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IMPACT OF MULTISENSORY MARKETING ON CONSUMER AND THEIR PURCHASING BEHAVIOUR IN A RETAIL ENVIRONMENT

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ABSTRACT

In today's fast paced digital era, the concept of brand experience has transcended beyond traditional retail environment. Companies have shifted to multisensory marketing to adapt to changing consumer preferences, enhance engagement, build emotional connections, differentiate themselves, and ultimately drive business growth in a competitive landscape. Brands venture into multisensory domain to engage with customers on multiple levels. They have shifted their focus on neuromarketing, Its a scientific field of marketing research, it represents an implementation of various neuroscientific methods with the purpose of a better understanding of human behavior through (taste, smell, touch, sound, Sight).

Retail stores now focus on Atmospherics' these are controllable characteristics of a retail space which is used to lure customers to enter the store, shop and reach the point of purchase, this helps them to attract and retain their customers.

Its always said "it costs five times as much to attract a new customer, than to keep an existing one." Hence, companies are spending huge amounts of money on providing a unique and memorable experience to their consumers, they believe in providing something which is way more than a commercial transaction.

The main objective of this research is to understand the impact of various multisensory marketing strategies on consumers and their purchasing behavior in a retail setting.

Keywords: Multisensory marketing, Neuromarketing, Brand experience, Retail environment, Differentiation, Taste, Smell, Touch, Sound, Atmospherics, Retail stores, Controllable characteristics, Customer attraction, Unique experience, Memorable experience, Purchasing behavior, Consumer psychology.

INTRODUCTION

Multisensory marketing involves engaging multiple senses such as sight, sound, smell, taste, and touch to create immersive brand experiences that influence consumer behavior. It aims to evoke emotions, enhance brand recall, and drive sales by appealing to consumers on a deeper level.

The introduction to a study on multisensory marketing outlines its background, objectives, scope, significance, and structure. It emphasizes the need to understand consumer responses, assess purchasing behavior, identify best practices, and contribute to academic knowledge and practical implications.

Key Insights Include

1. **Neuromarketing:** Using neuroscientific methods to understand how sensory cues impact consumer choices.
2. **Sensory Congruence:** Aligning sensory cues to enhance product evaluation and trigger positive emotions.
3. **Store Image:** Consistent service evaluation and positive store image influence repurchase intentions and recommendations.
4. **Practical Implications:** Retailers can strategically use sensory cues to evoke emotions, enhance brand recall, and drive sales, fostering a unique connection between brands and consumers.

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The impact of multisensory marketing on consumers and their purchasing behavior is explored, highlighting its role in shaping consumer perception, emotional engagement, brand connection, behavioral responses, brand differentiation, and competitive advantage.

Strategies for implementing multisensory marketing include:

1. Visual Merchandising
2. Music and Sound
3. Aromatherapy
4. Tactile Experiences/ Sampling and Tasting
5. Lighting
6. Interactive Technology

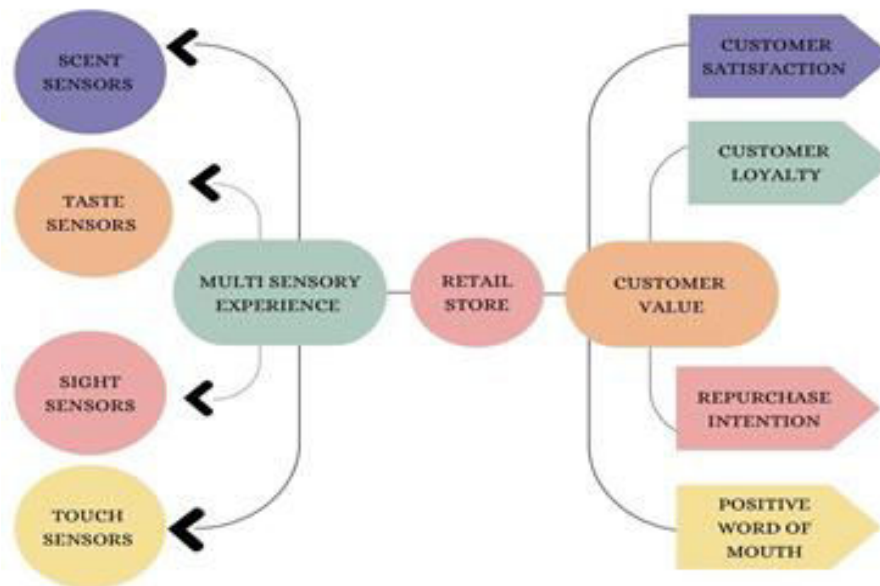
The most effective sensory cues in marketing include visual stimuli, aromas, soundscapes, tactile experiences, taste, temperature, lighting, color psychology, consistency, and emotional appeal. Overall, multisensory marketing is portrayed as a powerful tool for brands to differentiate themselves, create memorable experiences, and drive consumer engagement and loyalty in a competitive retail landscape.

