Research paper

Effect of sensory marketing in Consumer behavior during the Act of purchase: a case study of supermarkets
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ABSTRACT
Today, engaging the public’s feelings appears to be a new spearhead for some companies, but practitioners have realized the value of using sensory marketing. The objective of this study is to discover the kinds of situations that affect consumer behavior. A survey of 75 shoppers in a busy supermarket in Antananarivo was conducted using non-probability purpose sampling. Methods such as observation, interviews, and bibliographic review were also used to develop this research paper. Multivariate analysis such as correspondence factor analysis (CFA) and Multiple correspondence factor analysis (MCA) were the main tools to explore the variables. The results showed that music gives a feeling of pleasure and satisfaction to consumers. Taste is the best way to get buyers to consume more. Tactile marketing creates a positive behavioural reaction in consumers and visual marketing improve their well-being. The findings provided contribute to the improvement of a strategy to better engage consumers in supermarkets.

1. INTRODUCTION
Nowadays, marketing 3.0 renders obsolete the product- and consumer-centric models of yesteryear and integrates a value and emotion-centric approach (Kotler et al., 2010). This change is due to the fact that today's consumers want marketers to treat them as thinking human beings by integrating the fact that their needs go beyond consumerism. The new marketing concept seeks to get closer to nature by appealing to the senses. While traditional marketing is based on the principle that customers evaluate the functional characteristics of products, compare them, and make their choices according to their needs, sensorial marketing focuses on the experiences of the customer. The consumer thus becomes poly sensorial Experiences become sensory, emotional, cognitive, behavioral, relational, and not only functional (Pensé-Lhéritier et al., 2012).

According to (Schmitt, 1999), sensory marketing is a marketing strategy that stimulates consumers' emotions instead of their rational judgment by appealing to the five human senses "sight", "smell", "sound", "taste" and "touch". It can also consecutively affect their emotions, perceptions, judgment, and behavior (Aimé et al., 2022; Haryanto et al., 2022, Yolanda et al., 2023, Helly et al., 2022, Krishna, 2012). In a way, sensory marketing is an application of the understanding of sensation and perception to the field of marketing—to consumer perception, cognition, emotion, learning, preference, choice, or evaluation (Krishna et al., 2016). Thus, sensory marketing refers to any marketing strategy that engages the consumers' senses to influence their perceptions, judgment, and situational behavior (Wang et al., 2019). For companies, it is not an easy marketing to implement because appealing to the customers’ senses requires a maximum of resources and could increase the costs deployed by the company.

Supermarkets in Madagascar use marketing in promotions and media advertising to encourage the act of purchase. However, few companies have implemented the practice of sensory marketing and consumers are not aware of the existence of this practice and do not realize the effects of this practice on them. Previous studies have been conducted on the customer experience in supermarkets but are limited to the different senses (Terblanche, 2018). Other studies on sensory marketing have been conducted but only in the advertising sector (Krishna et al., 2016).

The field of sensory marketing offers many perspectives for managers and for researchers. And as a growing topic, there is much research to be done. Sensory marketing have been applied to various contexts such as package design (Krishna et al., 2017), retailing (Biswa, 2019) and fast food brand design (Hinestroza & James, 2014). For the restaurant case, using sensory marketing techniques have more satisfied customers than otherwise (Satti et al., 2022).
However, few studies have applied the sensory marketing to the context of supermarket or pharmacies (Thierry, 2021). Then, we do not know the effect of each sensory marketing components may affect the consumer reactions especially in supermarkets despite its importance in decision making. The aim of this study is to understand how sensorial marketing acts on consumers in supermarkets without knowing it by encompassing all five human senses.

2. LITERATURE REVIEW

2.1. From traditional marketing to sensory marketing

Traditional marketing aims to build customer loyalty, increase brand awareness and develop purchase intent. It consists in analyzing (analytical vision), rationalizing (rational vision), and mechanizing (mechanical vision) products, consumers and competitors (Lendrevie et al., 2006). It assumes that customers evaluate the functional characteristics of products, compare them and make their choice according to the suitability of the product to their needs (Pensé-Lhéritier et al., 2012). On the other hand, sensorial marketing has been designed to stimulate the emotions of consumers so that they no longer perform simple acts of consumerism. It corresponds to the set of variables of actions controlled by the producer and/or the distributor to create around the product/service a specific multi-sensorial atmosphere, either through the characteristics of the product itself, or through the communication in its favor, or through the environment of the product at the point of sale (Filser, 2003).

