



INFLUENCE FACTORS ON CONSUMER DECISIONS: A QUASI-EXPERIMENT WITH BRANDS OF SUSTAINABLE PRODUCTS

Fatores de Influência nas Decisões do Consumidor: Um Quase-experimento com Marcas de Produtos Sustentáveis

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ABSTRACT: The goal set for this research is to propose a model of brand management to guide consumer choice to more sustainable options. The model assumes that consumers have varying degrees of awareness on the sustainability of products and services. At the same time, products and services may also be considered in varying degrees of sustainability. Thus the strategy of brands should be to communicate its sustainability aspects in order to reach the consumer who is at the same level. It is expected that from the momentum established by the model, in which more and more information is conveyed about the sustainability aspects of products and services, consumers start to be more aware and at least more informed. The independent variables were the brand's image and the price. The dependent variable was the participant's intention of purchase. There were 402 consumers subjected to the quasi-experiment. The results was analyzed at brand level and, in general, showed that more sustainable brands grew in participant's preference after they received information about the sustainability aspects of that type of product, but this gained preference were partially lost when participants were aware of product's prices.

KEY WORDS: Sustainability; Conscious consumption; Brands.

ACEITO EM: 01/07/2019

<https://doi.org/10.23925/2179-3565.2019v10i2p71-84>



RISUS - Journal on Innovation and Sustainability
volume 10, número 2 - 2019
ISSN: 2179-3565

Editor Científico: Arnaldo José de Hoyos Guevara
Editora Assistente: Lívia Lopes Aguiar
Avaliação: Melhores práticas editoriais da ANPAD

FATORES DE INFLUÊNCIA NAS DECISÕES DO CONSUMIDOR: UM QUASE EXPERIMENTO COM MARCAS DE PRODUTOS SUSTENTÁVEIS

Influence factors on consumer decisions: a quasi-experiment with brands of sustainable products

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RESUMO: O objetivo desta pesquisa é propor um modelo de gestão de marcas para orientar a escolha do consumidor para opções mais sustentáveis. O modelo pressupõe que os consumidores tenham diferentes graus de consciência sobre a sustentabilidade de produtos e serviços. Ao mesmo tempo, produtos e serviços também podem ser considerados em diferentes graus de sustentabilidade. Assim, a estratégia das marcas deve ser comunicar seus aspectos de sustentabilidade para atingir o consumidor que está no mesmo nível. Espera-se que a partir do momento estabelecido pelo modelo, no qual cada vez mais informações sejam veiculadas sobre os aspectos de sustentabilidade de produtos e serviços, os consumidores passem a ser mais conscientes e pelo menos mais informados. As variáveis independentes foram a imagem da marca e o preço. A variável dependente foi a intenção de compra do participante. Havia 402 consumidores sujeitos ao quase-experimento. Os resultados foram analisados em nível de marca e, em geral, mostraram que marcas mais sustentáveis cresceram na preferência dos participantes depois de receberem informações sobre os aspectos de sustentabilidade desse tipo de produto, mas essa preferência ganha foi parcialmente perdida quando os participantes estavam cientes do produto preços.

PALAVRAS-CHAVE: Sustentabilidade; Consumo Consciente; Marcas

ACEITO EM: 01/07/2019

INTRODUCTION

The marketing has been studied under different aspects that are part of the concept of sustainability, which include, social marketing, marketing 3.0, green marketing and greenwashing. But in Brazil, the convergence between Marketing and Sustainability is little Studied (Moretti & Toledo, 2015).

In 2015, the UN adopted a new development agenda, which assumes the role of continuing the Millennium Development Goals. This new agenda was launched in September 2015 and entered into force on the first day of 2016. The new agenda is called Sustainable Development Goals, and consists of 17 objectives and 169 new goals. Among these objectives, the twelfth refers to responsible consumption: "ensure standards of sustainable production and consumption", being directly related to this research. It shows how relevant sustainable consume is in the contemporaneous era and that marketing and consumer behavior studies can contribute to sustainable development goals.

In this context, the overall objective is to propose a model of brand management to guide consumer choice to more sustainable options. Secondary objectives are: to analyze the importance of the brand from the perspective of sustainability and find appropriate ways to implement sustainability by organizations.

LITERATURE REVIEW

Sustainability is about the interdependence of living beings among themselves and in relation to the environment. It is the recognition of the needs and interests of other parts such as community groups, educational institutions and religious, labor and public, reinforcing the network of relationships that keeps them intact. It is also about valuing different aspects of human life as family life, intellectual growth, artistic expression and moral and spiritual development (Savitz, 2007).

