International Business Management 10 (18): 4391-4402, 2016
ISSN: 1993-5250

The Consumer's Confusion in the Products' Choice Process

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Abstract: In a market that offers ever more choices and a multiplicity of sale channels, the undesirable effects with the consumers can be observed. The consumers' confusion is one of the undesirable effects and its study is relevant for it will allow to a better development of a scenario's format including the offers of products and services shown by the suppliers having the intention of maximizing sales. This study will allow a better comprehension of the strategies that are used by the consumers in a confusion situation. This study explores the decision process and evaluates the consumer's confusion phenomenon produced by ambiguity, excess and/or similarity of the information that is presented to him. A survey was conducted via internet with 458 respondents. The study indicated that the level of confusion has as its antecedent the individual's maximization degree and his level of involvement with the product. The demographic profile acts a moderator of the relationship between the involvement and the consumer's confusion. As consequence there is a purchasing intention, the search for more information, the decrease of the number of alternatives, the search for help from a third party and the decision's postponement.

Key words: Consumer's confusion, excess of information, ambiguity, similarity and involvement, choice process

INTRODUCTION

Society has observed profound changes during the twentieth century. As proposed by Lipovetsky "A new modernity was born: it coincides with the civilization of desire that was constructed throughout the second half of the 20th century". The mentioned civilization of desire is oriented by a stimulation of demand and the proliferation of the necessities. The consumerist civilization is distinguished by the central role that is occupied by the well-being's aspirations and by the search of a better life for himself and his dear ones. On the other hand, if this consumerist civilization did exist, according to Lipovetsky, starting from the 1990 decade, a new society has imposed itself: the hyper-consumption society. There is a transition of a consumer that was subjected to a social coercive positioning to a hyper-consumer that searches for emotional experiences and a greater well-being, for life and health quality, brand name's quality and authenticity, immediacy and communication.

In a market that offers ever more choices and a multiplicity of sale channels, the undesirable effects with the consumers can be observed. The consumers' confusion is one of the undesirable effects and its study is relevant for it will allow to a better development of a scenario's format including the offers of products and services shown by the suppliers having the intention of maximizing sales. This study will allow a better comprehension of the strategies that are used by the consumers in a confusion situation.

The problem, in general, can be better explicated by answering a few questions such as: what generated the consumer's confusion? Is the confusion related with the involvement level with the product and/or the degree of the individuals' maximization? Do the demographic aspects interfere in the confusion's existence? Which decision strategies are used in the confusion's existence? Does the confusion's existence interfere in the individual's purchasing intention? This study's theoretical framework refers to the decision theory and its perspective towards the consumer's confusion.

The aspects that are linked to the decision making are the objects of this study in the several different knowledge areas. For this present study, it is essential to show its comprehension because the consumer's

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confusion, the object of this study, occurs, as it will be present further forward, during the moment of choice among all the alternatives that are offered to him when purchasing.

Decision theory: The decision-making process' first conceptions are grouped under the Classical Theory's denomination. These concepts consider that when making a decision, the economic agents: have all the relevant information about the available options for his decision and about the consequences of each of these options; they are infinitely sensitive to the differences among the choices and they are totally rational when choosing an option (Sternberg, 1997). A rational choice implies on the economic agent's interests only in the mathematical expectation of his actions' results (which is equivalent to a medium result) and not in its immediate result. In this sense, the agent has the sole interest of having a maximized economic result, choosing an option that maximizes his interest in a deterministic form (Schrage, 1998).

The mathematician Daniel (1954) proposed that what is considered to be the expected utility theory's starting point. He argued that a value that a person gives to his wealth is not only its monetary value but its "moral" or utility value. With this proposition, subjectivity became part of the decision theory. To perform calculations, using the Classical Theory's mathematical principle, it was not necessary to do any type of subjective evaluation, being only necessary to multiply the probabilities by the possible results. However, it was detected the existence of the subjective evaluation made by the decision-makers. Thus, the form of utility depends in the specific circumstances of who is estimating. "There is no reason to suppose that the estimated risks of each individual should be considered with the same value" (Daniel, 1954).

According to the modern interpretation, the utility is not the cause of preferences, but the description of preferences. Individuals do not choose based on a utility function; they simply choose whatever they prefer. Whatever mental processes that individuals use to make choices, the utility in only one of the mathematical indexes used to describe what they prefer. It is not the individual that should behave according to the utility function, but it is the utility function that should emulate the individual's choosing behaviors. Pleasure, happiness, well-being and satisfaction became irrelevant for the utility theory's modern approach.

The model widely studied by Simon (1955) was the Bounded Rationality. In his studies, Simon (1955) proposed that it is not possible for a decision-maker to obtain access to all the possible actions due to a physical limitation to, inclusively, process them all and also because there is a high cost to process them. Due to this fact, the human's condition is treated in a realistic form and some of the neoclassic and classical business theories' pillars are criticized in an omniscient form. In this theory, the decision process is executed according to specific a criterion that limits the choosing process and the number of possible alternatives. This process understands the choice of an alternative among possible proposals, being that the same is considered satisfactory and acceptable but it does not necessary maximize the utility.