![Sensory Marketing Diagram](image)

**Figure 1.** A conceptual framework of sensory marketing (Krishna, 2012)

2.2. Issues of Sensory Marketing Components

Sensory marketing components could be visual, tactile, gustatory, olfactory and hearing. Visual attention pays an active role in decision making by providing information and supporting the decision making process (Gidlöf et al., 2017; Orquin & Loose, 2013; Wästlund et al., 2018). For instance, light influences the consumer’s enjoyment and satisfaction at the point of sale (Lemoine, 2002). Indeed, in the presence of strong light, customers examine and pick up a higher number of products (Beudaert et al., 2017) and that bright light stimulates impulse buying (Dutta & Biren, 2001). The use of touch allows us to come into contact with an external, existing, real element. Some consumers must physically interact with products and gather information through their hands before buying (Marlow & Jansson-Boyd, 2011; McCabe & Nowlis, 2003; Peck & Wiggins, 2006). Individuals differ in the importance they place on the sense of touch but, for some, it is essential for evaluating the product (Keller & Kotler, 2015).

According to (Kotler et al., 2015) The taste perceived when a person eats a food depends on how it looks, smells and sounds when put in the mouth. The best way to highlight the taste of a product is to give free tastings to consumers. In this case, no cheating is possible; either the consumer likes the taste of the product, or the taste does not please him and he will not buy it. Furthermore, brand manager sometimes use odors for marketing purpose. (Chen & Haviland-Jones, 1999) went further in their analysis by demonstrating that emotions have a direct impact on our body odor, thus informing others on our mood state. (Knasko, 1992) studies seem to have shown that the simple fact of suggesting the presence of a pleasant odor can have an effect on the affective state of consumers. Other studies have shown that scents can make consumers feel good and can influence their behavior by changing...
their perception of the time spent in the store, and can encourage them to consume (Pensé-Lhéritier et al., 2012). (Lemoine, 2003) states that the pleasure induced by music positively influences the perception of the point of sale and the judgment of the consumers towards the salesmen. Customers are happier, more content and satisfied when the music is pleasant (Yalch & Spangenberg, 1993). When customers are bathed in slow tempo music, they would adopt a slower shopping speed (Daucé, 2000).

2.3. Consumer experience and supermarket serviscapes

Shopping is no longer merely an exercise to obtain a preferred product or service; it has become a social experience (Van Rompay et al., 2012). A holistic shopping experience with entertainment, stimulation, emotionally affection and creative change are expected by the consumers (Schmitt, 1999 ; Foster & McLelland, 2015). These circumstances present retailers with opportunities to differentiate themselves from competitors by designing retail environments that will create memorable customer experiences (Petermans et al., 2013). For consumers visiting a service or retail store, the service environment is the first aspect of the service that is perceived by the customer and it is at this stage that consumers are likely to form impressions of the level of service they will receive (Hooper et al., 2013). A servicescape must meet the basic needs of all who need to be within it including staff and customers (Hynes & Manson, 2016). It must provide adequate heat, ventilation and lighting and be free of hazards such as trip risks and dangerous noise levels. In order to achieve the desired market positioning and to encourage the desired consumer behaviour, elements such as noise and lighting must provide more than the perfunctory requirements and are used to create atmosphere and particular ambience or effect (Bitner, 1992 ; Caldwell & Hibbert, 2002). However, a research gap is noted in the effect of sensory marketing on consumers.

3. METHODS

3.1. Data collection

To understand the effects of sensorial marketing to the consumer a qualitative approach was conducted by using questionnaire as data collection tool. Data was collected through survey method from supermarkets consumers. The target population is all people who make purchases in supermarkets located in the center of Antananarivo city. In the questionnaire, respondents are asked to imagine situations that stimulate their senses according to their experience. The survey focused on the perception of consumers in order to know how they react to positive stimulating experiences through the 5 senses. In other words, a simulated experiment was carried out at the level of consumers by making them imagine a positive experience on each of their 5 senses. In this context, non-probability sampling method using rational choice were used. In total, 75 consumers were sampled.