The term has its origin during the 1980s, with the growing awareness that countries needed to find ways to promote economic growth without destroying the environment or to sacrifice the well-being of future generations" (Savitz, 2007, p.2) and was popularized by the Brundtland report, prepared by the world commission of the environment development (WCED, 1987).

Since then, sustainable development has been widely accepted by academics and the executives as a major theme in the research agenda and organizations (Savitz, 2007; Hahn et al, 2015; Serralvo&Belloque, 2014). It means that organizations are required to manage their business taking into account the interconnected and interdependent, economic, environmental and social issues (Hahn et al., 2015).

Sajeva et al. (Sajeva et al., 2015) used the Voltaire's view that a snowflake in an avalanche never feels responsible, the environmental problem is the fault of all the people. For these authors, while regarding sustainability involving the social, human and environmental aspects, and economic, as well as their interactions, it is clear that environmental problems are mainly caused by societies and their inability to keep within the limits imposed by the vast natural system in which we live (Sajeva et al., 2015).

The Triple Bottom Line concept of sustainability rests in the integration of social, environmental and economic issues, making a tripod. According to this model, organizations, need to act responsibly in all three dimensions to be considered sustainable (Elkington, 1997). But, Hahn et al. (Hahn et al., 2015) wrote that organizations have failed to apply satisfactorily the concept of sustainability. They discussed about prioritizing certain aspects, namely the lack of balance between the three dimensions, generating what they call voltages. This fact is due to the incompleteness of this model; and the proposal to minimize these effects is the application of an "integrative vision of corporate sustainability" (Hahn et al., 2015).

This integrative view proposed that organizations need to pursue different aspects of sustainability simultaneously, and that managers have to consider the possible tensions between dimensions rather than dismiss them. According to the authors, through this strategy, management for sustainability will be taken beyond the Tripple Bottom Line (Hahn et al., 2015). This model takes into account the systemic aspects, organizational and individual, in addition to economic, environmental and social dimensions, and yet circumstances, in a context, space and time to analyze the possible tensions in organizational sustainability.

Hahn et al. (Hahn et al., 2015) proposed an integrative model of strategic management for sustainability. In marketing, is also concepts related to the Tripple Bottom Line pillars: economic, social, environmental. These three concepts were treated separately: commercial marketing, social marketing and green marketing. But when considering the essential function of marketing, which is to meet the needs of human beings, social and environmental aspects are implicit, since the integrity of these is essential for humanity.

CONSUMER BEHAVIOR

Consumer behavior is the study of the processes involved when individuals or groups select, buy, use and dispose products, services, ideas or experiences to satisfy their needs and desires (Solomon, 2002; Blackwell; Miniard; Engel, 2006), and came as a distinct field of study during the 1960s (Pachauri, 2002).

The marketing concept suggests that organizations must meet consumer needs, therefore, to implement the concept of marketing, organizations must understand their customers and stay close to them to develop products and services (Peter; OLSON, 1996). Kotler and Keller (2000) aggregated to this idea the aspects of price, distribution channels and communication. The importance of consumer behavior knowledge rests on the foundation of modern marketing philosophy, which recognizes the consumer as the focus of marketing activity (Singh, Vrontis&Thrassou, 2011).

All the successful marketing program is based on a well-grounded theory and understanding of consumer needs (Runyon & Steward, 1987). Since pure economics alone cannot explain all variations in sales, several sub-perspectives within the discipline can offer rational explanations for variations in demand (Pachauri, 2002).

Each customer is unique and their behaviors vary (Grant, 2007). Simple observation provides a limited view of the complex nature of consumer choice, so researchers have increasingly sought the concepts and methods of more sophisticated research, provided by the behavioral sciences in order to understand, predict and possibly control consumer behavior more effectively. Therefore, the amount of generated knowledge must be assessed in terms of its ability to improve the efficacy of marketing practice (Pachauri, 2002).

A consumer behavior definition, proposed by the American Marketing Association - AMA in 1989, is "the dynamic interaction of affect and cognition, behavior and environmental events by which human beings conduct aspects of their lives exchanges" (AMA, 2016). This definition, according to Peter and Olson (1996) analysis, presents very interesting aspects to be analyzed. Consumer behavior is dynamic, which means it is a system moving with constant changes and alterations. Moreover, it involves interactions between affect, cognition and environmental events that promote these changes in behavior.

