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## Chapter

# Enhancing Brand Awareness for Sustainable Choices

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## Abstract

The objective of this research is to propose a brand management model guiding consumer choice toward sustainable options. The model assumes varying consumer awareness levels regarding product and service sustainability. Likewise, products and services are perceived to possess differing degrees of sustainability. Therefore, brands should focus on communicating their sustainability aspects to target consumers at the same awareness level. The model aims to create momentum by progressively conveying more information about product and service sustainability, leading to increased consumer awareness or at least improved consumer knowledge. Independent variables included brand image and price, while the dependent variable was participants' purchase intentions. To test the model, field research consisting of a quasi-experiment involving 402 consumers has been conducted. Brand-level analysis of the results demonstrated that more sustainable brands gained preference among the participants after receiving information about the sustainability aspects. However, this gained preference was partially diminished when participants became aware of the product's prices.

**Keywords:** sustainability, brand awareness, consumer behavior, conscious consumption, quasi-experiment

## 1. Introduction

The concept of sustainability encompasses various aspects within the realm of marketing, including social marketing, marketing 3.0, and green marketing. These areas of study shed light on the relationship between marketing practices and the sustainable development of societies and the environment. Another crucial element that intersects with sustainability and marketing is the concept of the brand. Brands play a significant role in shaping consumer behavior and perception, making them a vital component to consider when exploring sustainable marketing strategies. By understanding and incorporating sustainability principles into brand management and communication, marketers can effectively contribute to the achievement of sustainable development goals.

In 2015, the UN adopted a new development agenda known as the Sustainable Development Goals (SDGs), which builds upon the achievements of the Millennium

Development Goals. This new agenda came into effect on January 1, 2016, and comprises 17 objectives and 169 specific targets. Of these objectives, the twelfth one pertains to responsible consumption: “ensure sustainable production and consumption patterns.” This objective is directly relevant to the research at hand, highlighting the significance of sustainable consumption in the present era and emphasizing how marketing and consumer behavior studies can contribute to achieving the SDGs [1].

In this context, the primary objective of this research is to develop a brand management model that promotes consumer choices toward more sustainable options. Furthermore, the secondary objectives are to examine the significance of brands in relation to sustainability and identify suitable approaches for organizations to implement sustainable practices.

## **2. Marketing and sustainability: analyzing consumer behavior, branding strategies, and pricing dynamics**

Sustainability encompasses the interconnectedness between living beings and their environment, recognizing the needs and interests of various stakeholders such as community groups, educational institutions, religious organizations, labor unions, and the public. This acknowledgment strengthens the intricate web of relationships that support them. Moreover, sustainability values the diverse aspects of human life, including family dynamics, intellectual advancement, artistic expression, and moral and spiritual development [2].

The term “sustainable development” emerged in the 1980s as a response to the realization that countries needed to pursue economic growth without causing environmental destruction or compromising the well-being of future generations [2]. The concept gained significant recognition through the influential Brundtland report prepared by the World Commission on Environment and Development [3].

Since then, sustainable development has become a prominent focus in both academic research and organizational practices [2, 4, 5]. It requires organizations to manage their operations in a manner that considers the interconnected and interdependent economic, environmental, and social issues [4]. Essentially, sustainable development emphasizes the need for a holistic approach that addresses the long-term sustainability of businesses and society as a whole.

A snowflake in an avalanche seldom assumes responsibility. The collective responsibility for environmental issues lies with humanity as a whole. When examining sustainability, which encompasses social, human, environmental, and economic aspects along with their intricate interconnections, it becomes evident that societies predominantly contribute to environmental challenges by surpassing the boundaries established by the vast natural system we inhabit [6].

The concept of sustainability, referred to as the Triple Bottom Line, hinges on the harmonious integration of social, environmental, and economic concerns, forming a robust foundation. According to the integrative model, organizations must exhibit responsibility across all three dimensions to achieve true sustainability [4, 7]. However, organizations have encountered difficulties in effectively implementing this concept, primarily due to certain aspects that require prioritization and a lack of equilibrium among the dimensions, leading to what experts term as “voltages.” This issue arises from the inherent incompleteness of the Triple Bottom Line model. The proposed integrated model strives to alleviate these effects by advocating for a

comprehensive vision of corporate sustainability, thereby minimizing the impact of such imbalances [4].