3.2. Data processing

All the data processing and research analysis was done using IBM SPSS Statistic Software version 27. The following steps have been performed: Firstly, a description of respondents and relationship between duration have been shown. The goal is to know the profile of consumers who will be more easily touched by sensory marketing by the time spent in supermarkets. A multiple correspondence analysis (MCA) allows to find the links between these different qualitative variables. Chi-square test was used to test the significant link between the family situation and the average time spent in the supermarkets in order to verify their relationship. Secondly, the objective is to know the parameters that make consumers stay longer than usual in a supermarket the motivation to stay in the supermarket. This would be a way to orient the creativity of supermarkets and enrich the customer experience.

3.3. Measurement of the stimulus

The study tends to know the effects of individual or multiple sensory cues on consumers’ mood, emotions, perceptions, and behaviors. The focus is to put highlighting specific sensory cues within marketing contexts on engaging consumers’ senses toward generating enriched customer experiences at supermarkets.

<table>
<thead>
<tr>
<th>Table 1. Question asked corresponding to 5 senses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of sense</strong></td>
</tr>
<tr>
<td>Hearing</td>
</tr>
<tr>
<td>Olfactory</td>
</tr>
<tr>
<td>Tactile</td>
</tr>
<tr>
<td>Taste</td>
</tr>
<tr>
<td>Visual</td>
</tr>
</tbody>
</table>
Descriptive statistics were used to assess the result of these experience. The respondents are inviting to check among the following expected answers according to their feeling after the positive simulating experiences. The responses will be classified by Krishna (2012) affected points.

<table>
<thead>
<tr>
<th>Expected answer</th>
<th>Typology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood change</td>
<td>Emotion</td>
</tr>
<tr>
<td>Happier</td>
<td></td>
</tr>
<tr>
<td>Sensitive</td>
<td></td>
</tr>
<tr>
<td>Consume more</td>
<td>Behavior</td>
</tr>
<tr>
<td>Impulse purchase</td>
<td></td>
</tr>
<tr>
<td>Get out</td>
<td></td>
</tr>
<tr>
<td>Pleasure</td>
<td>Perception</td>
</tr>
<tr>
<td>Wellbeing</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td></td>
</tr>
<tr>
<td>Stimulating</td>
<td></td>
</tr>
<tr>
<td>Positive store</td>
<td>Judgment</td>
</tr>
</tbody>
</table>

4. RESULTS
4.1. Profile of surveyed

The following figure 2 shows the relationship between the profile of the respondents and the average time spent in a supermarket.

According to the figure 2, female consumers, mothers and civil servants spend the most time in supermarkets, unlike student children. Their responsibilities and means push them to seek satisfaction well in the outlets. Workers and sellers adopt the same behavior.

<table>
<thead>
<tr>
<th>Table 3. Chi-square test on variable family situation and variable duration</th>
<th>Value</th>
<th>df</th>
<th>Asymptotic Significance (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>12,686</td>
<td>8</td>
<td>.123</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>13,330</td>
<td>8</td>
<td>.101</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.003</td>
<td>1</td>
<td>.956</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Although Dimension 1 in Figure 2 shows a very strong opposition between family status and average time spent in a superstore, the Chi-2 test shows the absence of a significant relationship between these two variables (p-value > \( \alpha \)).

### 4.2. Motivation to stay

Figure 3 illustrates the different types of motivation that keep consumers in supermarkets. Figure 3 shows that the sales force and the staff’s ability to communicate are the factors that motivate shoppers to stay longer in the store. However, prior studies finally, store cleanliness develops a sense of comfort and luxury in the mind of customers that enables them to stay longer within store (Youn & Faber, 2000). Of the five senses, smell is the most salient, as opposed to touch. Price is not an argument. The reason is that in Madagascar, supermarkets are considered privileged places and reserved for the wealthy population where price is not a brake on the act of buying.

![Figure 3. Motivation to stay and their proportion](image)

### 4.3. Consumer’s perception in the points of sale according to the 5 senses

Figure 4 shows the different sensations experienced by consumers after having a positive experience on the senses. Figure 4 shows that music provides the most pleasure for supermarket consumers, followed by smell. A satisfying taste experience encourages them to consume more. Tasting seems to be an excellent way to stimulate consumption. The search for well-being and happiness is felt by the consumer after a pleasant experience, especially in terms of sight. As opposed to touch and taste, music, smell and the reflection of mirrors can change the mood of consumers. To provoke impulse purchases, stimuli such as taste and touch are the most effective.