Rocha and Barros (2006) thought consumption by anthropology and explored the theme in the sense that consumption is a system of signification, in which the main social needs supplies is the symbolic necessity. This thought goes beyond the simple selection, use and disposal of products. For the authors, "consumption is like a code, and through him are translated much of our social relations and prepared many of our subjectivity experiences" (Rocha & Barros, 2006, p. 45).

This code reflects feelings and social aspects, forming a classification system of things and people, goods and services and groups. Since consumption allows an exercise of "classification" of society, this can be inclusive in two different ways, through the insertion of new products and services that are added and are articulated to the other, and the inclusion of identities and social relations which are defined largely from that code (Rocha & Barros, 2006).

This second way to include consumption is closely linked to conscious consumption, in the sense that this new way of consuming focusing on sustainability must be linked to an identity and supported by "compassion" towards the social relations of the individual.

BRAND CONCEPT MANAGEMENT-BCM

The model proposed by Park et al (1986) shows how many concepts related to brand management and marketing can be integrated into a single model. Koch (2014) pointed out that this model has played a key role in launching the research area of brand extension, in which the positioning of the brand is important.

Park et al (1986) explained that the selection of the brand concept can be given by the identification of functional, symbolic or experiential needs. A brand with the functional concept is defined as one that is designed to meet international consumer needs. The ones with the symbolic concept are developed to link an individual to a group, to a context or the image itself. A brand with the experiential concept was developed to fill internally generated needs for stimulation or variation.

According to the authors (Park et al., 1986), still, the terms "functional", "symbolic" and "experiential" are used to reference an image created by a brand, not a product of class. Any product can theoretically be positioned as functional, symbolic or experiential, and may still have a mixture of these concepts, as many brands have. That is, it is possible to develop an image of brand with two or more concepts.

They explained the relationship (Park et al., 1986) between the concept of a brand and its image must be managed throughout the life of the tag. For each of the three stages of management proposed by the authors, introduction, development and strengthening, there are particular positioning strategies, accompanied by appropriate marketing strategies mix, allowing consumers to understand the brand image (introduction), realize their value increasing (development), and generalize this picture to other brands of the organization (fortification).

The stage "Introduction" is defined as a set of activities to establish an image or positioning a brand in a given market during the entry period on the market. The image and positioning selected by the organization must be within the concept of the limits of the selected brand and be influenced by the presence of a niche in the market. At this stage, there may be a change in sales. When the marketing mix elements are consistent with communication, operational and complementary tasks among themselves (for example, coordinated), a synergy is more likely. The mixture coordinates successfully communication and operation tasks, the relative advantage of the brand should be apparent to the target market. Another goal of brand management concept during the entry period in the market is to develop an image that could be extended easily during subsequent phases. If this introduction does not try to foresee the next steps, synchronization efforts between steps tend to be less effective (Park et al., 1986). During the —development" stage, the positioning strategies should focus on improving the value of the brand image so that its relative superiority to competitors can be established and sustained. Increasing the perceived value of the brand is essential as the competitive environment becomes more complex. For example, an increase in the number of competitors emulating the brand's position may decrease the ability of consumers to discriminate among brands. Moreover, the changing needs of consumers, triggered by factors such as a better knowledge of the product, or products best wishes (particularly through the use of specific situations), may require specific strategies to increase the value of the brand. It is worth mentioning that positioning strategies, implemented at the "design" stage may require the amendment of the marketing mix components (Park et al., 1986).

The authors (Park et al., 1986) pointed out the fact that the positioning strategies at that stage differ from a typical repositioning strategy. Firstly, the repositioning usually does not depend on a primary means for guiding their activities. In contrast, according to the scenario, positioning strategies in preparation, are guided by the concept of the brand. This is because the image in preparation is established, of course, the concept of the brand. Thus, the image produced is a logical extension of the initial phase and the potential inefficiencies associated with the change of an image without a scenario guiding, can be avoided.

Plans for the positioning at the stage of "preparation" should begin when the concept of the brand is initially selected by the planning for the positioning of activities. The concept selection phase, the company can create its own changes rather than react to market changes, as they occur. It is noteworthy that the repositioning, by contrast, is usually determined from the current market conditions in the short term. Several different strategies for positioning can be used to increase the value of the image in this stage (preparation).

Mainly because the brand can be made via its usefulness, or can be defined to meet a more specific need (Park et al., 1986).

Finally, keeping the exclusivity of the brand can increase their perceived value. The placement strategy that is more suitable to increase the value of a particular brand may be given by the initial concept. Although the preparation of the image may require an adjustment of the initial position. As in the introductory phase, the marketing mix elements, in preparation, will be more effective and efficient in increasing the value of the image, when these elements are consistent with the communication objectives, operational and complement each other.