The individual's decision-making has in its rationality or logic of decision the influence of his life experience. It can suffer the position's effect that the individual occupies in the action context and of being conditioned by relevant information and by the disposition's effect, being that the individual's cognitive, mental and affective characteristics dependent of his past experiences. The individual's condition in the decision-making is undetermined and will depend exclusively on the conditions of the moment to show his choices.

Ramos (1989) proposes two new adjectives for rationality focused on the decision making implications of today's world. One is the substantivize rationality which understands the human being in the classical reason sense that belongs to the human psyche marked by its trajectory, social concepts and his discernment about life and the social human being. Now the functional rationality, contrary to the classic thought, is determined by means of the human's own effort in developing his own capacity to make coherent and satisfactory decisions.

Based on the decision-makers' limited rationality, it is evident that the decisions are not supported only by the logic and/or mathematical models. Intuition is here presented as an element that faces the decision process, as shown by Parikh *et al*. (2008). When they declare that intuition is "highly impregnated by knowledge and experiences that were accumulated by the individual, but perhaps they are not yet part of his own consciousness".

According to Schoemaker and Russo (1993), when an individual uses intuition in his decision process, his mind processes part or all of the available information in a rapid and automatic form without being aware of the details. These decisions do not consider all the available information, appearing to be inconsistent and that they could be influenced by weariness, distractions and other aspects that should be irrelevant to the decision process.

Kahneman and Tversky (1979) indicated, in what they called the Prospect Theories, that when the merit is (positive aspect) or demerit (negative aspect) of something is evaluated, the judgment is based on the gains and on the losses that an individual may have. A person's response is given in a different manner, according to their psychological stimulus that is presented to them. The individual's reference is based on a framework adopted in the decision process and in this sense, the psychological stimulus presents gains, where the decision maker positions himself as being averse to risks. On the other hand, if the stimulus presents losses, there is a propensity to risk (Kahneman and Slovic, 1982).

As described by Simon (1955), in a decision process there is an adaptation of the agent to the decision situation. Such adaptation happens through simple procedures that help to conduct his actions which were saved during the decision process. This economy that was made shows itself to be relevant, since there is a human being's computational limit in this world full of complexities.

The individual can, for example, use adaptive expectations a simple extrapolation of the past to the future instead of collection the information that will allow him to form expectations which will lead him to consider a greater quantity of relevant available information. Simon (1955) argued that the true difficulty about a decision involves the necessity of put together a decision context. People evaluate the relevant information and build representative mental models in the decision context.

In the decision process, individuals use simplified strategies which are constituted of the basic rules that should be used. According to Hammond *et al*. (2004) they are "unconscious routines to deal with the complexity inherent to most of the decisions".

Tversky and Kahneman (1983) assert that despite of their heuristic usefulness, they can lead to systematic errors, entitled biases. For Stoner and Freeman, the heuristics can even make the decision process quicker, but they are susceptible to failures if individuals depend too much on them. The reseachers determined in their studies three main heuristics which are: availability, representativeness, anchoring and adjustment.

With the availability heuristic, the individual evaluates the decision situation according to the availability of the subject in his memory. This indicates that the most recent and frequent information have a tendency of being remembered almost immediately and with greater representation. Subjects that are more related to emotion have a tendency to be easier to remember than those that are not emotional. As pointed out by Bazerman, although this heuristic can simplify the comparison judgment of the current situation with similar situations and information that is not directly linked with the current subject can be attached. An individual tends to make a determined event more frequent because it is easier to remember.

The second heuristic is related to the individual's tendency to ignore the statistical bases and overestimate the correlation between what a thing is and what it seems to be (Tversky and Kahneman, 1975). Bazerman indicates that in this heuristic, the probabilities are evaluated by the degree with which A is representative to B The third and last heuristic is the anchoring and adjustment. Tversky and Kahneman (1974) indicated that a person uses an initial point (anchor) and starting from this point, uses this information to evaluate the options in course. The adjustment, on the other hand, is the addition or subtraction of this initial point's value to estimate probabilities. Therefore, in the anchoring and adjustment heuristic, the precise information and statistic data are substituted by estimates based on arbitrary reference points.