This integrative perspective suggests that organizations need to simultaneously pursue different aspects of sustainability, and managers must consider potential tensions between dimensions instead of dismissing them. According to the authors, through this strategy, management for sustainability can transcend the Triple Bottom Line, considering systemic aspects, organizational and individual factors, as well as economic, environmental, and social dimensions in a contextual framework, allowing analysis of potential tensions in organizational sustainability.

Hahn proposed an integrative model of strategic management for sustainability that addresses the Triple Bottom Line pillars (economic, social, and environmental) in an integrated manner [4]. In the realm of marketing, there has been a historical tendency to treat three distinct concepts—commercial marketing, social marketing, and green marketing—as separate entities. However, if we delve into the essential purpose of marketing, which is to cater to human needs, we realize that the social and environmental elements are inherently intertwined. The integrity of these dimensions holds immense importance for humanity as a whole.

## **2.1 Consumer behavior**

Consumer behavior involves examining the actions and decision-making processes undertaken by individuals or groups when they select, buy, utilize, and ultimately get rid of products, services, ideas, or experiences in order to meet their wants and needs [8, 9]. It emerged as a distinct field of study during the 1960s [10].

Meeting consumer needs is crucial for organizations. To effectively implement this concept, organizations must understand their customers and maintain close relationships with them to develop products and services that cater to their needs [11]. This understanding expands to include aspects such as price, distribution channels, and communication [12]. Understanding consumer behavior holds significance in modern marketing philosophy, which recognizes consumers as the central focus of marketing activities [13].

A comprehensive understanding of consumer needs is essential for creating successful marketing programs [14]. While pure economics can explain many aspects of sales, variations in demand often require insights from different sub-perspectives within the discipline to provide rational explanations [10]. By incorporating these diverse perspectives, marketers can better analyze and address the complex dynamics that influence consumer behavior, allowing them to adapt their strategies effectively to meet evolving market demands.

Each customer is unique, and their behaviors vary. Simple observation offers only a limited perspective on the complex nature of consumer choice. Consequently, researchers increasingly rely on the concepts and methods of behavioral sciences to gain a deeper understanding, predict, and potentially influence consumer behavior more effectively. Therefore, the value of generated knowledge should be evaluated based on its ability to enhance marketing practices [10].

The American Marketing Association proposed a definition of consumer behavior as the dynamic interaction between emotions, thoughts, actions, and environmental events through which individuals engage in exchanges that impact various aspects of their lives [15]. This definition presents intriguing elements for examination. Consumer behavior is dynamic, indicating a constantly evolving system subject to changes

and modifications. Moreover, it involves interactions between emotions, cognition, and environmental events that contribute to these behavioral changes [11].

Consumption serves as a system of signification fulfilling symbolic needs beyond product selection, usage, and disposal. It functions as a code that reflects and translates our social relationships and subjective experiences. This code encompasses emotions and social aspects, establishing a classification system for objects, people, goods, services, and social groups. As a result, consumption plays a pivotal role in society by fostering inclusiveness through the introduction and integration of new products and services that complement existing ones, and by incorporating identities and social relationships shaped by this code [16].

This second form of inclusiveness in consumption is closely linked to conscious consumption, where the emphasis on sustainability aligns with individual identity and is driven by “compassion” for the social relations of the individual.

## **2.2 Brand concept management model: BCM**

The model proposed by Park and colleagues integrates various concepts related to brand management and marketing into a comprehensive framework. It has played a pivotal role in the research field of brand extension, emphasizing the significance of brand positioning. The selection of a brand concept is influenced by identifying functional, symbolic, or experiential needs. Functional brands are designed to meet consumer needs, symbolic brands establish connections to groups or contexts, and experiential brands fulfill internally generated stimulation or variation needs [17].

The terms “functional,” “symbolic,” and “experiential” pertain to the brand’s image rather than a specific product category. Brands can embody a combination of these concepts, and their brand image and concept need to be effectively managed throughout their lifecycle. Each stage of brand management—introduction, development, and fortification—requires specific positioning strategies accompanied by appropriate marketing mix strategies [17].

During the introduction stage, the focus is on establishing the brand’s image and positioning in the market. The chosen image and positioning should align with the brand’s concept and consider the target market’s niche. Coordinating the marketing mix elements successfully leads to synergy and the perceived relative advantage of the brand within the target market. It is also important to develop an image that can be easily extended in subsequent phases.

In the development stage, positioning strategies aim to enhance the brand image’s value and establish its superiority over competitors. Increasing the perceived value becomes crucial in a competitive environment with evolving consumer needs. Positioning strategies may require adjustments to the marketing mix components.