In the final phase of the BCM, the stage of "fortification" aims to link a brand image developed in the image of other products produced by the company in different product classes. Various products, all with similar images, reinforce each other and serve to strengthen the image of each brand. So, all brands can benefit from this strategy. Strengthening the image of a brand by a fortification strategy does not imply that the brand development stage has been completed, it should continue throughout the life of the brand. During the fortification phase, the new product placement strategies establish the connection with the existing concept of the brand (and consequently, the image drawn brand). This connection can be achieved by a common identification joint promotion or joint distribution (Park et al., 1986).

PRICE

The price is "the amount of money that one must sacrifice to get something wanted" (Monroe, 1990, p.5), also acting as a product quality signal (Monroe, 1990). "The most common and obvious" to Diamantopoulos (2005, p. 245) is the importance of price to the rational principle that it is the only aspect of the marketing mix that generates revenue, while others are associated with costs. Thus, costs are incurred in order to create value while the price has the role to extract value. For Semenik and Bamossy (Semenik and Bamossy, 1995), the price is a tool that assists in one of the key roles of macroeconomic marketing function which is to facilitate the exchange process. "The price establishes a foundation to culminate in an exchange between the parties" (Semenik&Bamossy 1995, p.352).

Through the price it is established the level of reward for the production and management activities involving a particular product. However, Diamantopoulos (Diamantopoulos, 2005) emphasized that the aspect of revenue is not "in any way" (Diamantopoulos, 2005, p. 245) the only feature that makes it important. The price significantly impacts the volume of sales and therefore the participation of the brand in a given market. Diamantopoulos (Diamantopoulos, 2005) wrote that studies have shown that the price elasticity is up to 20 times higher than the elasticity of advertisement. Besides having a strong influence on demand, price's influence is manifested faster than the other aspects of the marketing mix.

Still comparing the price with the other components of the marketing mix, it is a variable that can be adjusted with a certain speed. However, Diamantopoulos (Diamantopoulos, 2005) warns that this is also a handy advantage to competitors and, on the other hand, reactions to price changes are not only faster, but more intense too, which also calls for a lot of caution in its decision-making process, since the results should promote significant impact.

While discussing price, Semenik and Bamossy (Semenik and Bamossy, 1995) followed a rationale with more emphasis on customer, rather than seller. There is other aggregate acquisition cost price, such as the time consumers takes to get a particular product; the convenience is also associated with site acquisition, opportunity and risk. For instance, consumers may think the risk of buying an unknown brand is higher than paying the higher price for name brand.

Broone and Kurtz (Broone and Kurtz, 1998), indicate that in practice the determination of cost-based pricing is the most popular method, what also occurs in Brazil according to Botelho and Urdam (Botelho and Urdam, 2005). However, Semenik and Bamossy (Semenik and Bamossy, 1995) adverted that it is a mistake to consider only the production and marketing costs in determining the price of a product. While these costs are "extremely important" (Semenik&Bamossy 1995, p.353) because it cannot determine a price that does not

cover these costs, a price based only on these premises can be too high or low for the market because it does not recognize "important public" that will evaluate the price.

The authors explain that, besides consumers, there are other relevant public that affect pricing decisions. Members of the industry, as wholesalers, retailers and distributors, direct and indirect competitors, the government, which may impose restrictions to prices, and the company itself, are the highly influencing players in price decisions (Semenik&Bamossy, 1995). But for Semenik and Bamossy (Semenik and Bamossy, 1995), customers are the most important group, the actual customers and also the potential ones.

Understanding how consumers think a product, you can decide on which product features and services will allow the company to establish a price that will both be perceived as appropriate by customers and allow the company to cover its costs and obtain a reasonable return. (Semenik&Bamossy 1995, p.353)

Serpa and Avila (Serpa and Avila, 2004), while working with the relationship the reference price and the theory of perspective also approached this concept. For them, this relationship is the basis used by the consumer to judge the actual price charged for a product. The notion of justice is what determines the setting of the reference price. The reference price is the price that the buyer considers reasonable or fair.

Complementing the vision of Semenik and Bamossy (Semenik and Bamossy, 1995) and Diamantopoulos (Diamantopoulos, 2005), Broone and Kurtz (Broone and Kurtz, 1998) emphasized the legal and economic aspects in pricing theory. The authors note that in addition to the previously presented theory, there are rational rules that must be respected and that also go beyond the calculation of the cost of a particular product.

