

# The Impact of Sensory Marketing on Consumer Buying Behavior: Primary Study – Starbucks – Lebanon

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**Abstract** This paper seeks to examine the effects of sensory marketing on consumer purchasing behavior using a case study of Starbucks Lebanon. Sensory marketing, which is a sub-branch of psychological marketing, emphasizes influencing people's five senses-sight, sound, smell, taste, and touch. This strategy attempts to evoke emotions in consumers and alter behavioral responses through the use of strategies that are more effective than traditional rational appeals. Starbucks, renowned for providing a rich brand experience, has adopted sensory marketing in its Lebanese branches as a strategy to mark its presence in the increasingly competitive coffeehouse industry. This study employs a quantitative cross-sectional research design, gathering data from 90 respondents patronizing two branches; Galaxy Mall in Beirut and City Center in Mount Lebanon (Baabda). A pretested structured questionnaire based on standard measures of imagery was administered to capture respondents' perceptions of sensory stimuli and its impact on consumer behavior. To achieve the results, the researchers relied the SPSS software which allowed them to utilize descriptive statistics, Pearson correlation, and multiple regression analysis. The outcome showed a very strong positive correlation between employing sensory marketing components and consumer purchasing behavior. Out of the five senses, taste and smell had the greatest impacts, while sight, hearing, and touch followed. These results demonstrate the importance of multi-sensory branding for customer engagement, satisfaction, and loyalty to brands in the Lebanese café industry.

**Keywords** Sensory marketing, Consumer behavior, Buying behavior, Five senses

## 1. Introduction

Brands today employ sensory marketing as one of the most potent strategies simply because it revolves around the five human senses: sight, sound, smell, taste, and touch. Each of the senses can help shape consumer perceptions, emotions, and buying behavior. This marketing strategy is based on the fact that it is not always about logic when making any purchasing decisions, but emotional responses that are triggered by automated feelings [1].

Such environments, rich in sensation, allow firms to create experiences which help foster brand and loyalty.

When it comes to service industries with a high level of intangibility, sensory marketing serves to structure customer experience of services in an appealing manner. Businesses are able to position themselves by creating atmospheric cues such as background music, visual design, scents, and the feel of the product [2]. This is evident in Starbucks with its global approach to "third place" branding that seeks to position its stores as neither homes nor workplaces, but rather welcoming sensory spaces designed to ignite positive emotions

and build social bonds.

With respect to Lebanon, it is clear that sensory marketing is a concept that has not yet been embraced, particularly by SMEs. Despite the lively cafe culture, many local establishments still prefer to use traditional forms of advertising and do not implement sensory techniques in a systematic and analytical fashion [3]. On the contrary, Starbucks Lebanon provides a pertinent and rich context for examining the role and influence of sensory marketing in the coffee shop business.

### Research Problem:

The implementation of sensory marketing in Lebanon is quite low. As is the case with many local firms, particularly family-owned ones, there is a lack of knowledge or comprehension of this modern approach. Because of this, marketing attempts are often inadequate in fully utilizing sensory engagement, which is vital in boosting client satisfaction and loyalty. Esquires Lebanon faces issues in terms of competition, changing customer needs and differentiation. This research aims to determine the impact of sensory marketing elements on consumer buying behavior within this context. This gives rise to the main research problem: In what way does sensory marketing affect the buying behavior of consumers of Starbucks Lebanon Esquires?

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### Research Objectives:

This study aims to analyze the effect of the coffeehouse's sensory marketing components on consumer purchasing behavior at Starbucks Coffee in Lebanon. The assessments apply to each of the individual stimuli which are sight, sound, smell, taste, and touch to determine how these components integrate with consumers' purchasing emotion, brand engagement, and loyalty to the organization.

### The sub-objectives of the research are:

To determine the effects of visual components (e.g., color, illumination, and arrangement of the furniture) on perception and buying behaviors of Starbucks customers.

To establish the effects of sound elements (e.g., background music, ambient sound) on the consumers' mood and their buying intentions.

To investigate the contribution of scent, such as coffee aromatic and other ambient scents, on strengthening emotional attachment to the brand and recalling it.

To investigate the impact of taste variables (e.g., custom beverage, flavor of the beverage) on customer satisfaction and the probability of repurchase.

To assess the impact of tactile elements (e.g., texture of the furniture, the packaging, design of the cup) on customers' sensory engagement and evaluation of the product.

In addition, this research aims to test whether the Lebanese coffeehouse environment is able to generate greater customer retention and multi-sensory experience value than single-sensory marketing.

### Research Significance and structure:

This study has both academic and practical benefits. In the context of marketing, this study enhances the understanding of sensory marketing in neglected regions like Lebanon. In a practical context, it helps marketers, especially those dealing in cafés and retail shops, understand how sensory design impacts the decision-making process of customers. The results can help companies design multi-sensory approaches to customer relations that will improve customer experience, satisfaction, and loyalty [4].