![Figure 4. Consumer’s perception through 5 senses](image)
5. DISCUSSION

To expand our knowledge of the importance of sensory marketing, we have investigated how the stimulation of our senses influences our reaction. Supermarkets are places where we can mobilize all aspects of our senses at once. In this section, we are going to analyze these reactions one by one. Firstly, Keller & Kotler, (2015) states that visual perception biases affect everyday consumption. In fact, apart from the selection of colors for the interior of the store, the arrangement of products on the shelves as well as the classification of products, the installation of a mirror serving as a decor in a point of sale plays a positive role on consumer behavior. In the case of supermarkets, all visual elements contribute to a sense of well-being that enhances the customer experience and it is just a sensation of pleasure but not a behavioral reaction. Secondly, Spence & Gallace, (2011) have affirmed that the use of the touch allows to enter in contact with an external, existing, real element of the product. According to figure 4, the touch is a good way to impulse purchase at the supermarket and make the consumer to purchase more. Indeed, if they cannot open the product inside the store, consumers make judgments about the intrinsic elements of the product that they can see with the naked eye. This reaction is said to be behavioral and psychological since consumers are not only encouraged to consume the product after touching it, but they also evaluate the store positively. Thus, tactile marketing creates a behavioral reaction in consumers. Thirdly, according to Kotler et al., (2015), the taste perceived when a person eats a food depends on its appearance, its smell and the sound it makes when he puts it in his mouth, a fact that can be defined as the expression of a psychological reaction. In the same vein, it has been noticed that the practice of taste marketing through the implementation of one or more tasting sessions particularly encourages consumers to consume. Therefore, taste marketing creates a behavioral reaction in consumers. Fourthly, while several research studies have shown that customers stay longer in a store when a store has scents (Daucé, 2000; Hirsch, 1995; Knasko, 1992; Leenders et al., 1999). However, the sales force seems to be more effective to make the consumer stay longer in the supermarket (figure 3). A trained and experienced sales force can show the store performance and give the opportunity to experience all the benefit of the supermarket. Furthermore, the social status has also an impact on the time spent in the store. The reality shows that the practice of olfactory marketing through the emission of a smell only leads consumers to feel pleasure. It is a reaction that can be defined as a physical reaction. Lastly, it would seem that the diffusion of a music does not lead to a visible behavioral reaction which leads the consumers to circulate less quickly in the point of sale but turned mainly towards an emotional reaction. Sound in supermarket give physical and emotional reaction and is used to feel pleasure, but which does not influence their behavior.

6. CONCLUSION

Sensory marketing differs from traditional marketing by appealing to one or more of the consumer’s senses to give them a unique sensory experience such as touch, sight, smell, taste and hearing. These factors are accompanied by other factors such as price comparison before making a purchase or the variety of products sold in the store. However, consumers seem to be unaware of this practice even if they make purchases in the absence of sensory factors. Reactions are perceived as responses; they can be positive but also negative. In this respect, reactions play a fundamental role in the commercial world, since they allow defining the level of appreciation of consumers towards a product, service, event or practice. Faced with a single practice, as in sensory marketing, each consumer does not present the same reactions and suggests that the practice is disappointing or unnecessary.

Theoretically, this study allows us to understand various reactions through the components of sensory marketing that could be behavioral, emotional, and psychological. The study allows us to know precisely to what extent the stimulation of each of our senses affects our reactions. Only the taste and tactile lead to behavioral reaction. Practically, this study was designed to examine effective sensory marketing strategies for supermarkets. Based on the findings, managers can build effective strategies based on their objectives by stimulating the corresponding components. Given that supermarkets are usually frequented by the wealthy population in the case of Madagascar, future research can be extended to other locations that can reach a large proportion of consumers.

A complete customer experience includes interactions with the product (eg. examining, handling, consuming), the environment, and other people (Hoch, 2002), as well as processing of various forms of marketing communications. Thus, real cases should have been conducted to test the effect of sensory marketing on the customer experience. However, the experiences presented in this study are only simulated experiences based on the respondent’s experience.
REFERENCES


Marlow, N., & Jansson-Boyd, C. V. (2011). To touch or not to touch; that is the question. Should consumers always be encouraged to touch products, and does it always alter product perception? Psychology & Marketing, 28(3), 256-266. https://doi.org/10.1002/mar.20391