MODEL PROPOSAL

This model is centered on the consumer. The proposal considers that in the context of sustainability, consumers have varying degrees of awareness of the products and services. Thus, the level of consumer awareness is the first key pillar of the model. It is noted that a consumer can have different degrees of consciousness for different products. However, the degree of awareness of a consumer should have no major gap between different products or services, because when the consumer has certain degree of awareness and knowledge about a topic or product, means that he has a critical thought regarding their way of consuming, and it should reflect in other issues.

The second pillar is the sustainability strategy that should be applied on the business, it is an essential aspect that must have validity, truthfulness and transparency for consumers, and it cannot carry out the practice of greenwashing (or been perceived as greenwashing by consumers). The sustainability strategy does not have to be developed in the same way proposed in the model. This is a logical suggestion of how sustainability can be developed and expanded in an organization. However, this form is more appropriate to the model as well as the organization will not meet the demand of consumers in each of the levels of consciousness indicated in the model. In this pillar, to move from one level to the other, the strategy should be cumulative. An organization that offers a sustainable product must maintain aspects of sustainability achieved in the previous level, and also sustainable level transactions in question.

The third pillar of the model is the strategy established by the brand in each consumer awareness level. This strategy, as well as sustainability, should also be accumulated. A brand that has reached the degree of integration with certain consumers should keep the information strategies and interaction to meet the consumers of other levels. The brand strategy is always based on information regarding product sustainability aspects however, the way it is presented in the third column "brand strategy" is the best way of how this information should be transmitted to the consumer, because the higher the level of consumer awareness, more demanding will be presented on their relationship with the brand.

As presented previously, the model has three key pillars and four levels. Figure 1 shows the model structure.

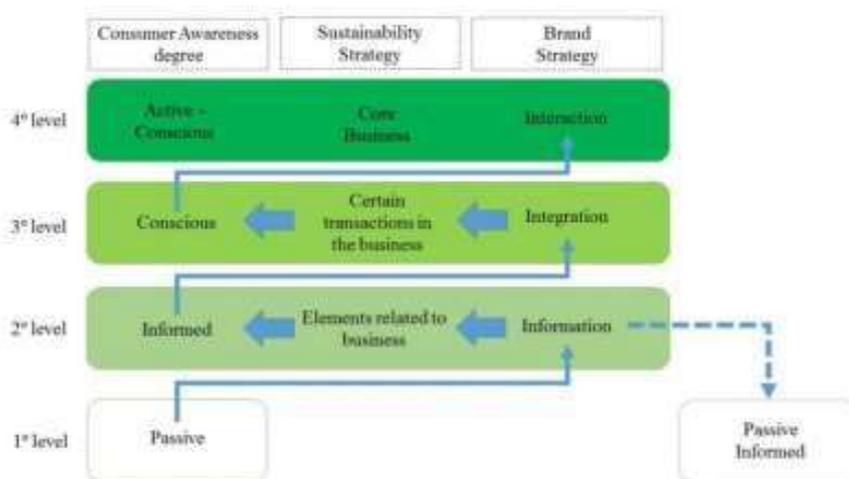


Figure 1 Brand Management Model for Sustainability

It is important to note that consumer awareness levels are also cumulative, so the active conscious consumer is also can be considered conscious and informed, it just cannot be regarded as "passive" as a levels of consciousness.

One aspect that can influence the model is the price. The more sustainable product or service tends to be more expensive in practice. Thus, what happens is that when consumers relate to brands, the form shown in the model, may want to change your choice of consumption, but it can be limited by the difference of price paid for such a change.

It is important to explain that at in all levels, there may be a shift in consumer awareness or not. At the first level, the passive consumer can remain at the same level, but have received information, will an informed passive consumer. In other levels, the consumer only remains at the level it is, with the same degree of consciousness.

METHODOLOGY

The aim of the field research is to test the model proposed in this research. This test was done with consumers by means of a quasi-experiment. The product chosen for the quasi-experiment was the milk. In this market, there are different categories of milk, of which four were selected and assigned to the four model levels: UHT (Ultra High Temperature process), pasteurized, Organic and Soy Organic. For each category, one or two brands were used to represent them, as it is shown on the table 1. Each of the levels proposed in the model is represented by one or two brands and thus it was possible to test the selection of product category, and therefore its degree of sustainability, from the choice of the mark made by the participant.