Distinct positioning strategies are employed in the preparation stage, distinct from typical repositioning actions. In the preparation stage, positioning strategies are guided by the brand concept and its established image, avoiding inefficiencies associated with changing the image without a clear guiding scenario. Planning for positioning activities should commence when the brand concept is initially selected, enabling the company to proactively make changes instead of reacting to market conditions [17].

Maintaining brand exclusivity contributes to an increased perceived value, and the positioning strategy should align with the initial brand concept. However, adjustments may be necessary during the preparation phase. Ensuring consistency among



the marketing mix elements, communication objectives, and operational aspects enhances the effectiveness and efficiency of increasing the brand image's value.

In the fortification stage, the objective is to link the brand image developed in one product class to other products produced by the company in different classes. Brands benefit from this strategy by reinforcing each other's image. Fortification does not imply the completion of the brand development stage and should continue throughout the brand's lifecycle. New product placement strategies establish connections with the existing brand concept and image through joint promotion or joint distribution.

The brand management model provides a comprehensive framework for understanding brand positioning and effectively managing brand concepts and images throughout different stages of the brand's lifecycle [17].

### **2.3 Price**

The concept of price involves the "sacrifice of monetary value required to obtain a desired item" and serves as a signal of product quality [18]. As product prices are influenced by various factors and subject to constant fluctuations, pricing strategies need to be adaptable and responsive over time. Key considerations in pricing decisions include determining production costs, devising marketing strategies, evaluating distribution expenses, accounting for advertising costs, and monitoring market price dynamics [19]. Adjustments in these variables often lead to corresponding changes in product pricing.

Price plays a crucial role in generating revenue compared to other elements of the marketing mix, which primarily incur costs [20]. While costs are incurred to create value, the price's role lies in extracting value. Price serves as a tool to facilitate the exchange process, establishing a foundation for interactions between parties [21]. It determines the level of compensation for production and management activities related to a specific product. Price not only impacts revenue but also significantly influences sales volume and a brand's market presence. Studies have demonstrated that price elasticity is up to 20 times higher than advertisement elasticity, underscoring the strong influence of price on demand. Moreover, the impact of price is often more immediate than other aspects of the marketing mix [20].

While price can be adjusted relatively quickly compared to other components of the marketing mix, it is important to consider that this advantage can also benefit competitors, leading to swift and intense reactions to price changes. Therefore, careful consideration is necessary for the decision-making process due to the potential significant effects [20].

Alternatively, the discussion of price can be approached from a customer-centric perspective rather than a seller-centric one. Factors such as the time it takes consumers to obtain a product, convenience associated with the acquisition process, and opportunity and risk considerations contribute to the overall acquisition cost. For example, consumers may perceive a higher risk in purchasing an unknown brand compared to paying a higher price for a well-known brand [21].

Cost-based pricing is the most common pricing method in practice [22, 23]. However, it is important to exercise caution and not consider only production and marketing costs when determining product price. While these costs are undoubtedly significant and should be covered by the price, setting a price based solely on these factors can result in overpricing or underpricing in the market. This approach fails to acknowledge the "important public" that evaluates and influences the perceived value of the price [21].

Apart from consumers, other relevant stakeholders also impact pricing decisions, including industry members such as wholesalers, retailers, and distributors, as well as direct and indirect competitors, the government (which may impose price restrictions), and the company itself. However, customers, both current and potential, constitute the most significant group in this context [21].

Understanding how consumers perceive a product that enables companies to determine which product features and services will allow them to establish a price that is perceived as appropriate by customers while also covering costs and generating a reasonable return [21].

### **3. Brand management for sustainability model: BMS**

The Brand Management Model for Sustainability (BMS) builds upon the theoretical foundations laid by the Brand Concept Model, which was initially introduced by C. Whan Park and colleagues in the *Journal of Marketing* in 1986 [17]. Expanding upon this foundation, the model integrates strategic elements of sustainability as emphasized by Hahn [4] and Savitz [2]. By incorporating these key insights and perspectives, the Brand Management Model for Sustainability aims to provide a comprehensive framework that combines brand management principles with sustainable practices, offering a holistic approach for businesses to effectively manage their brands while prioritizing sustainability.