One of the lines of thoughts indicates that decisions happen according to an evolutionary perspective. In this perspective, the mind is a group of information processing machines that were projected by a natural selection to solve the adaptive problems that were faced by our ancestors. It allows the recognition that the natural competences exist and it also indicates that the mind is a heterogeneous group of these competences. The basic question that the evolutionary psychology tries to answer is: How can a determined behavior, cognition, emotion and/or perception constitutes a solution for a functional adaptation problem in our evolutionary past. In contrast with the traditional psychological paradigm, the emphasis is to try and answer the "why" instead of explaining "how" it happens, since it does exist. It depends of the basic principle that the human mind is the result of an evolutional process that uses the natural selection principle (Barkow *et al*., 1995). The natural selection process, as proposed by Darwin (1859) is a process with three stages, which are: variation, inheritance and selection.

Cooper (1987) argues that the decision theory can be considered a branch of the evolution theory for according to her, there is a great similarity between the utility's maximization of the decision-making theory and the aptitude's maximization in the evolution theory. Cosmides and Tooby (1994) declare that the traditional behavior, as proposed by the decision theorists and economists, is only rational if it is adaptive and promotes the individual's inclusive aptitude.

In the discussion about possible behaviorism's applications in marketing, Nord and Peter (1980) claim that

many of the marketing's objectives can be reached by simply studying the environment's conditions and manipulate them, in order to have influence over the consumer's behavior. Due to this fact, there is a natural and intuitive appeal to use this theoretical approach because it suggests that the consumers' behaviors are within the marketing professionals' control. While the marketing professionals can identify the best environmental configuration, the consumers can be shaped to attend these professionals' whims (Gaad, 2007). The initial interest of the Skinnerian's conditioning was damped as a discussion of this form of conditioning the consumer's configuration (Nord and Peter, 1980). According to Gaad (2007), this theory is insufficient to conclude that the organisms look for rewards, while they desire to avoid punishment. A possible area for future researches would be to develop a theoretical framework capable of explaining why determined rewards are important which rewards are universal and in which context a reward is especially important or not. A deeper research would try to explain whether certain rewards are specific to gender, age as well as other characteristics that are intrinsic to the individual (Gaad, 2007).

Involvement with the product: The studies about the involvement in Marketing started with Krugman (1965)'s studies about the involvement in advertising. Since then, several researchers have attempted to understand the forms in which the consumers are involved with an object, being it a product, a purchasing decision or an advertisement. According to Rothschild (1979), depending on the type of involvement, the consumers differ in their decision-making processes, in the necessary quantity of information that they need to make a decision and in the processing manner of the acquiring information. Therefore, the involvement is a very important variable in the consumer's behavior (Michaelidou and Dibb, 2008). Furthermore, as pointed out by Fonseca and Rossi, depending of the consumer's involvement with the product, companies can define their strategies and actions and their marketing communication in a more efficient manner.

However, although there is a consensus with relation to the involvement's importance, the same does not happen with relation to its concept. It is believed that this situation happens due to the great number of related concepts with the construct as well as their distinct applications (Zaichkowsky, 1985; Michaelidou and Dibb, 2008). The concepts that appear to be more related with the involvement in the literature are: commitment, motivation, state of excitement, importance, interest, perceived risk, personal relevance identification with the consumer's values, problem solving, hedonic value and instrumentality. The closest to a consensus is that of Rothschild (1979) that defines the involvement in a more generic form as being an "unobservable state of motivation and interest, evoked by a stimulus or a particular situation which has the capacity of provoking an action by part of the individual".

For this researcher, there are three types of situational involvement: situational, long lasting and responsive. The situational involvement is the degree of elicited interest in a specific situation. That is different situations can elicit different levels of involvement by part of the consumers. According to Houston and Rothschild (1977), the level of the situational involvement is originated by the aspects of a purchasing or decision situations and depends on two types of stimuli categories: stimuli related to the object and stimuli related to the environment (social and/or psychological).

The long lasting involvement is about the relationship that the consumer has with a product, derived from the perception that same is highly relevant. According to Arora (1982), this relevance occurs because the consumer relates the product with his self-image and his central values. According to Bloch (1981), in the long lasting involvement, the interest provoked in the individual is regular and lasts for a long period of time. The intensity of this interest depends on two relationships: the relation between the individual's experience and the situation of his general needs; the relation between the product and the individual's central values. Thus, the involvement tends to be higher in the cases where the product is well-known by the individual, as in the cases where the product is in consonance with the individual's values (Bloch, 1981).

The responsive involvement was defined by Houston and Rothschild (1977) as "the complexity of the cognitive and behavioral processes that generally characterizes the consumer's decision process". In this sense the responsive involvement in not a behavior mediator but the behavior itself.

Other researchers, such as Park and Mittal, suggest other forms to understand the types of involvement Zaichkowsky (1985, 1994). These reseachers consider the individual's interest in a product can be the result of cognitive and affective motivations. The cognitive motives involve the product's functional aspect as also the evaluation of cost x.

Despite the attempts of several authors to define the concepts and types of involvement, Rothchild (1979) claims that there is no need for more definitions, since what is needed is a research effort focused on applying scales and the collection of empiric data about

involvement. In this sense, several authors have tried to develop scales to measure the involvement of which stand out Zaichkowsky (1985, 1994).