LITERATURE REVIEW

- 1) A study in Trivandrum, Kerala, explored multisensory marketing in restaurants, surveying 549 consumers. It found that store image consistency has a greater impact on satisfaction, repurchase intention, and positive word-of-mouth than perceived customer value. This highlights the importance of multisensory experiences in enhancing customer satisfaction and loyalty in the hospitality industry. (Elangovan, N., & Padma, C. (2017). Impact of Multi Sensory Marketing on Consumer Behaviour in Restaurant)
- 2) The study explores how engaging all five senses in sensory marketing impacts advertisement success, revealing significant correlations between sound and multisensory ad effectiveness, as well as visual brand promotions and multisensory experiences. Taste and touch were also found to be correlated with multisensory engagement. Integration of sensory elements into marketing enhances customer attraction and retention, underpinning key themes of Sensory Marketing, Consumer Behavior, and Multi-sensory Experience, employing Smart PLS methodology. (Sohail, M. U. (2023). The Impact of Sensory Marketing on Consumer Buying Behavior: An Empirical Analysis of **Retail**)
- 3) The abstract presents four experimental studies examining sensory cues and congruency in retail, emphasizing the impact of store atmosphere on consumer emotions and behaviors. Moderators like colors, jingles, prices, and scent imagery influence consumer responses to sensory-rich products, contributing to a deeper understanding of sensory marketing's role and resolving inconsistencies in cross-modal outcomes studies. Key themes include sensory marketing, imagery, color, pricing, bundling, and willingness to purchase. Include sensory marketing, imagery, color, price, bundling, and willingness to purchase. (Sagha, M. A., Seyyedamiri, N., Foroudi, P., & Akbari, M. (2022). The One Thing You Need to Change Is Emotions: The Effect of Multi-Sensory Marketing on Consumer Behavior)
- 4) The study explores how sight atmospherics and visual merchandising displays in apparel retail stores in Tshwane influence consumer behavior. Through qualitative exploratory design with two focus groups, findings reveal that visual displays exert an unconscious influence on consumer behavior, with a pleasant atmosphere potentially leading to longer stays and purchases. Consumers are influenced both consciously and subconsciously by sight atmospherics, impacting the duration of store visits and purchasing decisions. (Nell, E. C. (2017). The Impact of Sensory Environments on Consumer Buying Behaviour: A Study of Visual Displays and Sight Atmospherics)

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- 5) This study investigates the impact of sensory marketing on consumer buying behavior and brand promotion effectiveness. It employs a survey with structured questionnaires and analyzes data using SPSS 26. Emphasizing the importance of customers in brand building, the study proposes a sensory model for creating multi-sensory brand experiences. Further research is suggested to enhance promotional effectiveness, particularly focusing on taste as the most influential sense among consumers. Keywords include consumer behavior, multisensory experience, perceived marketing, visual cues, taste effects, haptic orientation, olfactory, and auditory. (Gupta, A., & Mishra, S. (2020). Influence of Sensory Marketing on Consumer by Enhancing Promotional Effectiveness of the Brands.)
- 6) The article underscores the vital role of sensory marketing in maximizing advertisement effectiveness by engaging all five senses of consumers, influencing behavior and shaping perceptions of products and brand personality. By strategically stimulating these senses, companies and retailers can attract and retain customers while fostering loyalty. Key themes include Sensory Marketing, Consumer Behavior, and the Five Senses. (Singhi, S., Chandrakarii, P., Jamsandekarii, S., Ranjaniv, A., & Wanjariv, S. (2020). A Review on The Impact of Sensory Marketing on Consumer Buying Behavior)
- 7) The thesis investigates how styling elements and sensory cues in retail stores impact consumer buying behavior, aiming to create a multisensory brand experience. Results show that utilizing these elements effectively engages customers, evokes emotions, and enhances their experience. Combining sight and sound cues particularly creates a positive and memorable impression, influencing customer behavior towards increased product awareness and approach. Key themes include sensory marketing, consumer behavior, services cape, human senses, multisensory brand experience, sensory cues, and styling elements.(Eriksson, E., & Larsson, N. (2011). A Multi-Sensory Brand Experience - Sensorial interplay and its impact on consumers' touch behavior)



- 8) The research examines how sensory marketing enhances immersive retail experiences, emphasizing consumers' desire for personal brand connections. It highlights the impact of sensory stimuli on consumer behavior and underscores the need for further exploration of multisensory congruence in offline retail, particularly in understanding touch and taste. Overall, the study underscores the significance of multisensory marketing in retail and identifies areas for future research. (Viegas, C. C. S. (2022). Sensory Marketing: The role of sensory stimuli in consumer behavior in retail environment)

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RESEARCH MODEL

Objectives of the Study

When creating a research model based on the variables of consumer purchasing behavior, multisensory marketing strategies, atmospherics, neuromarketing, and emotional connections, you can consider the following framework:

Consumer Purchasing Behavior (Dependent variable): This variable serves as the dependent variable in the research model. It encompasses the mental and psychological processes that individuals undergo when making purchasing decisions.

Multisensory Marketing Strategies (Independent variable): This variable represents the independent variable and encompasses marketing strategies that aim to engage multiple senses of the consumer, such as sight, sound, touch, smell, and taste. These strategies are designed to evoke emotions and attitudes that influence consumer behavior.