## 2. Literature Review

### Sensory Marketing: Concept and Dimensions

Marketing makes use of sensory features to stimulate one or more of the five senses to impact a customer's feelings, sentiments, and reactions [1]. Rather than relying too much on rational marketing, it focuses on appealing to more emotional, peripheral, or subconscious processing. Hulten (2011) highlights the role of sensory marketing in building strong brands' identities and improving customer experience, particularly in the service sector.

#### Sight

Sight is the most prevalent and potent sense in marketing. Elements of branding such as colors, packages, logo designs, as well as lighting and store ambiance greatly impact the

consumer's perception of the brand as well as the memory recall [5]. Starbucks, for instance, uses green branding and interior design to evoke feelings of comfort, while also striving for brand consistency.

#### Sound

Tone of voice, music, background noise, and sound level can have an effect on someone's mood as well as determine the speed of shopping and how products are assessed [6]. Like most coffee shops, Starbucks has a distinctive soundscape consisting of the charming sounds of baristas, espresso machines, and background music that aim to make the customers more satisfied.

#### Smell

Marketing that focuses on smell takes advantage of olfactory imagery, which is the strongest image linked with memories and feelings. The proper scents can enhance a person's mood, make them spend more time at a particular space, and help in brand relations [7]. Starbucks uses the smell of fresh ground coffee as a way to evoke feeling and retain customers.

#### Taste

Taste is an important factor in the food and drink industry. It is not only associated with satisfaction, but it also brings emotional feelings and various forms of cross-cultural appreciation [1]. Starbucks' provision of special tastes enhances consumer loyalty based on fulfillment of tastes and preferences of individual customers.

#### Touch

Touch influences the evaluation of a product through its perceived quality, packaging, and even emotion attached to it [8]. The touch of Starbucks cups, comfort of furniture, and ambiance of the place affects how the customer experiences the services offered.

### Previous studies

Sensory marketing has been investigated in relation to consumer behavior for different cultures and industries, and these studies add value in a practical form to earlier theoretical discussions about how sensory strategies shape perception, satisfaction, loyalty, and purchasing behavior.

The majority of case studies validate the effect that sensory marketing has on consumer choice, consumer contentment, and consumer devotion.

#### Grzybowska-Brzezińska et al (2013) - Poland

This research dealt with sensory cues in the context of food retailing in Poland. Results showed that the visual characteristics of the product, its structure, and the surrounding smells had a favorable impact on consumer purchases. As the research pointed out, rich sensory contexts not only improve the consumer experience, they also result in greater duration of stay and purchase incidence in the store. [9]

#### Lakhdari & Lahouel (2022) - Algeria

The study was done in retail shops in Algeria, where it covered the unconscious level of stimulation by senses. It

was concluded that smelling or hearing certain stimuli had the strongest impact on emotional involvement and buying behavior. This study showed clearly that the way the environment is arranged effectively and covertly influences behavior, usually without the intention of the consumers. [10]

#### **Uddin (2019) - Sweden**

Uddin's research in Sweden focused on the café industry and emphasized the importance of integration among various senses. The study found that customer satisfaction and brand loyalty improve when visual, olfactory, and auditory elements are in sync. Starbucks was one of the main case studies showing how a company can lose customers because of lack of harmonious sensory marketing. [11]

#### **Padma & Elangovan (2017) - India**

The research concentrates on fine dining restaurants in India and confirmed that music, light, and smell as part of the environment greatly improves satisfaction with the meal. In addition, these factors were found to improve the intention to return, indicating that customers' perception of the brand stems from both the quality of the food served as well as the environmental factors. [12]

#### **Hulten (2011) - Sweden**

Hulten sought to discover the role of sensory cues in the construction of brand identity. The results indicated that for brands which incorporate sight, scent, and touch into their surroundings, there is greater perception of brand credibility regarding authenticity. This strengthened the argument for the role of sensory marketing in brand strategy, brand loyalty, and emotional bond with the brand. [02]

#### **Alshaibani & Bakir (2017) – Saudi Arabia**

As studied on shopping mall environments, Alshaibani & Bakir found that music, scent and lighting had a profound impact on the consumers' duration of stay as well as their spending habits. Notably, the research made Arab consumer culture an area of concern that provided relevant information about the implications of sensory marketing. [13]

#### **Sousa & Voss (2016) – Portugal**

The objective of this research was to understand the role of sensory design in the context of high-end dining places. It proved that specific environmental elements such as smell, interior design, and even space seemed to enhance service quality perceptions and customer experience, which led to increased customer loyalty and positive feedback.