Laurent and Kapferer consider that the involvement is a complex variable which cannot be understood by means of only one factor. These reseachers suggest four factors or antecedents for the involvement: The product's perceived importance; The perceived risk associated with purchasing the product; The probability of risk; The symbolic value attributed by the consumer to the product, its purchase or its consumption and The product's hedonic value, its emotional appeal and its ability to give pleasure and affect. Based on these factors, the researchers proposed a scale of 15 items to measure the involvement's construct, the CPI-Consumer Involvement Profile.

Using another perspective, Zaichkowsky (1985) developed a scale to measure what he considers to be the involvement's central factor: the personal relevance. His scale was denominated PII-Personal Involvement Inventory and his first version consisted of twenty pairs of adjectives which resulted in a single general involvement factor. The scale's simplicity and the possibility of applying it in several objects made it quite appealing, reason for which it was used in several studies. However, some authors criticized the redundancy of some of the items in the scale which lead the author (Zaichkowsky, 1994) to do a revision of the scale and propose a version reducing the number of items to ten pairs of adjectives, maintaining the instrument's consistency and trustworthiness.

Starting from these two major scales (PII and CPI), Jain and Srinivasan proposed another scale to be used when measuring involvement: NIP-New Involvement Profile. The NIP's scale is made up of 15 semantic differential items, divided into five factors: relevance, pleasure, symbolic value, importance of risk and probability of risk.

Consumer's confusion: According to Miller (1956), the short-term memory can only process 5-9 information portions (seven plus or minus two) in a determined time unit where a portion refers to any significant unit. One portion can refer to numbers, words, peoples' faces, etc. Although, the consumers may be clear about their purchasing criteria, it might not be clear their "consideration set" of products and criteria and, due to this fact, they can be confused when entering in contact with the choosing environment (Mitchell and Papavassiliou, 1999).

Now a days, with the access to the traditional medias universalization, the advent of the internet, the decrease between brands and with the market's globalization and consequently the increase of competitors in several sectors, there is a growing amount of relevant and irrelevant information transmitted for each type, promotes an overload that may confuse the consumers and the result can be frustration, stress and sub-optimal decisions.

As indicated by Schwartz in a series of studies entitled "When the choice is demotivating", presented some interesting results. In one of the studies, it was demonstrated that when individuals are exposed to a large number of options, this reduces his purchasing index. Also, in situations with a larger number of options, the satisfaction level is lower than the situations with a smaller number of options.

The researchers of this study speculated on several explanations for these results. A wide variety of options can discourage the consumers because it forces an effort increase in making a decision. Therefore, the consumer decides not to make a decision and ends up not purchasing the product. Or, if they do, the effort to decide diminishes the pleasure that should be the consequence of the results.

According to Schwartz (2004), an enigma is placed under discussion: why is it that people cannot simple ignore the many or the few existing options and treat the matrix with 30 options as it were a matrix with 6 options?

This researcher states that this question has several possible answers. First of all, an industry of marketing professionals and advertisers present products which are difficult or impossible to ignore. They are exhibited all the time.

Secondly, individuals have a tendency to look around and observe what other people are doing and use them as a comparison standard. If the person sitting next to someone on an airplane is using a compact portable computer, extremely light with a large crystalline screen, the option of choice has at that moment increased.

In third place, it seems easy to increase only one more option to the option matrix that is already been considered. Indeed, the most important thing here is that people are not going to ignore their alternatives if they do not realize that the many alternatives may create a problem.

In fact which would then be a possible definition for the consumer confusion's phenomenon? From a linguistic point of view, the confusion has its origin in the psycho-medical literature, where it is used to describe a consciousness disturbance, which makes an individual too restless and dispersive to judge the environment, making him act wrongly. The consumer confusion's definition that is used in this study was created by Mitchell and Papavassiliou (1999): "Consumer's

confusion is a state of mind that affects the information's processing and the decision process. The consumer may be conscious or not of this process".

For Turnbull *et al.* (2000), the confusion is linked with a misinterpretation of all the product/service's characteristics when processing the information, which generates a non-understanding and a failed interpretation of the market.

The definitions are concentrated in aspects such as the stimuli's similarity and Walsh *et al.* (2007)'s work inserted the ambiguity dimension, indicating that these three elements affect negatively the consumers' decision-making capacity. According to Turnbull *et al.* (2000), confusion can cause dissatisfaction and consequently a lower rate of the consumer's loyalty and may even affect the product's image.

These aspects can be especially critical in a high involvement and complex purchase where there is a consumers' tendency to dedicate more time and effort in the search and processing information, existing, in this sense, a greater possibility of the consumers becoming overloaded.