Atmospherics (Independent variable): This variable represents the independent variable and refers to the manipulation of physical spaces to create specific atmospheres that impact consumer behavior. It includes elements such as lighting, music, scent, and spatial layout, which can influence the consumer's perceptions and emotions.

Neuro marketing (Independent variable): This variable represents the independent variable and involves the utilization of insights from neuroscience and psychology to understand and influence consumer behavior. It aims to tap into the subconscious mind of the consumer to create more effective marketing strategies.

Emotional Connections (Mediating variable): This variable represents the independent variable and focuses on the positive feelings and relationships that consumers develop with a brand or product. It encompasses the emotional attachment and loyalty that influences consumer purchasing behavior.

Research Model Hypotheses:

Based on the variables mentioned above, the research model could include the following hypotheses:

Hypothesis 1: There is a significant relationship between multisensory marketing strategies and consumer purchasing behavior.

Hypothesis 2: Atmospherics significantly influence consumer purchasing behavior.

Hypothesis 3: Neuromarketing techniques have a significant impact on consumer purchasing behavior.

Hypothesis 4: Emotional connections with a brand significantly affect consumer purchasing behavior.

METHODOLOGY

For this study both Primary and Secondary Sources of data have been utilized. The primary data was selected through a questionnaire to study the impact of multisensory marketing on consumer perception and behavior in a retail environment. Data has been collected through an online google/questionnaire form. For secondary data purposes, various published research papers and articles will be utilized. Multiple question and five-point ranking were utilized to better understand the respondent. By integrating these variables into a research model and testing the hypotheses through rigorous empirical investigation, we can gain insights into the complex interactions between marketing strategies and consumer behavior, ultimately contributing to the development of more effective marketing practices and enhancing consumer satisfaction and loyalty.

DATA GATHERING

The google forms served as a platform to spread the survey publicly and to have a greater reach. Respondents were asked to take a part in the survey and make their opinion and responses count. The online media acted as a successful platform to spread the form and gather a wide range of responses. **138 responses** were collected.

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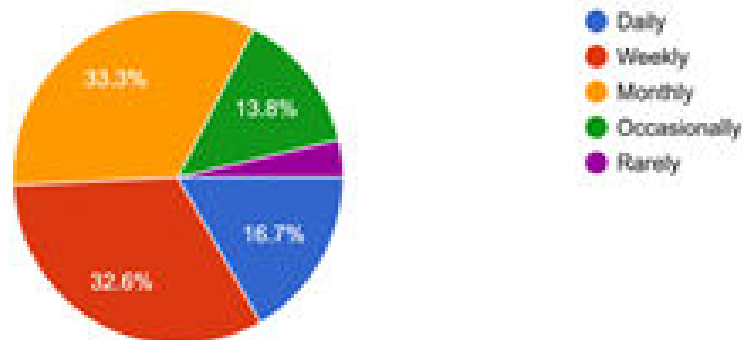
DATA ANALYSIS AND INTERPRETATION

1) Gender:

Interpretation: Around 55.8% of the population from the respondents are Female and 43.5% are Male.

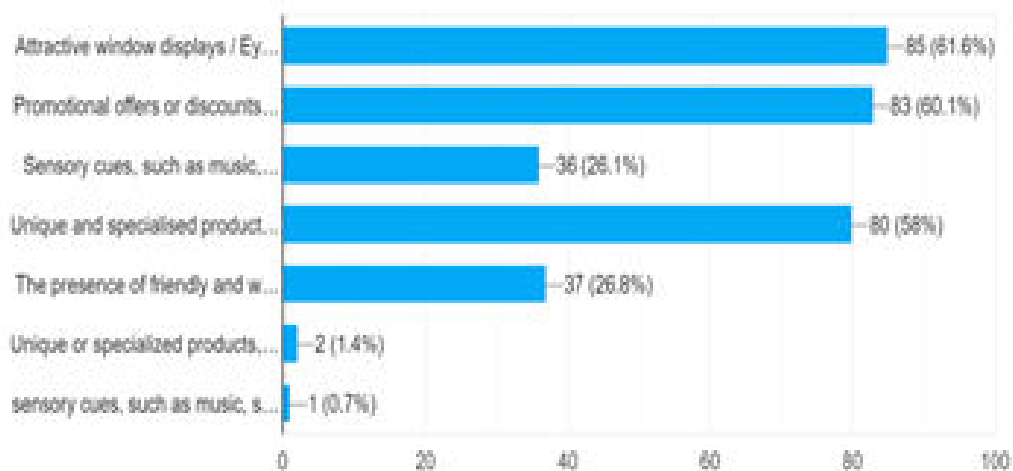
2) How often do you shop at a retail store?