Table 1 Corresponding brands to model levels

Level of the model	Type of Milk	Brand (s)	Price
Level 1	UHT	Parmalat	R\$ 2,98
		Paulista	R\$ 2,91
Level 2	Pasturized	Fazenda Bela Vista Xandô	R\$ 3,91
			R\$ 4,04
Level 3	Organic	Timbaúba	R\$ 6,95
Level 4	Organic Soy	Native	R\$ 10,99

Following the research protocol proposed for the realization of quasi-experiment is presented.

In this research, two independent variables were isolated: the first is the image of the milks' brand and the second is the price. The dependent variable is the participants' intention to purchase among the options.

They were subjected to quasi-experiment 402 consumers of milk. The participants were selected by convenience, i.e., means that the selection has not been made by randomization, which characterizes the quasi-experimental method (Shadish et al., 2002). The test was available online and publicized through social

networks and email. We asked people to forward the email and share the tests' link on their own social networks, so it is not possible to estimate how many people received the invitation to participate.

Table 2 Stages of the quasi-experiment

Phase 1 – first exposition of brands	
	Participants indicate the purchase order of preference of the brands in the form.
1	Information on the sustainability of milk types involved in this testing phase, are presented to the participants.
1	Participants indicate the purchase order of preference of the brands in the form.
2	The prices of the brands involved in the test are exposed to participants.
2	Participants indicate the purchase order of preference of the brands in the form.
3	
Phase 2 – second exposition of brands	
	Participants indicate the purchase order of preference of the brands in the form.
4	Information on the sustainability of milk types involved in this testing phase, are presented to the participants.
3	Participants indicate the purchase order of preference of the brands in the form.
5	The prices of the brands involved in the test are exposed to participants.
4	Participants indicate the purchase order of preference of the brands in the form.
6	
Phase 3 – third exposition of brands	
C	Participants indicate the purchase order of preference of the brands in the form.
7	Information on the sustainability of milk types involved in this testing phase, are presented to the participants.
5	Participants indicate the purchase order of preference of the brands in the form.
8	The prices of the brands involved in the test are exposed to participants.
6	Participants indicate the purchase order of preference of the brands in the form.
9	

The participants received clear and objective instructions regarding the procedure and informing that the information would be anonymous. Participants were subjected to nine measurements and six interleaved experimental treatments.

Initially, participants read the consent term and informed if they agreed with it. Then informed their gender, family income, age and the type of milk they consume, from the options: UHT, pasteurized and Organic. For each test phase, it was considered the number of participants, as follows: Participants who choose pasteurized milk in the question presented before the experiment: "What kind of milk do you consume?" were not considered in the first phase of the test that addressed UHT and pasteurized milk. Participants, who choose organic milk in the same issue, were not considered in the first and second phases of the test. Additionally, there was considered only in the second phase, the participants that have chosen the pasteurized milk in the second observation (O₂) and in the third phase participants who chose the milk type A in the second observation (O₂) and organic milk in the fifth observation (O₅). Therefore, the second and third stages, the —n1 varies, it is the number of participants who have gone to these levels.

The following packages were presented, milk brands, which represent levels 1 and 2 of the model. Then the participant indicated on the form the order of preference for the purchase of each of the brands, the first option to the fourth option, this is the first observation (O₁). After this stage, the participants received the first

experimental treatment (X_1). Appeared a screen with two images containing information about the types of milk in question. An image had negative information about the type of milk lesser degree sustainability, and other positive information about the type of higher degree of sustainability milk. In this first stage of quasi-experiment, the long-life milk is the lowest grade and the milk is the highest level. After reading the information, participants indicated again the order of preference for the purchase of each of the brands; this was the second observation or measurement (O_2). Participants then received the second experimental treatment (X_2) which was the exposure of product prices on the images of milk packaging in question. After that, participants were asked again about their purchase choice, also be noted in electronic form. This is the third observation (O_3). Here it was finished the first part of the test. Then occurred the change of brands presented to the participants. The presented brands passed to those relating to the following levels. This procedure was repeated two more times were tested for the second and third levels, and subsequently the third and fourth levels, but with only one brand representing each level.

The variables were analyzed by their measurements. The quasi-experiment under analysis has dependent samples and should be carried out test of difference between the means of dependent samples, because what is sought is to evaluate if there are changes in the behavior of individuals before and after certain interventions. For Zikmund (Zikmund, 2011), the chosen design allows to conclude that the difference between the observations (O_2-O_1 , O_3 , O_2 and so on) is a measure of the influence of the experimental treatment, which is performed in the first stage of the test calculation:

$$d = O_n - O_{n-1} \tag{1}$$

At where:

d: difference between the position of products in the participant's preference before and after the intervention.