This is because a confused consumer has a bigger possibility of abandoning or postponing a purchase or even changing to other categories of products with which he feels more comfortable to choose. A final application is that a confused consumer is inefficient, not only in the choice, but also in giving advice to friends. He can transmit negative mouth-to-mouth information or confuse the other consumers with inaccurate or even misleading information (Mitchell and Papavassiliou, 1999).

Therefore, it is vital for the companies to have a clear idea of not only what causes the confusion, but also how they can help the consumers to simplify their choices. In this sense, concepts about similarity, overload and ambiguity will be presented.

Consumer's confusion by similarity: The confusion by similarity is defined by Mitchell *et al.* (2005) as a lack of understanding and a potential modification of the consumer's choice or an incorrect evaluation of a brand caused by the products and services' physical similarity.

In this sense, the brand similarity only causes confusion if the consumers have knowledge of two or more brands in question. Walsh *et al.* (2007) defines the propensity to confusion by similarity as the consumer's propensity to think that the different products in a determined category are visually and functionally similar.

Confusion by similarity, however can happen not only in terms of brand imitation but also in terms of same brand's product categories. Some brands have so many categories that it causes some confusion as to the substantial differences between the products' alternatives. Furthermore, when there is no noticeable difference between the brands' significance and there is no noticeable differences in the product's attributes, the generation of conflict in the decision exists.

The imitation strategies make use of several instruments that can go from copying the product's physical appearance up to the imitation of other variables of the marketing mix such as price, distribution and promotion, in order to create confusion for the consumer. As for the similarity of the messages about the products and promotional messages, the use of the same distribution channels and similar price strategies can potentially cause confusion in the consumer's mind. Foxman *et al.* (1992) refer that, for the products with mass consumption, the most common strategies that are the source of brand name confusion are:

- The similarity of the brand name's physical identity
- The similarity of the marketing message, given that the messages about the product and the promotional messages are a stimuli frequently used by consumers to differentiate brands, having for this reason, a great probability of being an important role in the consumer's brand confusion process
- The similarity of distribution channels' level, since the products are sold through the same distribution channels are more susceptible to confusion
- The pricing strategy also affects the brand name's confusion, since products with similar prices are perceived as being more similar than the products with different price levels

In the situations that involve similarity, a clear alternative does not exist, with one being superior do the other. These situations promote the decision's postponement. Situations of conflict can cause a delay in the decision or a heuristic actuation as strategies to reduce this phenomenon (Tversky and Shafir, 1992).

Consumer's confusion excess of information: The consumer's confusion can happen during the process of choosing among the existing alternatives. Generally, the decision making studies start with the ideal position, in which there is sufficient available information for the decision to be taken and consequently, it focuses on the decision making process or if there is not sufficient information, it is assumed that it can be collected. Traditionally, the uncertainty was conceived as the difference between available information (for the task of deciding) and the necessary information (decision execution). On the other hand, there are situations where there is much more of available information than the required amount.

According to Malhotra (1982), the propensity for confusion caused by information overload can be described as the act of receiving more information than the short-term memory can process, which can affect the consumer's choice of a brand. For Walsh *et al.* (2007), the confusion by overload can be defined as the consumers' difficulty when faced with more information and alternatives of products than they can process to learn, compare and understand these alternatives (704).

Simon (1955) suggested that the man, holder of a limited rationality, uses the decision strategy that he titled satisficing. With this strategy, individuals do not take into consideration all the existing options, evaluating one by one until he finds the one that he judges to be satisfactory, even if all options have not been considered.

Individual uses an evaluation process by aspects, focusing his attention in only one attribute of the several options and creates a minimum criterion for this attribute. The second step is to eliminate the options that do not meet this minimum criterion. A sequential process is started here where another attribute is selected, establishing a minimum criterion and eliminating the options that do not meet this criterion until the end, where only one option will exist. Payne (1976) indicates that in practice, the satisfying strategy is used to limit the options and later on, more complete strategies are used to choose among the existing options since there has already been a restriction in the range of options.

In the past a rational decision maker was the one that considered all the information, however this is simply impossible. Jacoby *et al.* (1974)'s first studies about marketing, suggest a relationship in a U form between the information overload and the decision quality. With the increase of the information load the decision quality initially increases and subsequently decreases. More recently, Hahn *et al.* (1992) showed that, in the absence of the time pressure and increasing the information's load, there is an increase in the decision's quality. In time pressure condition, the decision's quality initially increases with the information's load and then, decreases, which provides an additional contribution to the U-shape curve hypothesis suggested by Jacoby *et al.* (1974) but only under time pressure conditions.

Consumer's confusion ambiguity: While, the information overload deals with the available information's quality, ambiguity deals with the quality, likeness, veracity or those that generate multiple interpretations. In any of the descripted situations, comprehension problems can exist by part of the consumer due to the lack of cognitive clarity (Walsh *et al*., 2007).