The BMS is consumer-centered, which means it places a strong emphasis on consumer awareness and sustainability. In a consumer-centered model, the focus is on understanding and meeting the needs, preferences, and desires of consumers. The strategies and decisions revolve around creating a strong brand identity, delivering exceptional customer experiences, and building long-term relationships with consumers. Rather than a product-centered or company-centered brand management model that places more emphasis on the product itself or the company's internal operations.

When it comes to managing Sustainable Brands, a consumer-centered model becomes a fundamental approach. By adopting this model, companies can place consumers at the heart of their strategies, enabling them to build trust and establish stronger connections with their target audience. This consumer-centric approach recognizes the importance of understanding and meeting the needs, values, and expectations of consumers in the context of sustainability. By actively involving consumers in the brand's sustainability initiatives and incorporating their preferences, companies can foster a sense of trust, authenticity, and shared purpose, ultimately driving customer loyalty and enhancing their brand's reputation in the realm of sustainability.

Introducing the Sustainable Brand Awareness Model, this framework encompasses three essential pillars that contribute to the successful management of sustainable brands. The model recognizes the significance of consumer awareness, the need for a valid sustainability strategy, and the importance of tailored brand strategies. By understanding and leveraging these pillars, businesses can effectively navigate the complex landscape of sustainability and consumer engagement, driving positive brand perception and long-term success. Each pillar plays a crucial role in advancing consumer awareness, maintaining sustainability efforts, and cultivating meaningful connections between brands and their target audience. Following, we will delve into each pillar, exploring their interconnections and outlining the key principles for implementing the Sustainable Brand Awareness Model.

The first pillar recognizes the varying degrees of consumer awareness for different products, underscoring the importance of consistent awareness levels across all products. When consumers possess awareness and critical thinking about a particular topic or product, it is expected to extend to other aspects of consumption.

The second pillar emphasizes the necessity of a valid, truthful, and transparent sustainability strategy in businesses, avoiding greenwashing. While the model suggests a logical approach to implementing sustainability, organizations may choose different paths based on their capabilities and consumer demand. Advancing from one awareness level to another requires cumulative sustainability efforts, maintaining previous achievements while addressing current transactions.

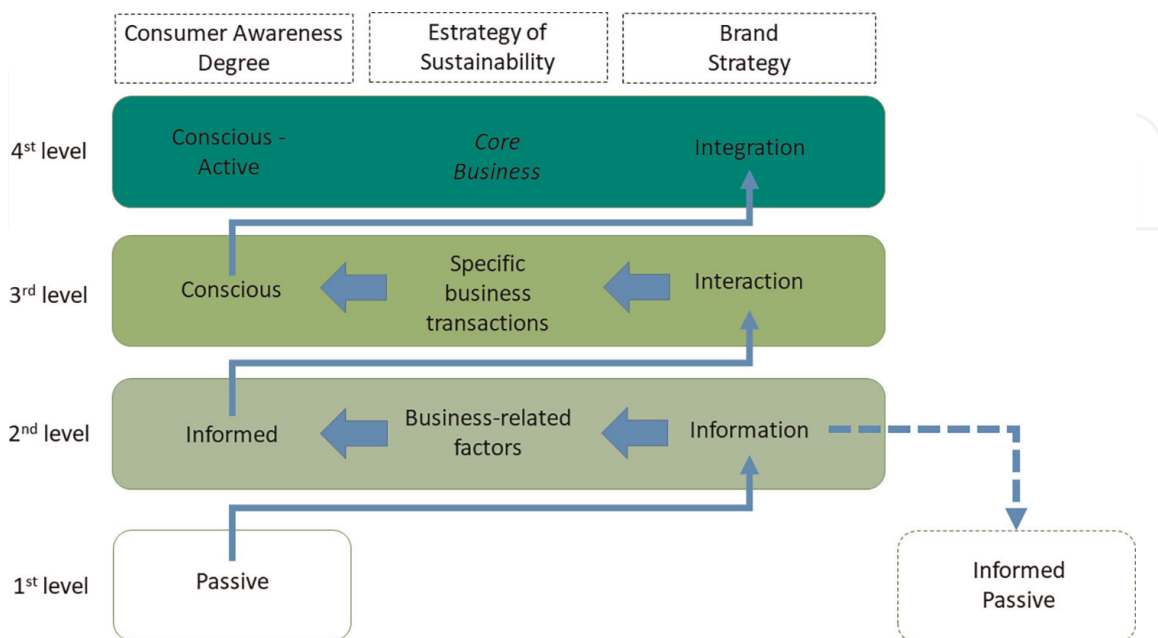
The third pillar revolves around brand strategies that align with each consumer's awareness level, which also accumulates over time. Brands that have established a connection with certain consumers must continue disseminating information and fostering interactions to engage consumers at different levels. The brand strategy focuses on presenting information on product sustainability, with the presentation tailored to the specific consumer awareness levels. Higher awareness levels demand more from the brand-consumer relationship.