It is the purpose of this paper to recognize examines the role of sensory marketing on consumer behavior, in this case, from a more holistic perspective. While gaps remain on how consumers in different local cultures understand and emotionally construct global sensory branding strategies, this study narrows the scope to the Lebanese market where consumer behavior is shaped by fusion of external branding and local culture. This paper is different from the rest in which outcomes of sensory marketing were too generalized as it approaches the issue from the context of culture.

It endeavoured to investigate how consumers in Lebanon, a hybrid Middle Eastern country, react to multi-sensory experiences in a high-end coffee house. As a result, the nation's response to sensory marketing behavior will fill the gap between socially constructed feelings and actions amidst branding stimulus. [14]

### **3. Theoretical Framework**

This part describes important pieces of information that assist the study's conceptual structure.

#### **Krishna's Sensory Marketing Theory**

According to the pioneer of sensory marketing, Aradhna Krishna (2012) Krishna defines sensory marketing as that which makes use of the senses of the consumers and impacts how they perceive, judge, and behaviors. Her theory posits that there are conscious and subconscious sensory experiences, which in turn affect brand image, customer satisfaction, and buying behavior. Krishna notes that the brain processes sensory information ecologically, with emotions attached to it to recall them, which results in brand memory and loyalty. This theory serves as the central base conceptual of this study because it combines sensory information and consumer behavior at different levels of the buying process.

#### **Lindström's Brand Sense Theory**

Lindström (2005) highlights the idea that creating strong emotionally appealing brands goes beyond marketing communications. He explains, through his concept of "Brand Sense," that establishing a brand is much more efficient when all five senses are included: listening, seeing, smelling, tasting, and touching. This type of multi-sensory integration improves not only brand recognition but also the emotional attachment to the brand and loyalty towards it. In relation to coffee shops as service settings, this kind of consistency is crucial for brand identity as well as customer satisfaction and experience. [15]

#### **Schmitt's Experiential Marketing Model**

Bernd Schmitt (1999) noted the introduction in the e-business context of Experiential Marketing Model which departs from product-centric marketing approaches to provide a comprehensive conception of the customer experience. Schmitt mentions five-dimensioned concept of the experience:

1. Sense (senses activated),
2. Feel (reaction towards a situation),
3. Think (cognitive reaction),
4. Act (bodily movement),
5. Relate (social engagement).

The "Sense" component connects straight to sensory marketing which aims to sight, sound, smell etc. to them strategically appeal to the consumer. This model supports Krishna's theory by showing how actively engaging the consumer can provoke emotional attachment, which correlates with Schmitt's (1999) statements regarding deeply engaging consumers. [16]

### Theory of Planned Behavior (Ajzen, 1991)

Sensory marketing touches branding in a crucial spot: it alters users' sentiments towards it, meaning that their behavioral intent changes. As per Ajzen [17], TPB explains how attitudes, social norms, and behavior control are integrated in forming the plannable actions or intentions to do something. Positive stimuli such as relaxing music and a pleasing scent to a negative stimulus make a good environment which provokes example evaluation, and response as both feel and think [17]. It has an explanation on the effects of sensory exposure and behavioral responses in psychology.

### Mehrabian-Russell Model of Environmental Psychology

The Mehrabian-Russell Model (1974) explains how various external stimuli can impact one's emotional state, which can then dictate the behavioral response. The model describes pleasure, arousal, and dominance (PAD) as the three core emotional reactions. These emotions determine whether a consumer has a tendency to approach or withdraw from a given environment. Lighting, temperature, scent, and sound are sensory cues that evoke these emotions. Using Starbucks as an example, this model explains how the pleasant ambiance makes customers relax and encourages them to stay longer and return in the future [18].

### Comparative Analysis Between Classical and Modern Models of Consumer Behavior

For a long time, the behavior of a consumer was viewed in light of classical economics where the individual was seen as a rational being who wants to get the most value for their money in relation to its price, quality, and competing offers. This theory assumes that a consumer makes purchases based on logical reasoning and does a detailed evaluation of the costs and benefits [19]. This stance has been challenged for being too simplistic and not considering the emotional, cultural, and psychosocial aspects.

On the other hand, today's theories of consumer behavior factor in the intricacies of how humans make decisions. Modern approaches recognize that consumers exist outside of rational parameters—they are emotional, intuitive, and socially influenced beings. These models holistically account for psychological (such as perception, motivation, and memory), sociological (such as culture, reference groups, family), and contextual (environment and mood) factors of the decision-making process [20].

In particular, experiential marketing focuses on the consumption experience as an emotional and a sensory phenomenon. It postulates that consumers are motivated to achieve meaning and memorable events, particularly within service sectors such as hospitality and food services. Starbucks has applied this approach worldwide by not only concentrating on the product (coffee) but rather on the experience that surrounds drinking coffee in a warm, inviting place that triggers all five senses.