According to Cox (1967), the consumers notice the lack of clarity when they feel uncomfortable with the information's ambiguity and incongruence. When the ambiguity exists, the consumers are lead to infer about the product's characteristics that are different from its real characteristics. In this sense, ambiguity can cause complaints about the products or services. The consumers that are likely to be confused with ambiguous stimuli are those that are inclined to try to find other information that will help them, for example, to find more reliable sources.

Dhar (1997) showed that the consumers that did more comparisons or found the choice more difficult, were the most likely to postpone a decision. As indicated by Walsh *et al.* (2007), when consumers find high levels of ambiguity, they are unreliable and can deal with it, which favors the products that have more attractive attributes (Macdonald, 1970).

Chryssochoidis (2000) discovered that ambiguity causes decision heuristics, such as happiness towards the brand's name. For a consumer to become loyal to a brand name is the equivalent to doing less comparisons, which means that this consumer will be faced with less ambiguous and contradictory stimuli. However, this will only be maintained if there is brand name in which the consumer can have confidence. If the brand's information is ambiguous and uncertain, then there will be a negative impact over loyalty. Still according to Walsh *et al.* (2007), it is likely that each consumer has a limit of propensity towards individual confusion that when exceeded, will lead to a decrease of the consumer's capacity to process the available numbers of alternatives and to make rational purchasing decisions.

MATERIALS AND METHODS

Starting from the theoretical framework, a reference analysis model was proposed which is in Fig. 1. A questionnaire was structured for the data collection. This questionnaire merges scales that were already validated in other studies and scales that were constructed for this study. The scales that were used for each construct, used measures that varied from 0-10, being 0 disagree totally and 10 agree totally with the affirmative.

The confusion antecedents' evaluation was conducted having as its base an adaptation of the affirmatives proposed by Walsh *et al.* (2007). This adaptation was necessary due to the fact that Walsh *et al.* (2007)'s original scale to evaluate the propensity to confusion and also because of the interest of this study to evaluate confusion, having as a base the products scenarios that were presented to the respondents, since in the original study the authors did not specify a product, developing a scale base on a general perception of the products.

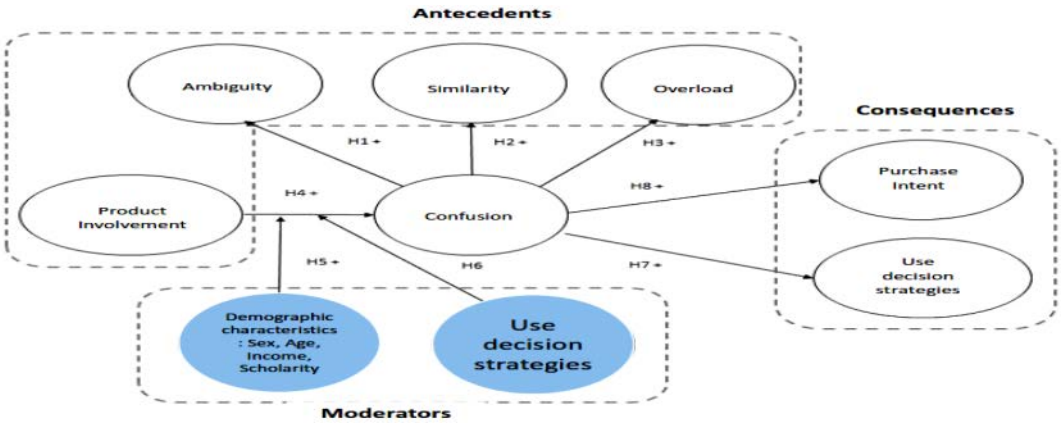

Fig. 1: Theoretical Model evaluated by the study

To evaluate the involvement with a product, a NIP (New Involvement Profile) was used as proposed by Jain and Srinivasan, believing that this scale would be more wide-raging and more appropriate for this study's objectives, corroborating with Fonseca and Rossi's thoughts who advocated that other than allowing the involvement measurement of products of different categories, the Jain and Srinivasan's scale also absorbs all the dimensions and forms by which the involvement is formed. These dimensions are divided into five factors: relevance, pleasure, symbolic value, importance of risk and probability of risk. The demographic profile in this study is translated by the following variables: gender, education level, income and age.

To evaluate the degree of the individuals' maximization a scale proposed by Schwartz *et al.* (2002) was used. In this scale, the lower extreme (lowest score) has a relation with the satisfiers and the higher extreme to the maximizers. It is important to point out that this scale has three dimensions: volume of search/search for alternatives, difficulty of choice and level of demand.

For the purchasing intention's evaluation, the scale proposed by Putrevu and Lord (1994) was used. To evaluate decision strategies in a situation of consumer confusion, a scale was created based on the proposed consequential in Mitchell *et al.* (2005)'s model.