In summary, the model consists of three pillars and four levels, as illustrated in **Figure 1**.

Consumer awareness levels in the model are cumulative, implying that an actively conscious consumer can also be considered conscious and informed. The differentiation lies in the level of engagement rather than categorizing them as “passive” in terms of consciousness.

Price plays a significant role that can influence the model. Sustainable products or services often come with a higher price tag in practice. As a result, when consumers consider brands within the context of the model, they may aspire to change their consumption choices. However, the price difference may limit their ability to make such a transition.

It is worth noting that consumer awareness may or may not shift across all levels. At the first level, a passive consumer who receives information can evolve into an



**Figure 1.**  
 Brand Management model for sustainability.



informed passive consumer. In subsequent levels, consumers may remain at the same level, maintaining a consistent degree of consciousness.

#### 4. Method

The aim of the field research is to test the proposed model. This test was done with consumers by means of a quasi-experiment. A quasi-experimental design involves comparing a group that has received a particular treatment with other groups of individuals who have received no treatment, standard treatment, alternative treatment, or a placebo treatment [24]. This approach enables the evaluation of the effectiveness of the proposed model in real-world settings, providing valuable insights and evidence regarding its efficacy in practical scenarios.

Milk was chosen as the product for the quasi-experiment. Within the milk market, various categories of milk exist, and four of them were specifically selected and assigned to the four model levels: UHT (Ultra-High Temperature process), pasteurized, Organic, and Soy Organic. To represent each category, one or two brands were chosen, as indicated in **Table 1**. Each level in the model was represented by one or two brands, enabling the examination of the participants' choice of product category and, consequently, their preference for different degrees of sustainability based on the brand they selected.

The following text presents the research protocol implemented for the quasi-experiment conducted in this study. In this research, two independent variables were isolated: the brand image of the milk and the price. The dependent variable was the participants' intention to purchase among the available options.

A total of 402 milk consumers were included in the quasi-experiment. The participants were selected through convenience sampling, which means that the selection was not randomized, aligning with the quasi-experimental method [25]. The test was administered online and promoted through social networks and email. Participants were encouraged to forward the email and share the test's link on their personal social networks, making it challenging to estimate the number of individuals who received the invitation to participate.

The participants were provided with clear and concise instructions regarding the procedure, emphasizing the anonymity of their information. A total of nine measurements and six interleaved experimental treatments were conducted.

Initially, participants were asked to read and agree to the consent form. They were then asked to provide their gender, family income, age, and the type of milk they

Level of the model	Type of Milk	Brand (s)	Price
Level 1	UHT	Parmalat Paulista	BRL 2.98 BRL 2.91
Level 2	Pasteurized	Fazenda Bela Vista Xando	BRL 3.91 BRL 4.04
Level 3	Organic	Timbauba	BRL 6.95
Level 4	Organic Soy	Native	BRL 10.99

**Table 1.**  
*Corresponding brands to model levels.*

consume, selecting from the options: UHT, pasteurized, and organic. The number of participants considered for each test phase was determined as follows: Participants who chose pasteurized milk in response to the question “What kind of milk do you consume?” before the experiment were not included in the first phase, which focused on UHT and pasteurized milk. Similarly, participants who chose organic milk in the same question were excluded from the first and second phases of the test. Furthermore, only participants who chose pasteurized milk in the second observation (O2) were considered for the second phase, and participants who chose milk type A in the second observation (O2) and organic milk in the fifth observation (O5) were included in the third phase. Thus, the number of participants varied in the second and third stages, depending on their progression through the levels.

The presented milk brands represented levels 1 and 2 of the model. Participants were asked to indicate their preference order for purchasing each brand on a form, with the first option being their top preference (O1). After this stage, participants were exposed to the first experimental treatment (X1), which involved viewing two images containing information about the types of milk being tested. One image provided negative information about a less sustainable type of milk, while the other image provided positive information about a more sustainable type of milk. Following the information exposure, participants indicated their preference order for purchasing each brand once again, marking the second observation or measurement (O2). Participants then received the second experimental treatment (X2), which involved the display of product prices on the milk packaging images. Afterward, participants were asked again about their purchase choices, recorded electronically as the third observation (O3). This concluded the first part of the test. The procedure was repeated two more times, testing the second and third levels with only one brand representing each level.