138 responses



Interpretation: Around (32.6%) of the respondents shop weekly at a retail store whereas (33.3%) of the respondents shop Monthly at a retail store and (13.8%) shop daily

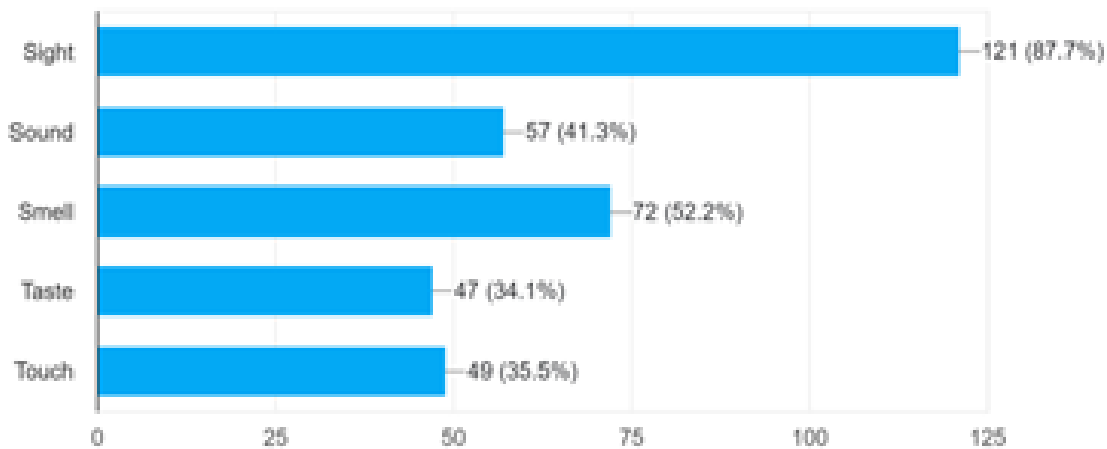
3) What factors typically catch your attention and compel you to enter a retail store:



Interpretation: Around (61.6%) of the respondents believe that attractive window displays/Eye catching signage/Promotional offers or discounts typically catch their attention and compel them to enter a retail store. whereas (58%) of respondents also believe in unique and specialized products, (26.8%) respondents respond to sensory cues such as music, lighting, and presence of friendly and welcoming staff.

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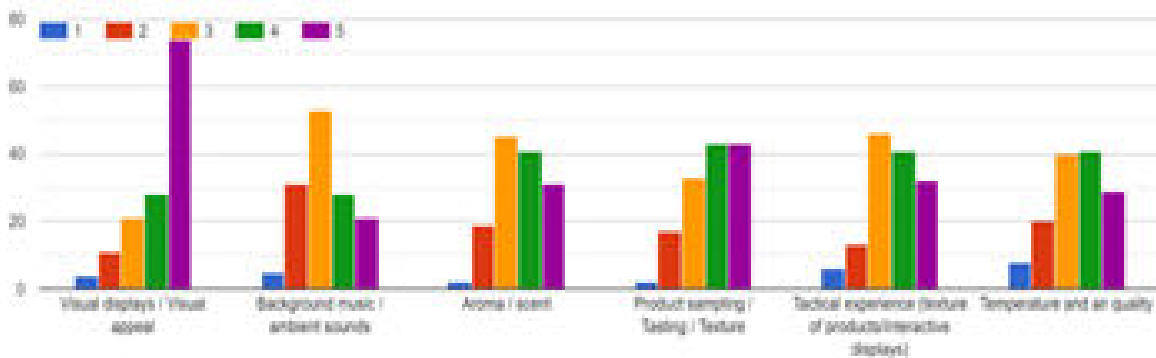
4) Which senses do you believe are most commonly targeted in multisensory marketing efforts:



Interpretation: Maximum respondents (87.7%) believe Sight is the most targeted in multisensory efforts whereas (52.2%) responded to smell as well. Around (41.3%) respondents believe that Sound is also most targeted and (35.5%) respondents believe in taste and touch as well.

5) Which sensory element do you find contributes the most to your satisfaction with a retail store's environment?

Which sensory element do you find contributes the most to your satisfaction with a retail store's environment? 1 (Not important at all) - 5 (Extremely important)



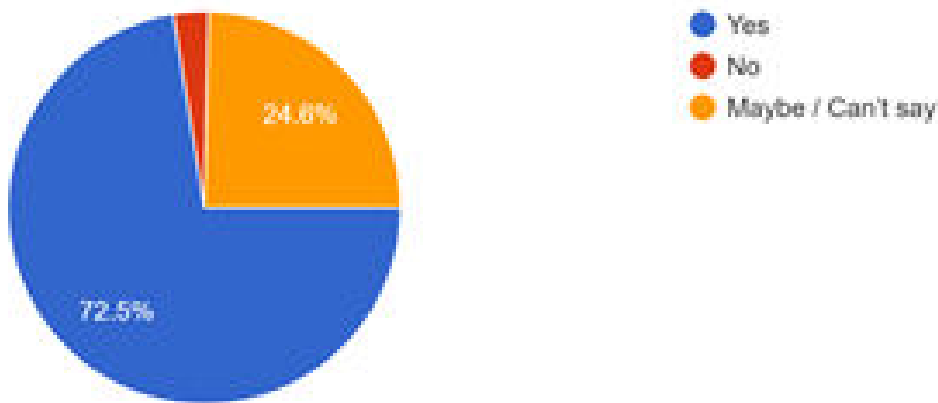
Interpretation:

- Visual displays/appeal:** Around 70 respondents believe that visual displays and appeal are extremely important sensory element that contributes the most in their satisfaction.
- Background music/ ambient sounds:** Around 53 respondents find background music/ambient sounds to be neutral in contributing to their satisfaction.
- Aroma and Scent:** Around 45 respondents believe that aroma/scent have a neutral contribution in their satisfaction whereas 41 respondents believe that aroma/scent are important in their satisfaction.

