costs" (searching costs, transaction costs and switching costs) (Yen, 2010; Shih, 2012), while they should process a great quantity (volume) of information. Therefore, the quality of information available by the website is a factor of great importance in the evaluation that the customer does about the online purchase website, allowing that, from the available information, the customer can evaluate the product and the company that offers it too (Cao, Zhang and Seydel, 2005; Ou and Sia, 2010). On the other hand, the customer has difficulties in processing the quantity of information available, giving space to bounded rationality (Shih, 2012). Bounded rationality refers to a variety of behavioral phenomena that assume the imperfection inherent to the individual decision making, so that the individual is rational with his cognitive limits (Simon, 1957). That is, customers do not have the full capability to consider every available information and process every possible alternative, besides not inquiring each possible result because of his bounded capability of processing the volume of information (Shen and Su, 2007).

The internet keeps entering homes and business places around the world, increasing sales opportunities (Brosdahl and Almousa, 2013).

Therefore, identifying critical factors when converting customers that just search for products and/or services on the internet in effective buyers, conquering, this way, new customers and retaining old ones, must be of e-marketers interest (Chen and Dubinsky, 2003). For that, it is necessary to decrease the risk perceived by the customer, his distrust in the purchase websites and the influences that bounded rationality exercises on information quality, favorably impacting in positive online purchase intentions.

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Therefore, after a refined literature search, this study had as objective to propose a theoretical model that contemplates the relation among the constructs information quality, distrust and perceived risk, considered as determinant or antecedent factors of customer purchase intention in the online purchase context. For so, this work follows with the theoretical framework about the subject and the proposed constructs, the proposed theoretical model and research hypotheses and, finally, the final considerations.

2. Theoretical Framework

2.1 Information Quality

Information quality refers to the judgment and evaluation that customers do about the information, that is characterized by the degree of precision, by how much the information is really capable of informing and by the relevance (utility) of the information available by the website (Cao, Zhang and Seydel, 2005; Kim and Niehm, 2009). In this sense, Gao, Zhang, Wang, and Ba (2012) define information quality as how much the information available about the attributes of a product, brand or company is useful for customers, what helps them evaluate such object. Kim and Niehm (2009) complement such idea by saying that the perception of customers that the website is interactive and that allows them to make their searches, may be positively associated to the overall evaluation that the customer does about the website's information quality.

In the online shopping context, information quality can reflect on the product or service quality (Wang and Strong, 1996). By the way, allowing customers to have more discernment on what concerns important aspects or attributes about the product or service (Chiu, Hsieh and Kao, 2005), seen that customers can only evaluate products or services based on the website's presented information, while in traditional retailing, this evaluation can be made from products visualization, in a tangible way (Kim and Niehm, 2009). Therefore, customers depend on information available on the websites (Szymanski and Hise, 2000) and the evaluation that the customer does about the quality of the information that the website offers is a vital factor for online purchase websites success (Liu and Arnett, 2000).

As a result, by providing valuable and detailed information, the chances of attracting and retaining customers increase (Honeycutt, Flaherty and Benassi, 1998).

The study of Park and Stoel (2005) identified that the quantity of information available in online purchase websites is not a determinant factor for purchase decision. Such result can be attributed to the fact that customers are not able to deal with a great quantity of information, considering that the excess of information may not be processed and part of the information may be lost, due to the bounded capability of people in processing too much information (Zheng, Zhao and Stylianou, 2013). For this reason, Park and Stoel (2005) suggest that information quality that is understood by how much it is detailed, easy to find and understand, is more relevant than quantity (volume).

People in general, whether they are deciders in companies or costumers, are not perfectly rational neither can be induced to behave in a rational way, which means that, mostly, they are bounded rational individuals (Jiang, Fang, Fan and Wang, 2013). This way, rationality seeks to find preferred behavior alternatives according to some values system or beliefs that allow evaluate the consequences of a specific behavior. The number of alternatives that the individual must take into consideration and the information necessary to evaluate such alternative is so wide that it is difficult to admit any approach to objective rationality (Simon, 1957). For Simon (1987), people do not take into consideration all available information and tend to focus just on what concerns them the most, selecting what is relevant and, consequently, reducing the overload of information. Thus, the rational choice takes into consideration the cognitive limits of the decider, that are as much knowledge limits as computational capability, that is, information processing.

The internet enables customers to compare prices, search for different brands, products and/or services, and read the opinion of other customers about their purchase experiences in a given website. And all this from any place

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and at any time. However, these benefits can incur costs when the quantity and the complexity of information available exceed the bounded capability that the customer has to process information (Dabholkar and Sheng, 2012). Nevertheless, internet users are more “satisficers” than “maximizers”, that is, seek for simpler alternatives that faster answer to their needs (Zach, 2005).