The variables were analyzed based on their measurements. Since the quasi-experiment involved dependent samples, tests of difference between means of dependent samples were conducted. This allowed for the evaluation of changes in individual behavior before and after specific interventions. The chosen design allows us to infer that the difference between observations (O2-O1, O3-O2, etc.) reflects the impact of the experimental treatment implemented in the initial stage of the test calculation [26].

$$d = O_n - O_{n-1} \quad (1)$$

The variables used in the given context are as follows:

**d:** This represents the difference between the position of products in the participant’s preference before and after the intervention. It quantifies the change in preference ranking for a particular product.

**O<sub>n</sub>:** This refers to the position of the product in the participant’s preference after the intervention. A position of 1 indicates that the product is the most preferred among the options.

**O<sub>n-1</sub>:** This represents the position of the product in the participant’s preference before the intervention. It indicates the initial ranking of the product before any intervention took place.

The average difference between observations is calculated by taking the average of the differences (d) between the positions of products in the participant’s preference before and after the intervention. This average represents the overall change in preference among the participants after the intervention:

$$\mu d = \frac{\sum d}{n} \quad (2)$$

**Table 2** presents the assumptions made after calculating the differences between observations and their average. The interventions were designed to favor products with a higher level of sustainability. Therefore, if interventions X<sub>1</sub>, X<sub>3</sub>, and X<sub>5</sub> have the expected impact, it is expected that products with lower sustainability levels (e.g., long life compared to Type A) will lose positions, while higher sustainability level products should gain positions. Additionally, since most organic products have higher prices, interventions X<sub>2</sub>, X<sub>4</sub>, X<sub>6</sub>, etc., were expected to lead to a decrease in preference for relatively more expensive organic products.

The final observation is that the hypothesis of an increased preference for products with a higher level of sustainability remained significant even after participants became aware of the higher prices associated with these products (as indicated by O<sub>3</sub> - O<sub>1</sub>). It is worth noting that the assumptions were established based on the importance of the direction of change in participants' preferences for the products, rather than just determining whether there was a change irrespective of the direction (**Table 3**).

To verify these hypotheses, observations were tabulated in Microsoft Excel® software and the underlying protocol was applied. This was chosen based on the guidelines proposed by Anderson et al. [27], Larson and Farber [28], Freedman et al. [29], but the work that presents this protocol more closely to this case is Fox et al. [30].

In the data analysis, the difference between observations was examined using a test of difference between means. The process involved calculating the standard deviation

Part 1 – initial exposure of the brands to the participants	
O <sub>1</sub>	Participants ranked the brands in order of preference on the form.
X <sub>1</sub>	Participants received sustainability information about the milk types being tested.
O <sub>2</sub>	Participants provided their preferred purchase order of the brands in the form.
X <sub>2</sub>	Participants were presented with the prices of the brands involved in the test.
O <sub>3</sub>	Participants indicated their preferred purchase order of the brands in the provided form.
Part 2 – second exposure of the brands to the participants	
O <sub>4</sub>	Participants ranked the brands in order of preference on the form.
X <sub>3</sub>	Participants received sustainability information about the milk types being tested.
O <sub>5</sub>	Participants provided their preferred purchase order of the brands in the form.
X <sub>4</sub>	Participants were presented with the prices of the brands involved in the test.
O <sub>6</sub>	Participants indicated their preferred purchase order of the brands in the provided form.
Part 3 – final exposure of the brands to the participants	
O <sub>7</sub>	Participants ranked the brands in order of preference on the form.
X <sub>5</sub>	Participants received sustainability information about the milk types being tested.
O <sub>8</sub>	Participants provided their preferred purchase order of the brands in the form.
X <sub>6</sub>	Participants were presented with the prices of the brands involved in the test.
O <sub>9</sub>	Participants indicated their preferred purchase order of the brands in the provided form.