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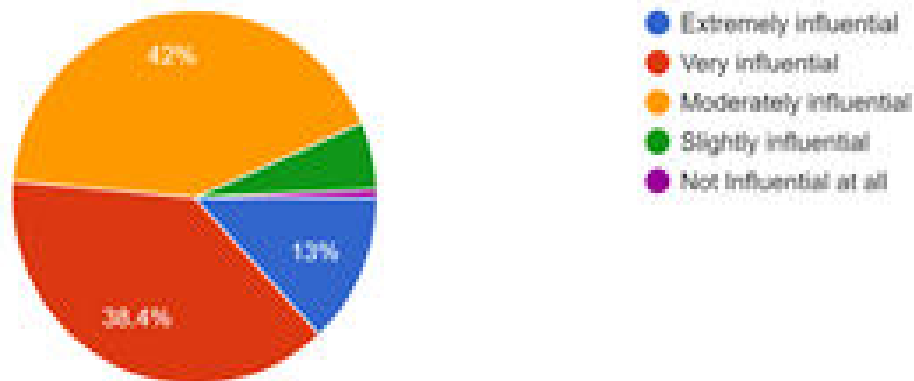
- 4) **Product Sampling/ Tasting/ Texture:** Around 43 respondents believe that product sampling/Tasting/Texture are both important and extremely important in contributing to their satisfaction within a retail environment.
- 5) **Tactile Experience (Interactive Displays):** Around 46 respondents believe that tactile experiences have a neutral contribution in their satisfaction within a retail environment whereas 41 respondents find tactile experience to be important in their satisfaction.
- 6) **Temperature and air quality:** Around 41 respondents find temperature and air quality to be important factor in contributing to their satisfaction in a retail environment whereas 20 respondents find it to be slightly important factor.

5) **Do you feel multisensory experiences is an important factor in your purchasing decisions:**



Interpretation: Maximum respondents that is 72.5% believe that multisensory experiences is an important factor in their purchasing decisions whereas 23.3% respondents are not completely sure if multisensory experiences is an important factor in their purchasing decision or not.

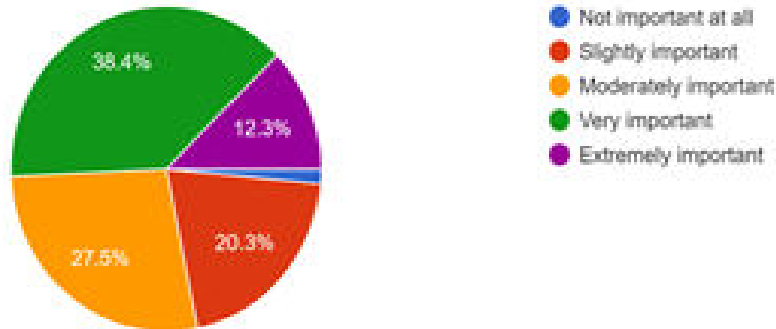
6) **How influential do you find multisensory marketing in your purchasing decisions:**



Interpretation: Around (42%) of the respondents find multisensory marketing to be moderately influential in their purchasing decisions whereas (38.4%) respondents find multisensory marketing to be very influential and (13%) find it extremely influential.

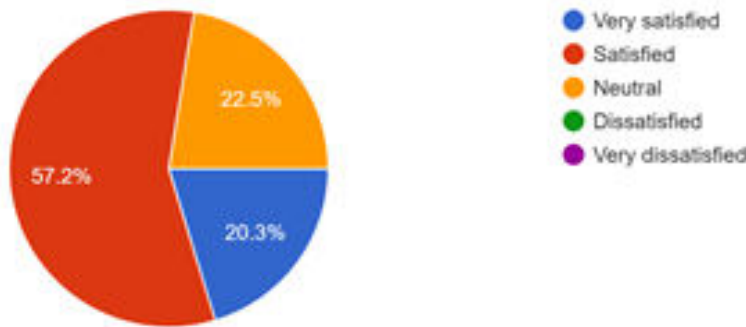
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7) How important is the overall in-store experience (including sensory elements) in building your loyalty to a retail brand?