2.2 Distrust

Distrust is understood not as the absence of trust, but as the negative expectation that the other party, in this case, the seller (website or sponsoring company), will behave in a way to violate the buyer (client or customer) wellbeing and safety (Kramer, 1999).

It is, therefore, defined as the negative expectation that the customer has about the seller’s conduct or intrinsic to a business transaction or relationship, characterized by fear, skepticism, cynicism, caution and vigilance about possible risks in the context of some transactions (Lewicki, McAllister and Bies, 1998; McKnight and Chernavsky, 2001; Lewicki, 2006). This way, distrust makes the customer take decisions aiming at reducing his vulnerability and existing uncertainties in order to protect or safeguard his interests (Lewicki, 2006).

Lewicki (2006) states that distrust takes the evolved parties to reduce their disposition to share information and engage in the solution of problems in the case of situations that evolve conflict, what is pertinent to be understood in the context of online purchase, once customers’ information are shared with unknown vendors or companies that hold these websites. In the online purchase scope, distrust, understood as a negative expectation, is generated mainly because customers fear the seller opportunism and because they concern about the usage of the internet intrinsic resources, feeling vulnerable, mainly about what concerns possible exposure and bad use of their data or personal information (Pavlou, 2003). Additionally, Zhang, Fang, Wei, Ramsey, McCole and Chen (2011) comment that when the customer distrusts about the seller behavior, he believes that the vendor will not meet his promises, violating customers’ expectations (e.g. the vendor may deliver a bad quality product).

Studies have approached trust and distrust in a same context, as constructs that can happen at the same time and that are distinct, wherein each one has a different subsequent effect in what concerns customer behavior (Lewicki, McAllister and Bies, 1998; McKnight, Kacmar and Choudhury, 2004; Lewicki, 2006; Chang and Fang, 2013). It is important to highlight that a low level of distrust is not the same that a high level of trust, as well as a high level of distrust is not the same as a very low level of trust (Lewicki, McAllister and Bies, 1998). Lewicki, McAllister and Bies (1998), based on Luhmann (1979), place that such factor occurs because trust reduces customers’ uncertainty and causes him to disregard that the sellers’ undesired conduct may occur, assuming that the conduct the customer considers desirable is the one that will occur. Similarly, distrust makes the customer assume that the undesirable conduct is the one that will occur.

However, this research aimed at addressing just distrust in the proposed model because of the negative impact it causes in business transaction or relationships and by the more critical role it exercises if compared to trust, once the negative information or experience tends to predominate over the positive information or experience in the customer decision process (Singh and Sirdeshmukh, 2000; Cho, 2007; Ou and Sia, 2010).

That is why, some studies that addressed both trust and distrust in the research context reveal the superior effect of distrust over trust when the customer considers evolving in a transaction that evolves risks, like, for example, buying a product on the internet (Cho, 2006; Ou and Sia, 2010; Chang, 2012; Chang and Fang, 2013).

Even though trust and distrust simultaneously influence internet high risk behaviors, the engaging in high risk behaviors induced by the absence of distrust is higher than the one provided by the presence of trust. This way, only when the customer has low distrust he will be more willing to buy or share information in an online purchase website (Chang and Fang, 2013).

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2.3 Perceived Risk

The concept of perceived risk was initially proposed by Bauer (1960), who defined it as the feeling of uncertain that the customer has when can not foresee the consequence of a purchase decision, and comes, since then, being incorporated in researches concerning the consumer behavior and relationship marketing fields to understand how the customer behaves when exposed to some kind of risk. Additionally, Taylor (1974) proposed that perceived risk is a base aspect in consumer behavior due to the perception that risk is painful (physically and/or emotionally), and can generate anxiety and is, therefore, something that the customer should deal somehow.

According to Mitchell (1999), the interest in researches that incorporate perceived risk is due to the facilitator role it exercises by allowing managers to glimpse the world from the eyes of the customer, what is applicable and possible to be understood in any context. Besides, perceived risk explains the customer behavior from the perspective that customers are more motivated to avoid mistakes or regrets than maximize the utility of purchase. This way, the analyses of perceived risk from the customer perspective can and must be used for managers' decision taking.

Perceived risk in the online purchase context concerns activities like buying a product, getting incomplete or misleading information or providing personal information to a vendor (website or sponsoring company). Such behaviors evolve risk because the product may be not exactly how described, or presented in the website, or the information provided by the vendor may not be precise or, also, customer personal information may be bad used or stolen, causing, this way, harmful consequences for the customer (McKnight and Chervany, 2001; Chang and Fang, 2013).