**Table 2.**  
*Stages of the quasi-experiment.*

	UHT	Pasteurized	Organic	Soy Organic
O <sub>2</sub> - O <sub>1</sub>	H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$	H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$		
O <sub>3</sub> - O <sub>2</sub>	H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$	H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$		
O <sub>3</sub> - O <sub>1</sub>	H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$	H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$		
O <sub>5</sub> - O <sub>4</sub>		H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$	H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$	
O <sub>6</sub> - O <sub>5</sub>		H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$	H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$	
O <sub>6</sub> - O <sub>4</sub>		H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$	H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$	
O <sub>8</sub> - O <sub>7</sub>			H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$	H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$
O <sub>9</sub> - O <sub>8</sub>			H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$	H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$
O <sub>9</sub> - O <sub>7</sub>			H <sub>0</sub> : $\mu_d \leq 0$ H <sub>1</sub> : $\mu_d > 0$	H <sub>0</sub> : $\mu_d \geq 0$ H <sub>1</sub> : $\mu_d < 0$

**Table 3.**  
 Hypotheses of the quasi-experiment.

of the sample, determining the number of degrees of freedom (g.1.), and calculating the statistical standard using Student's t-test. Subsequently, the p-value was calculated to assess the significance of the results.

## 5. Results

The average analysis was helpful in visually representing the outcomes. However, to determine the significance of these changes, statistical tests were conducted.

**Table 4** displays the calculations of the Average, Standard Deviation, Standard Error, and t-test value ( $\alpha$ ), for the differences between the first and second, third and second, and the third and first observations for each brand. These values are then analyzed to assess their significance.

In general, the results indicate that less sustainable brands initially lost preference among the participants after they received information about the sustainability aspects of those products. However, their preference increased when participants were informed about the prices, as the more sustainable brands tended to be more expensive. It is important to note that even though the less sustainable brands gained preference after price presentation, they did not reach the same level of preference as before the sustainability information was provided.

Statistically, this overall pattern was not observed for the Parmalat brand between the second and third observations (O<sub>3</sub>-O<sub>2</sub>) in the first phase of the test. Although the simple average indicated a gain of 0.030 positions for the Parmalat brand, the t-test and p-value analysis indicated that this average cannot be considered statistically different from zero. Therefore, the hypothesis that the Parmalat brand gained preference based on price should be rejected.



<b>Parmalat</b>	<b>O<sub>2</sub> (-) O<sub>1</sub></b>	<b>O<sub>3</sub> (-) O<sub>2</sub></b>	<b>O<sub>3</sub> (-) O<sub>1</sub></b>
Average	0.41	-0.03	0.38
Standard Deviation (s)	0.914	0.788	0.983
n	305	305	305
Standard Error	0.052	0.045	0.056
Test <i>t</i>	7821	-0.653	6744
p-value	0	0.257	0
<b>Paulista</b>	<b>O<sub>2</sub> (-) O<sub>1</sub></b>	<b>O<sub>3</sub> (-) O<sub>2</sub></b>	<b>O<sub>3</sub> (-) O<sub>1</sub></b>
Average	0.416	-0.246	0.17
Standard Deviation (s)	0.855	0.848	0.894
n	305	305	305
Standard Error	0.049	0.049	0.051
Test <i>t</i>	8493	-5057	3324
p-value	0.0000	0.0000	0.0000
<b>Fazenda</b>	<b>O<sub>2</sub> (-) O<sub>1</sub></b>	<b>O<sub>3</sub> (-) O<sub>2</sub></b>	<b>O<sub>3</sub> (-) O<sub>1</sub></b>
Average	-0.384	0.141	-0.243
Standard Deviation (s)	0.807	0.763	0.855
n	305	305	305
Standard Error	0.046	0.044	0.049
Test <i>t</i>	-8285	3222	-4.95
p-value	0.000	0.001	0.000
<b>Xando</b>	<b>O<sub>2</sub> (-) O<sub>1</sub></b>	<b>O<sub>3</sub> (-) O<sub>2</sub></b>	<b>O<sub>3</sub> (-) O<sub>1</sub></b>
Average	-0.443	0.144	-0.298
Standard Deviation (s)	0.887	0.913	0.966
n	305	305	305
Standard Error	0.051	0.052	0.055
Test <i>t</i>	-8699	2754	-5384
p-value	0.000	0.003	0.000
<b>Fazenda</b>	<b>O<sub>5</sub> (-) O<sub>4</sub></b>	<b>O<sub>6</sub> (-) O<sub>5</sub></b>	<b>O<sub>6</sub> (-) O<sub>4</sub></b>
Average	0.407	-0.367	0.04
Standard Deviation (s)	0.503	0.493	0.593
N	199	199	199
Standard Error	0.036	0.035	0.042
Test <i>t</i>	11.394	-10.46	0.954
p-value	0.000	0.000	0.171
<b>Timbauba</b>	<b>O<sub>5</sub> (-) O<sub>4</sub></b>	<b>O<sub>6</sub> (-) O<sub>5</sub></b>	<b>O<sub>6</sub> (-) O<sub>4</sub></b>
Average	-0.407	0.367	-0.04
Standard Deviation (s)	0.503	0.493	0.593
N	199	199	199