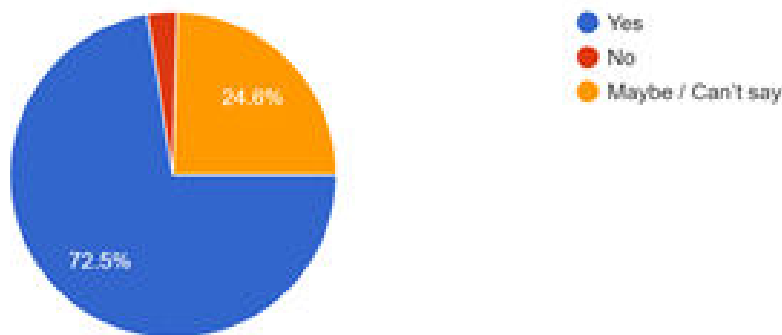
Interpretation: Around (38.4%) respondents find overall in store experience (including sensory elements) very important in building their loyalty to a retail brand whereas (27.5%) find it moderately important. For (12.3%) it's extremely important and for (20.3%) its slightly important.

8) How satisfied are you with the overall shopping experience in retail stores that utilize multisensory marketing



Interpretation: Maximum respondents (57.2%) are Satisfied with the overall shopping experience in retail stores that utilize multisensory marketing whereas (20.3%) of the respondents are extremely satisfied and (22.5%) are neutral neither satisfied nor dissatisfied.

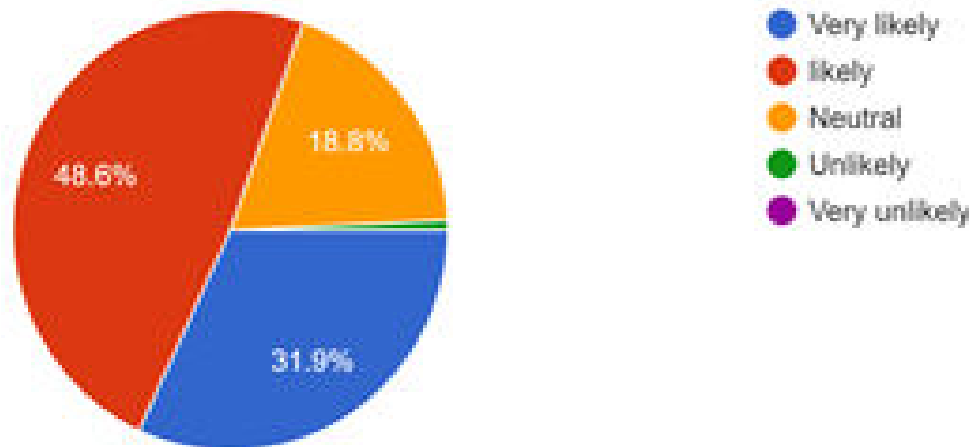
9) Should all brands undertake multisensory marketing



Interpretation: Maximum respondents that is (72.5%) agree that all brands should undertake multisensory marketing whereas (24.6%) respondents are not sure if all brands should undertake multisensory marketing or not

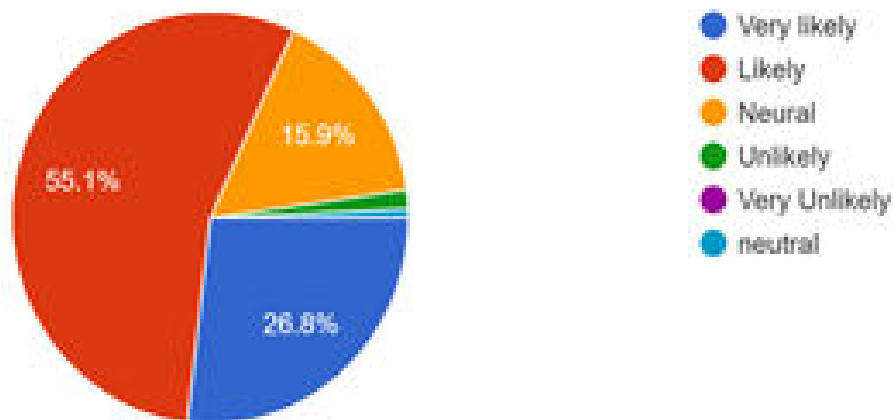
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10) How likely are you to continue shopping at a retail store that employs effective multisensory marketing



Interpretation: Around (31.9%) respondents are very likely to continue shopping at a retail store that employs effective multisensory marketing whereas (48.6%) are likely to shop as well. Around (18.8%) are neutral neither likely nor unlikely.

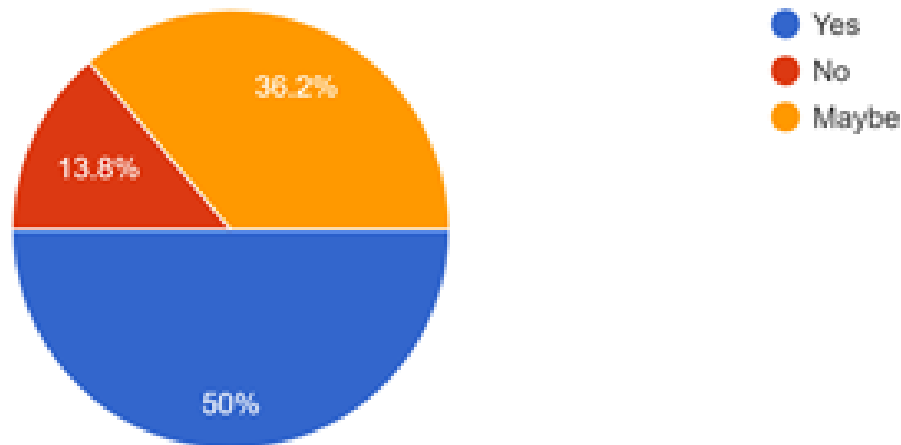
11) How likely are you to make repeat purchases from a retail store that provides an engaging multisensory experience:



Interpretation: Maximum respondents (55.1%) are very likely to make repeat purchases from a retail store that provides an engaging multisensory experience whereas (26.8%) are very likely to repurchase and (15.9%) are neutral about making a repurchase.

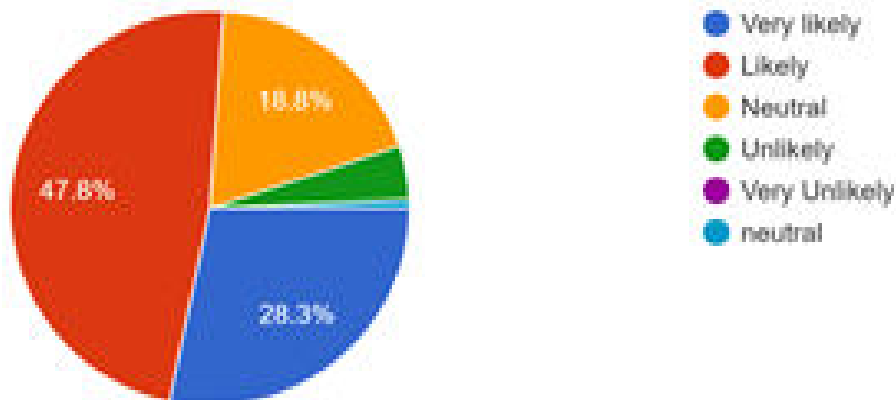
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12) Have you found yourself making repeat purchases solely because of the positive sensory experiences in a retail environment:



Interpretation: Approximately (50%) of the respondents find themselves making a repeat purchase solely because of positive sensory experiences in a retail environment whereas (36.2%) may or may not repeat a purchase and (13.8%) don't not see themselves making a repurchase solely on positive sensory experiences

13) How likely are you to recommend a retail store that offers a memorable multisensory experience to friends and family?



Interpretation: Around (28.3%) are very likely to recommend a retail store that offers a memorable multisensory experience to friends and family whereas (47.8%) are likely as well to recommend a retail store and (18.8%) respondents may or may not recommend a retail store.

RELIABILITY TEST: CRONBACH'S ALPHA

Measure of internal consistency

Cronbach's alpha tests to see if multiple- questions Likert scale surveys are reliable. It will tell us if the test we have designed is accurately measuring the variable of interest.

CRONBACH'S ALPHA

Cronbach's A	Internal Consistency
0.90 and above	Excellent
0.80 - 0.89	Good

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0.70 - 0.79	Acceptable
0.60 - 0.69	Questionable
0.50 - 0.59	Poor
Below 0.50	Unacceptable

$$\alpha = \frac{K}{K-1} \left[1 - \frac{\sum s_y^2}{s_x^2} \right]$$

Where

K is the number of test item

$\sum s_y^2$ is sum of the item variance

s_x^2 is the variance of total score

Solutions.

$$k=17$$

$$s. \text{ sq } y = 15.05562$$

$$s. \text{ sq } x = 6050$$

$$= 17/16 [1 - (15.05562/6050)] = 1.0 \text{ (Since Cronbach's } \alpha \text{ is } 1.0 \text{ the data is EXCELLENT)}$$

HYPOTHESIS: ONE SAMPLE T TEST

Question 1) Which sensory element do you find contributes the most to your satisfaction with a retail store's environment? [visual displays/visual appeal] 1(Not important at all) - 5(Extremely important)

OBJECTIVE - To study the effect of visuals displays on the satisfaction levels of customers in a retail environment.

Null Hypotheses (HO) - There is no positive effect of visuals displays or visual appeal on the satisfaction of the customers in a retail environment.

Alternate Hypothesis (Ha) - There is a positive effect of visual displays or visual appeal on the satisfaction of the customers in a retail environment.

Findings- As the P value is <0.001 we reject the Null hypothesis, and we accept the alternate hypothesis which shows that there is a positive effect of visuals displays on the satisfaction of the customers in a retail environment.

Question 2) How influential do you find multisensory marketing in your purchasing decisions

OBJECTIVES- To find out how influential multisensory marketing is in our purchasing decisions.

Null Hypotheses (HO)- There is no influence of multisensory marketing on our purchasing decisions.

Alternate Hypotheses (Ha)- There is an influence of multisensory marketing on our purchasing decisions.

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Findings- As the P value <0.001 we reject the null hypothesis and accept the alternate hypothesis which shows that there is an influence of multisensory marketing in our purchasing decisions.