The data collection was done through the Web. An electronic questionnaire was created in the LimeSurvey software and a program was developed to allow it to be presented to each respondent in a random scenario among the 12 situations. This procedure had the objective of randomizing the respondents profile for each scenario as also to allow a greater variability in the measured constructs. A link was sent to a diverse mailing list, which included individuals of different social-economical classes, age groups, gender and educational level. The questionnaire was maintained in the link from the 20th of December of 2013 up to the 5th of January of 2014.

The scenarios were created starting from the real available offers in the e-commerce sites, being that the prices were omitted so that, they would not be summarily used as a sole decision criterion. Certain manipulations were needed in some of the scenarios with the objective of reducing the number of information or to maintain only the ones that were more complex. This had the objective of presenting scenarios that could increase the measurements' variability of ambiguity, similarity and excess of information.

It should be pointed out here that the option of working with an online questionnaire was due to the fact that by doing it in this manner, the questionnaire would be better understood in a self-completed process, since the respondent would need time to evaluate the products with their characteristics. The presence of an interviewer could also inhibit the respondent that had a greater degree of confusion. Another relevant aspect is that as the options that were presented are the originals from the internet, since the use of the same media would be coherent with a more realistic situation of the scenario

RESULTS AND DISCUSSION

The total sample was of 458 respondents, having approximately the same number of men and women (48.9% and 51.1% respectively). The schooling degree was varied with a tendency of concentration on the higher educational level (49.5% had incomplete post-graduation or more). As for the family's income, 24.3% had an income superior to R$8,295.

The products were presented in a random manner to the respondents, in other words, for each respondent a scenario with two products was offered. This allowed a better sample distribution among the 12 provided options, with a number of respondents per scenario ranging from 27-48.

To evaluate the proposed model based on defined variables for each construct, a structural equations' modeling technique was used. As proposed by Hair *et al.* (2005), this technique is an extension of several multivariate techniques, which allows the representation of unobserved concepts and estimate multiple and inter-related relationships of dependency and their uses. An initial evaluation study of the absent and outliers data was necessary to be able to use this technique.

Since the questionnaire was filled out via Web, the respondent could only end the research if all the questions had been filled out, not existing, for this reason, the absent data. In order to identify the univariate outliers, a variable standardization was carried out, followed by the evaluation of the cases with a score superior to 3.28 for the referred variable. The standardization consists on expressing the variables in terms of standard deviation units. The operationalization consists in subtracting the average and dividing it by the standard deviation so that, they will have an average of zero and the variance equal to one. However, no values above this level were detected, which indicates the inexistence of univariate outliers

As the constructs' variables were treated in a multivariate manner, the existence of multivariate outliers' evaluation was carried out by using the Mahalanobis' distance of D^2 (Kline, 2005). Under the assumption the multivariate normality, the D^2 value has a chi-square with K (number of variables) degrees of liberty. With this it is possible to classify multivariate outliers if the probability associated with the chi-square distribution is inferior to 0.1%. Here, 24 cases were found with the probability of occurrence with D^2 inferior to 0.1%. However, according to Hair *et al.* (2005), the observations should only be eliminated if a demonstrable evidence that they are truly out of the normal and that they are not representative of any of the population's observations. None of these cases were truly identified as multivariate outlier and, for this reason, they were maintained. After these evaluations, an adjustment in the structural equations' model was carried out.

The first step to adjust the structural equations' model is the evaluation of the measuring model. The first criterion to be evaluated was the internal consistency reliability. Chin indicates that it should be evaluated primarily according the composite reliability and that this value should be superior to 0.7. Churchill (1979), cited by Henseler *et al.* (2009), recommends the elimination of the measuring model's indicators if it is less than 0.4 and if its removal will increases significantly its composed reliability. The removal procedure of the items was performed and the composed reliability values per construct varied from 0.750-0.899 with the exception of the purchasing intention that besides being below, it was near to the minimum's limit (0.634).

The constructs that presented the lowest extracted variance were the purchasing intention (0.416), followed by decision difficulty (0.462) and search of alternatives (0.476). The other alternatives had an extracted variance varying from 0.519-0.785. The convergent validity of each of these constructs was admitted, as they were attested via an exploratory factorial analysis, the single-dimensionality of theses constructs, being also within the level proposed by Fornell and Larcker (1981). In addition to this fact Bollen (1989) suggests a level of 0.4 which validates all of the constructs.

A limitation to evaluate the demographic profile as a relationship moderator between involvement with the product and de consumer's degree of confusion, is the fact that this profile is composed of variables that are not in the quantitative scale and, therefore, have their usage limited in the structural equations ambit.

As a form to allow this evaluation, the individual's profile was obtained using a technique called GoM (Grade of Membership) where the individuals' typology was created. This typology was created in two stages: the construction of extreme profiles and the calculation of the individuals' belonging scores of each generated profile.