In this manner, the progression from rational to experiential models illustrates the importance of sensory marketing as a contemporary means of shaping consumer behavior on cognitive and emotional dimensions.

### Starbucks Lebanon sensory marketing

Starbucks, the well-known coffee chain, is recognized for its beverage offerings as well as its unique brand experience across its outlets. In Lebanon, Starbucks strikes a balance between local consumer preferences and its global brand image. Its locations in Beirut and Mount Lebanon (Baabda) serve as a case study for sensory marketing principles.

A Starbucks outlet's sensory marketing strategy can be understood from the moment a customer steps into one in Lebanon. The green and brown color schemes along with the dimmed lighting, natural wooden textures, and simple furniture is all designed to make them feel cozy and relaxed to a certain degree. This is in line with Hultén (2011) operationalization called "visual personality of a brand" and his definition of brands.

Starbucks' Lebanese locations constantly have their coffee machines running, with the smell of coffee intentionally designed to be as comforting as possible and as delicious as possible. Perception profoundly impacts emotion and attachment to a brand [7].

Meanwhile, Starbucks in Lebanon also plays music, which is tailored more to the Lebanese culture and their clientele. During early morning hours, calm soft instrumental and jazz music is played to ensure that customers focus on nothing else. As the evening arrives, more colorful tunes are introduced to energize and make people socialize more, as per the Mehrabian-Russell approach of arousal and mood control in retail environments [18].

The physical elements of the premises are given equal attention, such as the wooden tabletops, the ceramic cups, and the seats which add to the feeling of quality and durability. FYI, the touch component [8] causes the consumers' interactions with the environment to be more physically engaging, enabling deeper emotional attachment.

Finally, personalized taste is also important to the Starbucks value model in Lebanon. Customers having the ability to select syrup flavor, milk type, and cup size feel a sense of power and uniqueness that is positively associated with enhanced brand loyalty and satisfaction [1].

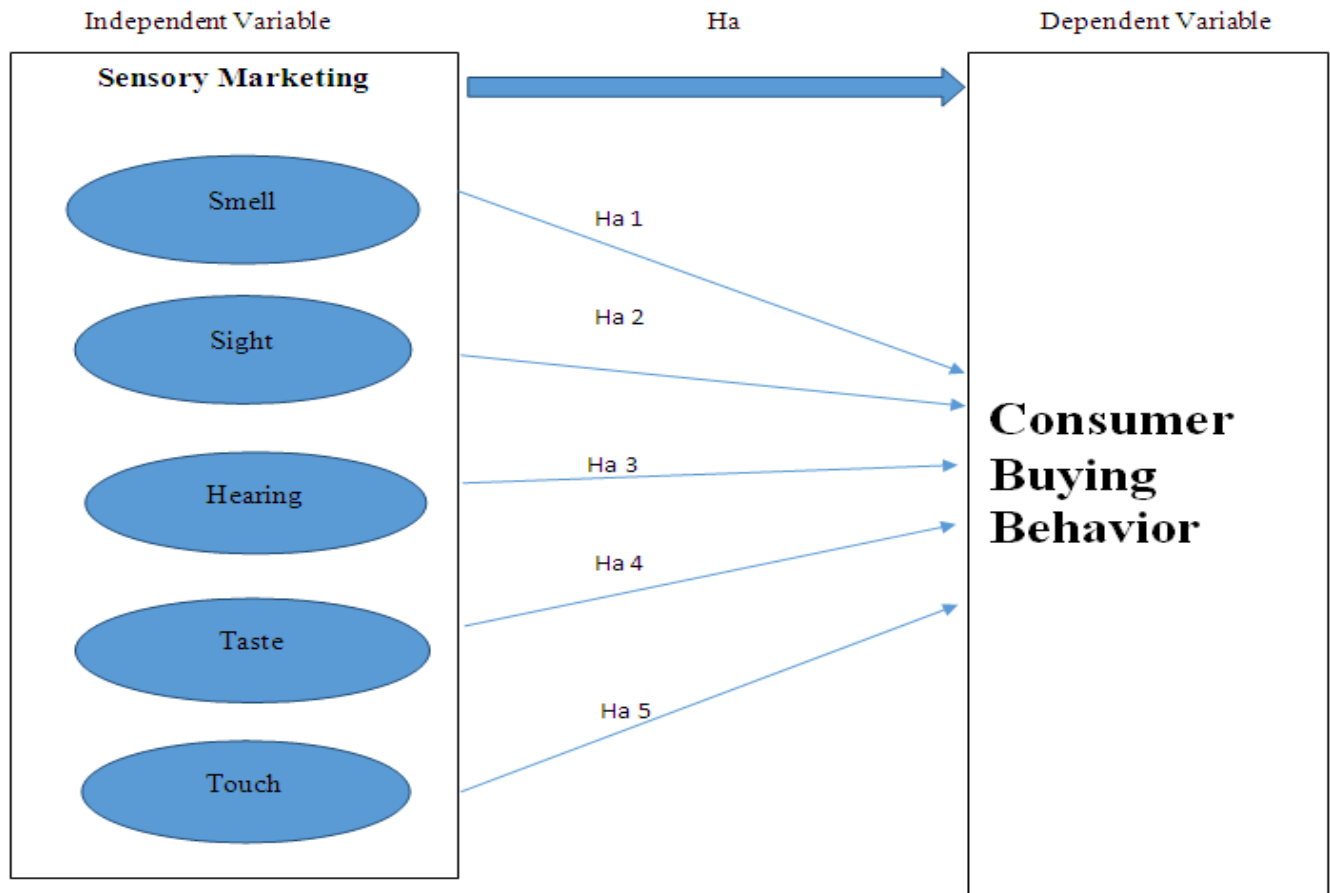
All in all, Starbucks Lebanon manages to create a unique multi-sensory experience which fosters emotional connection, encourages customer retention, and supports the premium stance in the local coffee shop market, which is their strategy.