CONCLUSION

According to the research findings, a significant majority of respondents (60-65%) indicated that factors such as attractive window displays, eye-catching signage, promotional offers, discounts, and unique specialized products play a pivotal role in capturing their attention and motivating them to enter retail stores. Additionally, the study revealed that most respondents prefer to engage in shopping activities on a weekly or monthly basis at retail outlets.

Furthermore, the findings suggest that the sense of sight is the primary sensory element targeted in multisensory marketing efforts, followed closely by the sense of smell. Visual displays were deemed extremely important by 70% of respondents in contributing to their satisfaction, while background music or ambient sound was perceived as neutral by 53% of participants.

A significant majority (72.5%) of respondents acknowledged the importance of multisensory experiences in their purchasing decisions, indicating a positive influence of multisensory marketing on consumer behavior. Moreover, respondents emphasized the importance of overall in-store experiences, including multisensory elements, in fostering customer loyalty towards brands.

Overall, the research indicates that retail stores implementing effective multisensory marketing strategies tend to provide maximum satisfaction to customers, thereby supporting the hypothesis regarding customer satisfaction. Additionally, a majority of respondents expressed a willingness to repurchase from and recommend stores that offer engaging multisensory experiences, underscoring the impact of such strategies on repurchase intentions and word-of-mouth recommendations.

Furthermore, half of the respondents reported making repeat purchases solely based on positive sensory experiences, highlighting the significance of sensory stimuli in influencing consumer behavior. Finally, the Cronbach's alpha test confirmed the reliability and excellence of the collected data, further validating the study's findings.

BIBLIOGRAPHY

- ❖ [https://www.ijbmi.org/papers/Vol\(6\)2/version-4/A0602040109.pdf](https://www.ijbmi.org/papers/Vol(6)2/version-4/A0602040109.pdf)
- ❖ https://acikerisim.isikun.edu.tr/xmlui/bitstream/handle/11729/5547/The_impact_of_sensory_marketing_on_consumer_buying_behaviour_an_empirical_analysis_of_retail_chain.pdf?sequence=1&isAllowed=yTop_of_Form
- ❖ <file:///C:/Users/ashis/Downloads/sustainability-14-02334.pdf>
- ❖ https://jbrmr.com/cdn/article_file/i-26_c-264.pdf
- ❖ https://www.globalscientificjournal.com/researchpaper/A_Revi
- ❖ <https://www.diva-portal.org/smash/get/diva2:420903/fulltext01>
- ❖ <https://www.diva-portal.org/smash/get/diva2:420903/fulltext01>
- ❖ <https://sapiencia.ualg.pt/bitstream/10400.1/18885/1/Sensory%20Marketing%20The%20role%20of%20sensory%20stimuli%20in%20consumer%20behaviour%20in%20retail%20environment.pdf>

BOOKS

- ❖ "Sensory Marketing: Research on the Sensuality of Products" by Aradhna Krishna
- ❖ "Brand Sense: Sensory Secrets Behind the Stuff We Buy" by Martin Lindstrom

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ARTICLES

- Hultén, B. (2011). Sensory marketing: the multi-sensory brand-experience concept. *European Business Review*, 23(3), 256-273.
- Krishna, A. (2012). An integrative review of sensory marketing: Engaging the senses to affect perception, judgment and behavior. *Journal of Consumer Psychology*, 22(3), 332-351.
- Spence, C. (2012). Multisensory marketing: the role of auditory cues in modulating the perceived tastiness of food and drinks. In *Multisensory flavor perception* (pp. 85-104). Wiley-Blackwell.
- Velasco, C., & Spence, C. (2019). Multisensory marketing in the retail environment: Creating an enhanced shopping experience. In *The Routledge Companion to Consumer Behavior in Hospitality and Tourism* (pp. 171-184). Routledge.
- Krishna, A. (2016). *Customer sense: How the 5 senses influence buying behavior*. Springer.
- Hultén, B., & Broweus, N. (2009). Sensory marketing: The multi-sensory brand-experience concept. *European Business Review*, 21(5), 457-472.
- Krishna, A., & Morrin, M. (2008). Does touch affect taste? The perceptual transfer of product container haptic cues. *Journal of Consumer Research*, 34(6), 807-818.
- Yoo, J. J., & Kim, S. (2014). The effects of sensory marketing on consumers' purchase intention: The moderating effects of brand awareness and impulse buying tendency. *The Journal of Global Business Management*, 10(1), 74-85.
- Seo, E. Y., & Hwang, J. (2019). The effects of multisensory stimulation on purchase intentions in an online shopping context: The moderating roles of need for touch and visual imagery ability. *Journal of Retailing and Consumer Services*, 46, 118-126.
- Krishna, A., Elder, R. S., & Caldara, C. (2010). Feminine to smell but masculine to touch? Multisensory congruence and its effect on the aesthetic experience. *Journal of Consumer Psychology*, 20(4), 410-418.
- Gallace, A., & Spence, C. (2011). To what extent do Gestalt grouping principles influence tactile perception?. *Psychological Bulletin*, 137(4), 538-561.