O_n : position the product in the participant's preference after the intervention, 1 being the most preferred product.

O_{n-1} : product position in the participant's preference, before the intervention. Is obtained, then the average difference between observations:

$$\mu d = \frac{\sum d}{n} \tag{2}$$

After the calculation of the differences between observations and their average, the assumptions made were found in table 2. Interventions were made in favor of products with higher level of sustainability and therefore if the interventions X_1 , X_3 and X_5 have the expected impact, the products with the lowest level (eglong life compared to Type A) must lose positions, while higher level should gain positions. In addition, since most organic products have higher prices, it was expected that the interventions X_2 , X_4 , X_6 , and would lead to a decrease in preferably more organic products.

Lastly, the hypothesis that increased preference for products with higher level of sustainability was observed remains significant even after knowledge by participant's higher prices that these products possess (as $O_3 - O_1$). It is noted then that the assumptions were set considering the importance of the direction of change in the preferences of the participants for the products, and not only if there was a change regardless of the direction.

Table 3 Hypotheses of the quasi-experiment

	UHT	Pasteurzed	Organic	Soy Organic
$O_2 - O_1$	$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$	$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$		
$O_3 - O_2$	$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$	$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$		
$O_3 - O_1$	$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$	$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$		

$O_5 - O_4$	$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$	$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$	
$O_6 - O_5$	$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$	$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$	
$O_6 - O_4$	$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$	$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$	
$O_8 - O_7$		$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$	$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$
$O_9 - O_8$		$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$	$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$
$O_9 - O_7$		$H_0: \mu_d \leq 0$ $H_1: \mu_d > 0$	$H_0: \mu_d \geq 0$ $H_1: \mu_d < 0$

To verify these hypotheses, observations were tabulated in Microsoft Excel® software and the underlying protocol applied. This was chosen based on the guidelines proposed by Anderson, Sweeney and Williams (Anderson, Sweeney and Williams, 1999), Larson and Farber (Larson and Farber, 2004), Freedman et al. (Freedman et al., 1998), but the work that presents this protocol more closely to this case is Levin and Fox (Levin and Fox, 2004).

Data analysis consisted in checking the difference between the observations through a test of difference between means. First, it was calculated the standard deviation of the sample, then identified the number of degrees of freedom (g.l.) and performed calculation of the statistical standard Student's t. Finally, it was calculated the p-value.

RESULTS

The average analysis enabled the graphic display of results, however, to say that these changes are in fact significant, statistical tests were done.

Table 4 Results

Parmalat	O	O	O	Fazenda	O	O	O
	2 (-) O1	3 (-) O2	3 (-) O1		5 (-) O4	6 (-) O5	6 (-) O4
Average	0,	-	0	Average	0,	-	0
	41	0,03	,38		407	0,367	,04
Standard Deviation				Standard Deviation			
	0,	0,	0		0,	0,	0
(s)	914	788	,983	(s)	503	493	,593
n	305	30	3	N	19	19	1
		5	05		9	9	99
Standard Error	0,052	0,	0	Standard Error	0,	0,	0
		045	,056		036	035	,042
Test t	7,821	-	6	Test t	11	-	0
		0,653	,744		,394	10,46	,954
p-value	0	0,	0	p-value	0,	0,	0
		257			000	000	,171

Continual Table 4

Paulista	O	O	O	Timbaúba	O5 (-) O4	O	O
	2 (-) O1	3 (-) O2	3 (-) O1		6 (-) O5	6 (-) O4	
Average	0,	-	0	Average	-0,407	0,	-
	416	0,246	,17			367	0,04
Standard Deviation				Standard Deviation			
	0,	0,	0		0,	0,	0
(s)	855	848	,894	(s)	503	493	,593
n	30	30	3	N	19	19	1
	5	5	05		9	9	99
Standard Error	0,	0,	0	Standard Error	0,	0,	0
	049	049	,051		036	035	,042