<b>Parmalat</b>	<b>O<sub>2</sub> (-) O<sub>1</sub></b>	<b>O<sub>3</sub> (-) O<sub>2</sub></b>	<b>O<sub>3</sub> (-) O<sub>1</sub></b>
Standard Error	0.036	0.035	0.042
Test <i>t</i>	-11.394	10.46	-0.954
p-value	0.000	0.000	0.171
<b>Timbauba</b>	<b>O<sub>8</sub> (-) O<sub>7</sub></b>	<b>O<sub>9</sub> (-) O<sub>8</sub></b>	<b>O<sub>9</sub> (-) O<sub>7</sub></b>
Average	0.197	-0.145	0.053
Standard Deviation (s)	0.489	0.389	0.412
N	152	152	152
Standard Error	0.04	0.032	0.033
Test <i>t</i>	4962	-4575	1571
p-value	0.000	0.000	0.059
<b>Native</b>	<b>O<sub>8</sub> (-) O<sub>7</sub></b>	<b>O<sub>9</sub> (-) O<sub>8</sub></b>	<b>O<sub>9</sub> (-) O<sub>7</sub></b>
Average	-0.197	0.145	-0.053
Standard Deviation (s)	0.489	0.389	0.412
N	152	152	152
Standard Error	0.04	0.032	0.033
Test <i>t</i>	-4962	4457	-1571
p-value	0.000	0.000	0.059

**Table 4.**  
*Results.*

Similarly, other changes between the Fazenda Bela Vista and Timbauba brands from the fourth to sixth observations (O<sub>4</sub>-O<sub>6</sub>) could not be statistically confirmed. The simple average showed a loss of 0.04 positions for the Bela Vista Farm brand, while the Timbauba brand gained positions. However, the t-test and p-value analysis did not indicate these position changes as statistically significant, leading to the rejection of the hypothesis. The same applies to the differences observed between the ninth (O<sub>9</sub>) and seventh (O<sub>7</sub>) observations for the Timbauba and Native brands in the third phase of the test.

Overall, out of the eighteen hypotheses tested and presented in **Table 2**, five were not supported by statistical calculations. This implies that the proposed model is consistent and relevant, indicating that the research objective has been achieved.

## 6. Conclusion

In today's era of increasing concern for sustainability, brand awareness plays a crucial role in shaping consumer behavior toward more sustainable choices. This chapter presented a brand management model for enhancing brand awareness and promoting sustainable options. The model recognizes the varying levels of consumer awareness and the varying degrees of sustainability associated with products and services. By effectively communicating sustainability aspects to target consumers at the same awareness level, brands can create momentum and increase consumer awareness and knowledge.

The research conducted a field study involving 402 consumers to test the model. The results demonstrated that more sustainable brands gained preference among the participants after receiving information about their sustainability aspects. However, it was found that this gained preference was partially diminished when participants became aware of the product's prices. This highlights the need for brands to carefully consider pricing strategies in conjunction with sustainability messaging.

The integration of sustainability principles into brand management and communication is essential for contributing to the achievement of sustainable development goals, such as responsible consumption. Sustainable development requires a holistic approach that considers the economic, environmental, and social dimensions. Brands have the power to shape consumer behavior and perception, and by incorporating sustainability into their brand strategies, they can effectively contribute to sustainable development.

The proposed Brand Management for Sustainability (BMS) model builds upon existing brand management frameworks and integrates strategic elements of sustainability. It adopts a consumer-centered approach, recognizing the importance of consumer awareness and preferences in driving sustainable choices. By actively involving consumers in sustainability initiatives and tailoring brand strategies to meet their needs, brands can build trust, authenticity, and customer loyalty in the realm of sustainability.


In conclusion, enhancing brand awareness for sustainable choices is a critical endeavor for businesses in the current landscape. By adopting the brand management model proposed in this research, companies can effectively communicate their sustainability aspects, create momentum, and promote consumer awareness and knowledge. With sustainable development goals in mind, brands have the opportunity to contribute to a more sustainable future by aligning their brand strategies with consumer preferences and fostering a sense of shared purpose and authenticity.

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