It is important to highlight that perceived risk occurs when the customer recognizes the possibility of loss or other negative consequence when buying, consuming or using a product and/or service (McKnight, Kacmar and Choudhury, 2004; Pavlou and Gefen, 2004; Brosdahl and Almousa, 2013) and, for that reason, the incidence of an uncertain feeling can happen by the customer in which he is not able to foresee the final result (consequence) of a purchase or consumption decision (Featherman and Pavlou, 2003; Yen, 2010).

As indicated in the literature (Chen and Dubinsky, 2003; Featherman and Pavlou, 2003; Brosdahl and Almousa, 2013; Zimmer, Aarsal, Al-Marzouq and Grover, 2010), perceived risk is defined, therefore, as the probability of the customer to suffer from some kind of financial loss caused by additional costs, future costs with the maintenance of the product or the lack of guarantee or replacement in the case of problems with the product. Besides the perception that the product will not perform the expected or needed way, which causes the customer to suffer loss in relation to the desired benefits, as well as the preoccupation that the credit card information may be used (stolen) in an unlawful way and, still, that the customer incurring some control lost in relation to his personal information.

2.4 Purchase Intention

Attitudes are based on beliefs about a certain object or action that can be translated in an intention to perform such act, being a general evaluation that the customer does about something (Schwartz, 1992). It is the attitude that guide the intention of a certain behavior, which, therefore, results in the real behavior (Ajzen and Fishbein, 1980; Oliver, 2010). An attitude about a behavior constitutes of a positive or negative evaluation about that behavior and include the person's values and beliefs about the possible consequences in performing it (Kim and Park, 2005; Ajzen, 2011). So, the customer attitude about a purchase website concerns the positive or negative perception the customer has about the website and represents the person's beliefs about the online purchase experience (Jones and Kim, 2010).

The intention, on the other hand, is the decision to act in the future in a certain way (Ramayah, Lee and Mohamad, 2010). The intentions capture the motivational factors that influence behavior and, the greater the intention to engage in a behavior, the greater is the probability it occurs (Ajzen, 1991). Therefore, purchase intention can

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predict or direct a real future behavior, that is, predict a purchase performing from the customer (Zeithaml, Berry and Parasuraman, 1996; Ramayah, Lee and Mohamad, 2010)

Therefore, the intention is influenced by the level of effort needed to perform the behavior, along with the convenience, the associated costs and the time to be spent (Bagozzi, Yi and Baumgartner, 1990; Ramayah, Lee and Mohamad, 2010).

A purchase intention may, or not, consolidate in an effective purchase, this is because some factor such as changes in the motivations, the needs, the consumption or purchase circumstances, new information or desired alternatives may not be available anymore, can prevent or change this process, that is, change the customer decision (Engel, Blackwell and Miniard, 1995).

For Engel, Blackwell and Miniard (1995), the intention is the direct antecedent of purchase, which receives influences from the environment and the person itself. The situation is one of the environment influences that can affect the customer and can be identified in the lack of time the customer has to perform the purchase or, also, the customer's financial limits, that may inhibit the materialization of his purchase intention into a real purchase. Summing, the purchase intention is defined as the disposition the customer presents to acquire a product and/or service and express the probability of this coming to be effectively purchased (Wu, Wu, Lee and Lee, 2015).

Purchase intention is defended by some authors like a strong antecedent of the adoption or use of information technology (internet adoption) (Davis, Bagozzi and Warshaw, 1989; Venkatesh, Morris, Davis and Davis, 2003) and also as antecedent of online purchase (Pavlou and Fygenson, 2006; Lin, 2007; Ajzen, 2011). Therefore, online purchase intention focus on how much the customer is willing and intends to buy a product through the online platform, in this case, on the internet (Pavlou, 2003).

Previous experience with online purchase indicate that the customer may repeat the behavior and search for other products or services in this same purchase context (Shim, Eastlick, Lotz and Warrington, 2001), as well as past experience may directly influence in purchase intention (Kim, Lee and Kim, 2004). Also, Shim, Eastlick, Lotz and Warrington (2001) suggest that, once the customer intends to perform a given purchase behavior, like the intention to search for a product or the purchase intention, this customer will do it once he has the opportunity and the necessary resources, as, for example, time, money and even skills to use the internet.