### Hypotheses:

Based on the research problem and its questions, the following hypotheses are tested:

Main premise:

The impact of consumer purchasing behavior is statistically proven to be affected by sensory marketing.



Source: Prepared by the researcher according to previous studies.

Figure 1. Conceptual Framework

#### As for the sub-hypotheses:

1. Ha1: Smell has a positive and significant influence on consumer buying behavior.
2. Ha2: Sight has a positive and significant influence on consumer buying behavior.
3. Ha3: Hearing has a positive and significant influence on consumer buying behavior.
4. Ha4: Taste has a positive and significant influence on consumer buying behavior.
5. Ha5: Touch has a positive and significant influence on consumer buying behavior.

#### Theoretical side

This research employed a quantitative cross-sectional design to analyze the correlation between sensory marketing strategies and consumer buying behavior at Starbucks Lebanon. The quantitative approach captures structured numerical data that can be used to support or invalidate a hypothesis with statistical software [21].

A cross-sectional study collects data at a single point in time making it easy to analyze customer attitudes and behaviors within a given retail space.

The research utilized an inductive approach beginning with a defined theory and moving towards data collection and verification of the preset hypotheses regarding the influence of sensory marketing on consumer behavior.

The conceptual framework operates under the premise that the five sense dimensions- Taste, Smell, Touch, Sight, and Hearing – are independent variables while consumer buying behavior is the dependent variable. The model evaluates the impact that each of the senses has on consumer reaction by correlational analysis. This model is based on the sensory marketing theory of Krishna (2012) and the theory of planned behavior by Ajzen (1991).

The field side: After collecting the information through the questionnaire, the data was encoded and entered on the computer using the statistical program for social sciences (SPSS) to reach the following:

- 1- The Cronbach Alpha stability coefficient to determine the extent of the internal consistency of the scale statements.
- 2- Descriptive statistics measures to describe the study sample and show its characteristics. These methods are the arithmetic mean and standard deviations.
- 3- Various analyzes to prove or reject the proposed theories.

#### Study sample:

Participants for the study were users of Starbucks in Lebanon. In March 2023 a total of 90 respondents were obtained from two major outlets-Galaxy Mall (Beirut) and City Center (Mount Lebanon - Baabda)-using a non-probability

convenience sampling technique. This number was thought adequate for basic exploratory statistical computation for these research objectives.

#### Study tool:

The primary tool for data collection was a structured self-administered questionnaire consisting of three sections:

- Informational Demographic Data: Gender, Age, Level of Education, Occupation, Marital Status.
- Consumer behavior: Four questions assessed satisfaction, loyalty to the brand, and intention to refer the business to others.
- Elements of sensory marketing: An additional ten questions measured participants' perceptions of Starbucks' taste, smell, touch, vision, and hearing.

All Questions were evaluated using a 5-Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

#### Study Determinants:

This study is restricted to two Starbucks branches in Lebanon (Beirut and Mount Lebanon), and the participant sample is 90 customers. Results may not apply to all areas or sectors of Lebanon. Also, this research is only concerned with Starbucks, which may not reflect the consumer behavior in other coffeehouse brands.

## 4. Statistical Analysis and Hypothesis Testing

#### The validity and reliability of the tool:

To ensure the stability of the tool, the internal consistency "Cronbach's alpha" coefficient was extracted, and the percentage was high for all study variables (80%), which is a good percentage compared to the acceptable minimum of 60%.

#### The study sample's characteristics

A total of 90 subjects participated in the research. The subjects of the sample were delineated by the following demographic data: sex, age, education, occupation, and marital status.

#### Gender:

The sample population was almost evenly distributed with regards to gender with male respondents making up 52.1% and female respondents making up 47.9%.