The profiles' design considers the non-observed association between variable categories in the model. Two or more profiles are delineated, called extreme profiles which correspond to closed sets, classics with all their proprieties. The degree of belonging of each element is assigned to each individual, denoted by gik, to the extreme profiles. Values between 0 and 1 indicate that the individual is a partial member of the extreme profile. It was not the objective of this study to find the strength of the demographic profile as a moderator but only to prove its existence as having an impact in the relationship between the involvement with the product and the consumer's confusion. Taking this into consideration, two extreme profiles were determined with gender, age group, schooling degree and income variables and one of them was chosen indistinctly as the demographic profile's representative. This profile can be used directly with the structural equations because it is about a continuous variable, since it indicates the belonging degree to the associated extreme profile.

The coefficient's' significance was tested through a bootstrap's test with the same number of the sample's cases. After removing the non-significant coefficients, the result that was obtained is the model presented in Fig. 2.

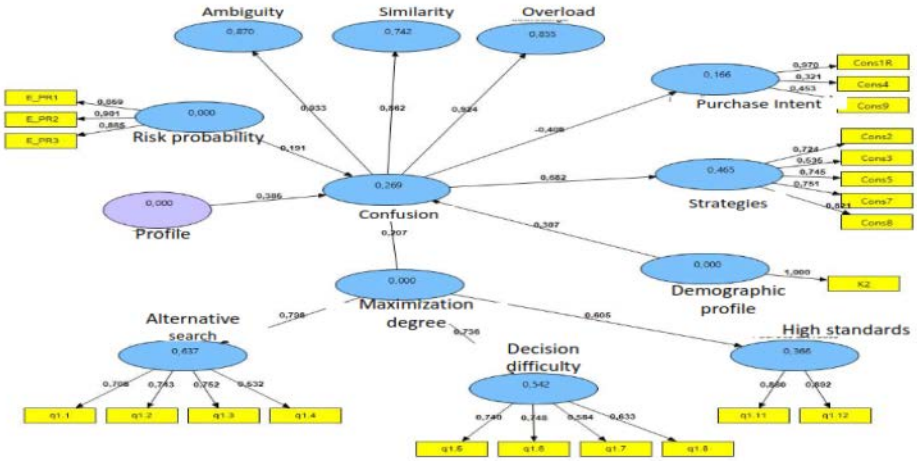

Fig. 2: Final estimated model

The results found in the final adjusted model (Fig. 2) indicate the existence of a positive relationship between consumer's confusion and his antecedents, ambiguity, similarity and overload. It is noteworthy to mention that in this study the confusion the construct was evaluated, expressed exactly by the ambiguity, similarity and overload perceptions. This is different from Walsh *et al.* (2007)'s study as the result of these authors dealt with the propensity to confusion and this study is about an evaluation of an online purchasing simulated environment. Other than this fact, the dimensions were not treated in an individual manner but treated considering all of the three to express the resulting confusion. However, Walsh *et al.* (2007)'s adapted scale showed itself to be adequate, allowing the authors to prove the three first hypotheses of this study. On the other hand, there was the hypothesis that the level of involvement with the product would affect positively the perceived confusion by the consumers. The involvement multidimensional construct (New Involvement Profile scale) presented on the probability of risk's dimension as being related to confusion. The probability of risk refers to the perception of the negative consequences associated with the probability of the consumer making a wrong purchase. In this sense, the consumer is more likely to look for more information as a form of reducing the probability of risk. Due to this fact, the information that is passed to the consumer gains more importance and the confusion that is more easily manifested.

The individual's degree of maximization, on its turn, acts in a similar manner to the probability of risk, having a positive relationship with confusion. The hypothesis that the maximizer individuals feel more confusion than the satisfiers, due to the fact that they search for more information and choose options to ensure that they have made the best choice has been proved. The maximization degree is presented as an antecedent of confusion, but is not presented as a moderator of its relationship with the probability of risk.

The individual's demographic profile, presented in this study by the variables gender, age group, schooling degree and income, presented itself as a moderator in the relationship between probability of risk (the representative of involvement with the product) and the consumer's confusion.

As consequence of the confusion, there is a reduction of the purchasing intention, as also the use of postponement strategies and the search for help in the decision making.

CONCLUSION

In purchasing simulated situations, as the ones presented to this study's respondents (purchasing via internet), the possibility for the purchaser to find help to make a decision is by using the search sites as also the price and characteristics comparison tools that exist in the Web. However, when inducing the behavior of a possible client, the companies are allowing the client to return to the alternative search stage and even to the evaluation of his needs. The risk of losing this client increases.

For this reason, it is very important to have a careful evaluation of the prospects that are presented to the client in the e-commerce sites and even in the physical shops as a manner of reducing the client's confusion when evaluating alternatives.

The present study worked with simulated purchasing situations, a methodology that can impair a correct evaluation of the involved construct and especially the perceived confusion by the respondent. It is then suggested a study of a real purchasing situation, whether being virtual or in person.

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