The scales that measure purchase intention have been frequently used to identify the probability of purchasing products with a defined period (Ajzen, 2011). Previous studies have evidenced that customers that said to have the intention to buy a product presented greater actual purchase level than the ones that said not having that intention (Brown, Pope and Voges, 2003). Consequently, even taking into consideration that the purchase intention is not the same as the actual purchase behavior, measures of purchase intention are behavior predictive, what may be of interest for online retailers (Brown, Pope and Voges, 2003).

Understanding customer purchase intention is an important factor for well succeeded marketing strategies that contemplate any brand, product and/or service (Xu, Summers and Belleau, 2004). By the way, McGaughey and Mason (1998) place that the internet has potential to influence customers intentions and purchase decisions and such influence must, therefore, be better studied and understood. This way, the internet is not just a marketing source that affects customers purchase intention, but it can also be the means to which the customer comes to make some purchase.

3. Proposed Theoretical Model and Research Hypothesis

Based on the theoretical framework presented, it is possible to underline some prepositions among the constructs information quality, distrust, perceived risk and purchase intention, which is discussed as follows, as well as the preposition of a theoretical model.

When customers search on websites that they perceive to provide information of high quality, they understand that the website has a good layout and appearance, where the customers can easily find what they need and, for

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that reason, identify that they can trust these websites (Bart, Shankar, Sultan and Urban, 2005). How much the information is useful and exact indicates if the information presented in the website is correct, that is, if it attends the needs and can help the customer (Chang and Fang, 2013). If the information is useful for the customer, he will be more prone to trust the online purchase website (Hsu and Wang, 2008), however, when the customers perceive evidences that the information is not safe or trustful, it is probable that the customer leaves the website and get disappointed (Goode and Harris, 2007), which anticipates or reinforce his distrust. Therefore, the first research hypothesis is presented:

H1: Information quality has a positive and direct effect over distrust in the online purchase website.

Nicolaou and McKnight (2006), on the other hand, defend that by increasing information quality, perceived by the customer, reduces the perception of risk. Quality information means that the information is relevant, actual, precise and complete and, when quality information is available, uncertainty and risk associated to the online purchase context reduces (Yi, Yoon, Davis and Lee, 2013). For that reason, the second research hypothesis is presented:

H2: Information quality has a positive and direct effect over perceived risk in the online purchase website.

According to Barber (1983), distrust works as an identifier of situations in which the person needs to protect him and, in this sense, it is a control mechanism to signal risks, letting the customer alert. Distrust is, therefore, directly associated to perceived risk (McKnight, Kacmar and Choudhury, 2004; Chang and Fang, 2013) and, for that reason, when a customer involves himself in a purchase or a transaction that involves high risk, there will be a higher weight in his distrust in relation to the other party too (Chang and Fang, 2013). Therefore, the third research hypotheses is presented:

H3: Distrust has a negative and direct effect over perceived risk.

The study of Kim, Lee and Kim (2004) approached the relation between the intention of using the internet to search for products information and the intention of using the internet to purchase, and they found that searching for information can predict the purchase intention. The authors place that the available information about a product on sale in the websites, as well as the accessibility of these information, increase the probability of actual purchase. In this direction, Chiu, Hsieh and Kao (2005) suggest that information quality is related to the behavioral intention of customers (e.g. intention to use the website to purchase, intention to recommend it to other people), what was also verified by Kim and Niehm (2009). Thus, the fourth research hypothesis emerges:

H4: Information quality has a positive and direct effect over customer purchase intention in the online purchase website.

Distrust may exercise a critical role by decreasing purchase intention as a way the customer finds to protect himself or avoid taking a decision that may incur in an unwanted or unsatisfactory result (Ou and Sia, 2010). Besides, Fein and Hilton (1994) affirm that suspecting is also being in a suspended judgment state. Therefore, when distrust is activated, it is possible that the customer stops looking for products on the internet, or in a given website, and decides not performing the transaction, in this case, the purchase (Ou and Sia, 2010). Consequently, by distrusting an online purchase website, the customer intention must drastically drop and only when the level of distrust is low the customer will be willing to buy or share information on the internet (Chang and Fang, 2013). Therefore, in the online purchase context, distrust works as an inhibitor of customers purchase intention (Ou and Sia, 2010; Chang and Fang, 2013). This way, the fifth research hypothesis is presented:

H5: Distrust has a negative and direct effect over customer purchase intention in the online purchase website.