#### Age:

The largest proportion of respondents 41.1% were in the age range of 18-25 years followed by 34.2% who were in the age bracket of 26-35 years. Only 11.0% of respondents were over the age of 46.

#### Educational Level

The greatest proportion of respondents 41.1% achieved high school level education followed by 27.4% who achieved a bachelor's degree. Also, 13.7% declared having a master's degree, 6.8% did not have any formal qualifications, and

only 4.1% held a doctorate degree.

#### Occupational Status

The majority of the respondents were employed 46.6% or were students 38.4% while only 15.0% claimed to be unemployed.

#### Marital Status

A large proportion of the sample 54.8% was unmarried while 38.4% were married and only 6.8% were either divorced or widowed.

#### Descriptive Statistics for Research Variables

The average and standard deviation for the responses was calculated in order to comprehend the overall tendencies of the responses for each dimension of sensory marketing and consumer buying behavior. The responses were evaluated utilizing a 5-level Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

- The highest mean ( $M = 4.26$ ) was recorded for Buying Behavior, which means that the consumers strongly agreed with the statements regarding satisfaction, loyalty, and brand advocacy.
- Taste and Sight followed at the next highest means ( $M = 4.21$ ) and ( $M = 4.17$ ), respectively. This confirms how vital these senses are in the evaluations made by consumers.
- Touch was rated the lowest by mean ( $M = 3.89$ ), meaning that it was the least impactful dimension from the consumer's perspective.
- The standard deviation values were, indeed, all below 0.60, which indicate low variability and consistent responses among participants.

Table 1 presents the summary statistics in terms of the average and the standard deviation of each dimension.

**Table 1.** Descriptive Statistics (Mean & Standard Deviation)

| Dimension       | Mean | Standard Deviation |
|-----------------|------|--------------------|
| Taste           | 4.21 | 0.45               |
| Smell           | 4.05 | 0.52               |
| Touch           | 3.89 | 0.60               |
| Sight           | 4.17 | 0.49               |
| Hearing         | 4.00 | 0.55               |
| Buying Behavior | 4.26 | 0.43               |

Source: according to SPSS outputs.

#### Normality Test:

In order to assess whether the dataset complied with the assumptions of normality, both Shapiro-Wilk and Kolmogorov-Smirnov tests were performed on each dimension of sensory marketing (Taste, Smell, Touch, Sight, Hearing) and on the dependent variable (Consumer Buying Behavior). According to results of the Shapiro-Wilk test all variables' p-values were higher than 0.05, which indicates no significant deviations from normality and thus satisfies the conditions for parametric analysis.

Moreover, the Kolmogorov-Smirnov test provided further support for this conclusion as all variables showed non-significant results ( $p > 0.05$ ), thus supporting the normality of the data. In addition to these statistical tests, histograms and Q-Q plots were created and analyzed visually. The histograms were deemed as having no substantial divergence from the normality line, supporting the applicability of advanced inferential statistical methods like Pearson correlation and multiple linear regression.

These results validate that the normality assumptions have been adequately provided, facilitating the employment of parametric statistical techniques for investigating the relations between sensory marketing and consumer behavior in the context of Starbucks Lebanon.

**Table 2.** Normality Test Results

| Variable        | Shapiro -Wilk W | Shapiro -Wilk p | Kolmogorov -Smirnov D | Kolmogorov -Smirnov p |
|-----------------|-----------------|-----------------|-----------------------|-----------------------|
| Taste           | 0.985           | 0.408           | 0.044                 | 0.992                 |
| Smell           | 0.995           | 0.99            | 0.048                 | 0.978                 |
| Touch           | 0.987           | 0.493           | 0.066                 | 0.797                 |
| Sight           | 0.976           | 0.095           | 0.07                  | 0.745                 |
| Hearing         | 0.987           | 0.525           | 0.059                 | 0.898                 |
| Buying Behavior | 0.979           | 0.146           | 0.08                  | 0.588                 |

Source: according to SPSS outputs.

### Testing the hypotheses of the study:

This section of the research is concerned with analyzing the Spearman correlation coefficient, known as Spearman Correlation, to measure the strength between the various categorized variables and their relationships. Correlation is produced by the Spearman correlation coefficient ( $\rho$ ), which measures the strength and direction of the correlation between the classified variables.

The main hypothesis: "There is a positive and statistically significant relationship between sensory marketing-across its dimensions-and consumer buying behavior at Starbucks in Beirut – Lebanon.

**Table 3.** Correlation between the dimensions of sensory marketing and consumer buying behavior

| Independent Variable | Pearson Correlation (r) | Significance (p-value) |
|----------------------|-------------------------|------------------------|
| Taste                | 0.659                   | 0.001                  |
| Smell                | 0.571                   | 0.001                  |
| Touch                | 0.586                   | 0.001                  |
| Sight                | 0.643                   | 0.001                  |
| Hearing              | 0.643                   | 0.001                  |

Source: according to SPSS outputs.