Test <i>t</i>	8,	-	3	Test <i>t</i>	-	10	-
p-value	493	5,057	,324	p-value	11,394	,46	0,954
	0,	0,	0		0,	0,	0
	0000	0000	,0000		000	000	,171
Fazenda	O	O	O	Timbaúba	O	O	O
	2 (-) O ₁	3 (-) O ₂	3 (-) O ₁		8 (-) O ₇	9 (-) O ₈	9 (-) O ₇
Average	-	0,	-	Average	0,	-	0
	0,384	141	0,243		197	0,145	,053
Standard Deviation (s)	0,	0,	0	Standard Deviation (s)	0,	0,	0
	807	763	,855		489	389	,412
n	30	30	3	N	15	15	1
	5	5	05		2	2	52
Standard Error	0,	0,	0	Standard Error	0,	0,	0
	046	044	,049		04	032	,033
Test <i>t</i>	-	3,	-	Test <i>t</i>	4,	-	1
p-value	8,285	222	4,95	p-value	962	4,575	,571
	0,	0,	0		0,	0,	0
	000	001	,000		000	000	,059
Xandô	O	O	O	Native	O	O	O
	2 (-) O ₁	3 (-) O ₂	3 (-) O ₁		8 (-) O ₇	9 (-) O ₈	9 (-) O ₇
Average	-	0,	-	Average	-	0,	-
	0,443	144	0,298		0,197	145	0,053
Standard Deviation (s)	0,	0,	0	Standard Deviation (s)	0,	0,	0
	887	913	,966		489	389	,412
n	30	30	3	N	15	15	1
	5	5	05		2	2	52
Standard Error	0,	0,	0	Standard Error	0,	0,	0
	051	052	,055		04	032	,033
Test <i>t</i>	-	2,	-	Test <i>t</i>	-	4,	-
p-value	8,699	754	5,384	p-value	4,962	457	1,571
	0,	0,	0		0,	0,	0
	000	003	,000		000	000	,059

Table 4 shows the calculation of the Average, the Standard Deviation, the Standard Error, t test value α , for the difference between the first and second, third and second, and the third and first observation for each of the brands. The values are then analyzed.

The results, in general, shows that less sustainable brands fell on the preference of the participants after they received information about the sustainability aspects of that type of product, but regained preference when they were told on the price of these products. This is justified by the fact that the most sustainable brands are more expensive than less sustainable. It is noteworthy that despite the less sustainable brands have gained preference after the presentation of the prices, they have not returned to the same level of preference they had prior to exposure of information on the sustainability of the product types.

This general condition, has not been shown statistically to the Parmalat brand between the two observation and observation three (O₃-O₂) that is, in the first phase of the test. Although the simple average show that Parmalat brand has gained 0,030 positions. The t test and p-value showed that average cannot be considered statistically different from zero and, therefore, should reject the hypothesis of the Parmalat brand has gained the preference of participants to check their price.

Other changes that could not be confirmed statistically were the brands Fazenda Bela Vista and Timbaúba between observation four (O₄) and observation six (O₆). The simple average shows that the Bela Vista Farm brand lost 0.04 position, while the brand gained Timbaúba. But with the result of t-test and p-don't indicate that these changes in positions are relevant, so in this case, the hypothesis must also be rejected. And

the difference between the ninth observation (O_9) and seventh (O_7) to Timbaúba and Native marks in the third test phase.

In all, five of the eighteen hypotheses presented on the Table 2, were statistically rejected. Hence, we conclude that the proposed model is consistent and relevant, so the purpose of this research was reached.

CONCLUSION

The goal set for this research was to propose a model of brand management to guide consumer choice to more sustainable options. And the secondary objective was to test this model through a quasi-experiment. As result of the marketing efforts to propose sustainable solutions, using theories as consumer behavior and marketing mix, appeared conscious consumers, who are those who acquire products with a low environmental impact. However, sustainable consumption also involves other actions, as seen, which are to reduce, reuse and recycle.

It is observed that among the analyzed sample, there are different reactions to put interventions, and some consumers have changed their choices and thus changed the characteristics of the sample, other participants have not changed. Importantly, the Brand Management Model for Sustainability also includes those consumers who despite receiving information on the sustainability aspects of products would not change your brand preference consuming.

The model seeks to cater to consumers with varying degrees of awareness of sustainability and thus categorizes the marks with respect to these aspects. However, it is important to highlight that does not mean that brands are better or worse. Brands are more sustainable or less. The market comprises all those consumers and all these brands, and more than the choices of consumers are more sustainable, there will always be demand for each brand in each of the model levels. Thus, an essential function that the model provides is to position the marks with respect to sustainability in this universe (market).

The central point of understanding that brands are not better or worse is the price. If a family has a low income, you cannot make more sustainable purchasing, and then mark it consumes is adequate. Moreover, reducing hunger in the world it is also a goal of sustainable development - ODS.

There is much more to do regarding the continuity and completeness of research on the topic, and the possibilities that this model offers. It would be interesting to test the model with other types of products, as well as another research approaches such as the use of interviews and a survey application.

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