Due to the different aspects intrinsic to perceived risk, customers may not perform online purchases, so risk is a barrier for such purchase transactions (Mcgaughey and Mason, 1998; Featherman and Pavlou, 2003; Van Noort, Kerkhof and Fennis, 2008; Yen, 2010; Almousa, 2014). In other words, the higher the perceived risk, the lower the customer purchase intention will be (Van Den Poel and Leunis, 1999; Choi and Lee, 2003). In the online

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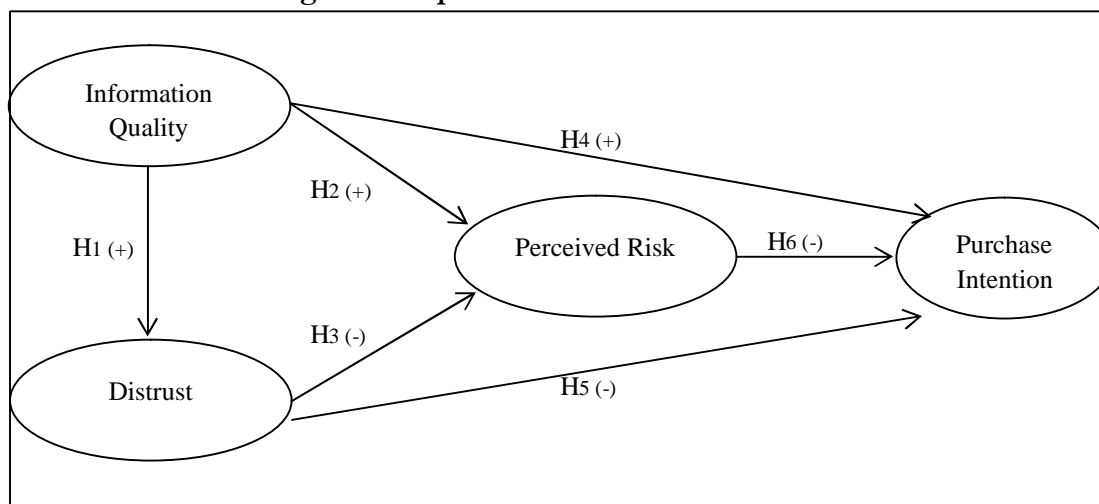
purchase context, perceived risk associated with buying in a virtual store or website, reduces the positive perception the customer has that the purchase will be well succeeded, what also influences in reducing his purchase intention (Jarvenpaa, Tractinsky and Vitale, 2000). Because of that, the sixth research hypothesis is presented:

H6: Perceived risk has a negative and direct effect over customer purchase intention in the online purchase website.

In order to facilitate the understanding on the research hypothesis, Figure 1 presents the proposed theoretical model, aiming at investigating the relation among the constructs information quality, distrust and perceived risk as determinants of customers purchase intention in the online purchase context.

4. Final Considerations

Figure1–Proposed Theoretical Model



Although purchase intention is an appellat subject in researches related to relationship marketing and, mainly, customer behavior, when it comes to the online purchase context, further when related to the determinants or antecedents of purchase intention in this context, there is still a great amount of research opportunity to understand such relations.

Thereat, it is possible to highlight that, according to the literature review, some customers fear or hesitate to buy in the online context because of fear, insecurity and uncertainties they feel when providing personal and credit card information in the online environment, as well as fear that the purchased product do not meet their expectations or that there will be problems with the product performance and, in this case, they will not be able to return or exchange the product. Therefore, it is appropriate to highlight the researches opportunities that help managers identify how, when and if customers will purchase in the online websites.

The aim of this study was to investigate the existing literature the main contributions and evolution around the purchase intention determinants, as well as future research indications, aiming at verifying possible research gaps about this subject. Thus, a literature review in relation to some constructs identified as antecedents of purchase intention was developed, and that, for this study, the constructs are information quality, distrust and perceived risk, what is opportune to be understood and applied in the online purchase context, since buying online has become a frequent practice among customers and, for that, deserves managers' attention to improve the consumption experience of these customers.

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Therefore, based on the literature and previews studies, it was verified that the relation among information quality, distrust and perceived risk as determinants of purchase intention, as far as is our knowledge, was not empirically tested in any other research model, simultaneously, what is proposed in this study theoretical model and suggests to be tested in a complementary study. Thereby, the constructs approached in this study aim at a better understanding of the antecedents or determinant factors of customers purchase intention. According to the literature (MSI, 2014b), understanding the customer and his consumption experience is a research priority, since there are gaps around customers' new behavior facing the influence that social media and digital technology exercise over the customer consumption experience. In this vain, this study contributes with the literature about the subject by seeking to understand why customers are willing, or not, to purchase products online, and which the determinant factors for that are.

Form the theoretical essay developed, it is possible to highlight that there is a frontier for the development of studies in relation to the presented model to be tested, based on theoretical evidences presented in previous studies that have demonstrated the relation of the constructs information quality, distrust and perceived risk, which were tested separately or with other purchase intention determinants.

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