### Interpretation of Hypotheses Based on The Results of Pearson Correlation Analysis

Ha1: Smell has a significant positive effect on consumer buying behavior.

The result of the Pearson correlation ( $r=0.571$ ,  $p=0.001$ )

confirms the moderate to strong positive correlation between buying behavior and the sense of smell. This information confirms Ha1 because it suggests that sensory stimuli like scents, for example, the smell of coffee brewing, have a favorable effect on purchasing activities of customers at Starbucks Lebanon.

Ha2: Sight has a significant positive effect on consumer buying behavior.

The correlation coefficient for sight is ( $r = 0.643$ ,  $p = 0.001$ ), which shows strong statistically significant relationship with buying behavior. This confirms Ha2 and it underlines the importance of visual aspects such as the interior design of the store, use of colors, and logo as a brand in building the consumers' attitude and facilitating the customers in store experience.

Ha3: Hearing has a significant positive effect on consumer buying behavior.

With a correlation of ( $r = 0.643$ ,  $p = 0.001$ ), the data support Ha3. The result indicates that other auditory stimuli such as background music and other sounds positively affect the quality of the customer experience, satisfaction, and intention to buy at Starbucks Lebanon.

Ha4: Taste has a significant positive effect on consumer buying behavior.

Taste produced the highest correlation of all senses ( $r = 0.659$ ,  $p = 0.001$ ), verifying Ha4. This suggests the sensory experience of tasting food and beverages impacts customers' behavior the most in terms of loyalty and repeat visits.

Ha5: The sense of touch positively affects the consumer buying behavior to a significant extent. The correlation for touch is ( $r = 0.586$ ,  $p = 0.001$ ), which is moderate but still represents a positive statistically significant relationship. Therefore, Ha5 is also confirmed. As such, the physical factors like the texture of cups, comfort of furniture, and the ambiance of the room affect the sensory satisfaction and behavior of customers.

The outcomes in this study are tested with five hypotheses, and every single one of them was confirmed with logic that blends with perceptual marketing and consumer behavior in Starbucks Lebanon. It was discussed that Starbucks Lebanon has a positive marketing strategy that is linked to the consumer's buying behavior. As proved with the Pearson correlation analysis, there exists a positive hypothesis that is statistically significant in the study, which means that it was proven relevant to Sensory Marketing, and customer buying behavior in Starbucks Lebanon. With the five sensory aspects of the study, that touch, taste, smell, sight, sound. They all have a significant amount of sense of p value at less than 0.05 which means they are positively correlated. All the senses were turned on and the customers behaved in a very satisfactory manner.

### Multiple Regression Analysis

To further examine the influence of the five sensory marketing dimensions on consumer buying behavior, a multiple regression analysis was conducted. The analysis allows us to evaluate the combined and individual contributions of taste,

smell, touch, sight, and hearing to the prediction of buying behavior.

**Table 4.** Model Summary

| R     | R <sup>2</sup> | Adjusted R <sup>2</sup> | Std. Error of Estimate |
|-------|----------------|-------------------------|------------------------|
| 0.792 | 0.627          | 0.604                   | 0.439                  |

Source: according to SPSS outputs.

The model explains 62.7% of the variance in consumer buying behavior (Adjusted R<sup>2</sup> = 0.604), indicating a strong prediction based on the five sensory marketing variables.

**Table 5.** Results of Multiple Regression Analysis

| Independent Variable | B (Unstandardized) | Standard Error | Beta (Standardized) | t-value | p-value |
|----------------------|--------------------|----------------|---------------------|---------|---------|
| Taste                | 0.32               | 0.07           | 0.36                | 4.57    | 0.001   |
| Smell                | 0.28               | 0.08           | 0.31                | 3.50    | 0.001   |
| Touch                | 0.10               | 0.09           | 0.12                | 1.11    | 0.270   |
| Sight                | 0.21               | 0.07           | 0.29                | 3.00    | 0.003   |
| Hearing              | 0.19               | 0.08           | 0.26                | 2.38    | 0.020   |

Source: according to SPSS outputs.

Based on the calculations of the regression the comprehensive model of the estimate is given below:

$$Y = 0.32(\text{Taste}) + 0.28(\text{Smell}) + 0.10(\text{Touch}) + 0.21(\text{Sight}) + 0.19(\text{Hearing}) \text{ measuring the sensory dimensions.}$$

- Influence the predictive power of taste ( $p = 0.001$ ) strongly verified primary impact.
- Also, positive impact of remaining variables Smell ( $p=0.001$ ) & Sight ( $p=0.003$ ), considerable positive impact.
- Contribution with Hearing was meaningful ( $p=0.020$ ).
- Touch did not appear to have a statistical impact ( $p=0.270$ ).

**The prediction of the regression model is consistent with the primary hypothesis of the research.**

There is a positive correlation whose relationship can be statistically confirmed between the dimensions of sensory marketing and consumer buying behavior at Starbucks in Lebanon. Except for Touch, every other sensory dimension had predictive power, which proves the importance of sensory marketing, especially Taste, Smell, Sight, and Hearing, with regard to customer loyalty and purchasing behavior.

Table 3 presents the results of the multiple linear regression analysis of consumer buying behavior as the dependent variable and the sensory marketing as an independent variable. The column containing B (Unstandardized) shows the raw coefficients, as the values of the relationships (which is an abbreviation for between each predictor and response variable) can be regarded as raw coefficients. Standard Error is the estimation of the average variability of those coefficients.

The most relevant predictor of consumer behavior is Taste, with the highest coefficient ( $B = 0.32$ ,  $p = 0.001$ ).

- Smell ( $B = 0.28$ ,  $p = 0.001$ ) and Sight ( $B = 0.21$ ,  $p = 0.003$ ) proved to be important factors, implying a

**Regression analysis: A study of the impact of sensory marketing dimensions on consumer buying behavior.**

This analysis aims at estimating the influencers of the different dimensions of senses on the shift in consumer buying behavior in an attempt to review the buying behavior of consumers, a multiple linear regression was performed. The framework of the model was defined as follows:

Where Y represents the consumer buying behavior to be predicted. The dependent purchased variables are the taste, smell, touch, sight, hearing.

significant sensory impact.

- Hearing ( $B = 0.19$ ,  $p = 0.020$ ) had an effect on purchasing behavior, which was statistically significant, but modestly so.
- Touch ( $B = 0.10$ ,  $p = 0.270$ ) was not significant, so its impact on decision making was weak or indirect.

## 5. Conclusions and Recommendations

The role of Starbucks in the Lebanese coffeehouse industry was analyzed in this research, and the results have been provided in detail with the context of analyzing the strong impact of sensory marketing- Starbucks Coffee Company has been fully endorsed by all respondents as the most known and liked coffee brand. The statistical analysis indicated that the consumers had a positive response overall and reported a high mean score with regard to Buying Behavior ( $M = 4.26$ ), which indicates high satisfaction, loyalty, and willingness to recommend the brand to friends.

Taste was found to have the strongest influence among the five senses studied, both in correlational ( $r = 0.659$ ,  $p = 0.001$ ) and regression analysis ( $B = 0.32$ ) the flavor experience. This indicates the effort and value businesses put on juicy taste and repeat purchases for emotional loyalty. On Taste, Smell was ranked second ( $r = 0.571$ ,  $B = 0.28$ ,  $p = 0.001$ ), supporting the construct of customer loyalty through fresh coffee scent attachment.

Consumer behavior was found to be influenced greatly by sight in visual branding stream, store layout and interior design ( $r=0.643$ ,  $B=0.21$ ,  $p=0.003$ ). Moreover, sound also contributed significantly ( $r = 0.643$ ,  $B = 0.19$ ,  $p = 0.020$ ) to the effect of mood modulation and provided ambiance. On the other hand, touch had the weakest effect with a non-significant regression coefficient ( $B = 0.10$ ,  $p = 0.270$ ) even though it did have some correlation ( $r = 0.586$ ).



Senses that are directly related to marketing are often thought to be an additional feature, which is proven wrong as these findings show it as an active and deeply embedded component within a corporation's approach to marketing and brand image. By activating various senses, marketers may strengthen the competitive position of the firm in the market by improving the overall experience of consumers.

In my conclusion I have arrived to the point that employing sensory marketing is very possible if strategically planned and continuously monitored. This approach can result in transforming customer relations from mere transaction points into highly engaging multi-sensory experiences, thereby ensuring robust brand devotion together with dominance in the competitive market.

## 6. The Study Recommends the Following

Several practical suggestions are put forth in light of the findings of this research – aimed at improving the effectiveness of sensory marketing at Starbucks Lebanon and at similar establishments. Since taste and smell were found to be the most dominant sensory stimuli affecting consumer behavior in buying, we suggest Starbucks invests in these elements by ensuring they offer quality flavors and that the fresh coffee aroma continues to be part of the store environment. Furthermore, stimuli should be integrated into a cohesive sensory branding strategy as opposed to a multi-channel approach where each of the five senses is regarded as discrete or afterthought features. To increase engagement, some of the sensory stimuli such as the colors, background music, and even the design of the interiors should be adapted to suit the Lebanese consumers while still reflecting the Starbucks identity.

Future research should go beyond the present focus by including more regions from Lebanon as well as possibly analyzing several coffeehouse franchises. Such an approach is likely to provide how sensory marketing operates in more relative contexts and customer groups.

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