



## **Neuromarketing and Psychology in Marketing**

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### **ABSTRACT:**

The field of marketing has experienced a profound transformation from its traditional foundations in today's quickly changing digital landscape. In this dynamic world, effective customer engagement and retention depend on a deep understanding of human behaviour. This has given rise to two interwoven disciplines: neuromarketing and the psychology of marketing. These fields delve into the complex workings of the mind, solving the mysteries of consumer behaviour and pointing the way to more effective marketing techniques. The goal of neuromarketing is to understand customer behaviour at a neurological level. It is an interdisciplinary field that draws on neuroscience, psychology, and marketing. It examines how customers react to marketing stimuli, including commercials, product packaging, and branding, by using brain imaging methods like fMRI and EEG.

Conversely, the psychology of marketing centres on deciphering consumer behaviour, motivations, perceptions, and decision-making processes, leveraging psychological principles to devise marketing strategies. Consumer psychology, cognitive biases, social influence, perception, memory, and emotional responses are important psychological principles in marketing. In conclusion, understanding customer behaviour and decision-making is a goal that both neuromarketing and psychology of marketing strive to achieve. While the psychology of marketing offers a thorough framework for understanding the cognitive and emotional facets of consumer behaviour, neuromarketing offers a neuroscientific point of view. The combination of knowledge from the two fields enables marketers to create more efficient and morally correct marketing tactics.

This research study dives into the methodology and discoveries that have affected our understanding of consumer behaviour in order to conduct an extensive exploration of the key topics addressed by neuromarketing.

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### **INTRODUCTION:**

In today's fast-paced and digitally-driven world, the art of marketing has evolved significantly from its conventional roots. As businesses strive to capture the attention and loyalty of consumers, a deeper understanding of human behavior has become increasingly essential. This has led to the emergence of two interconnected disciplines: neuromarketing and the psychology of marketing. These fields delve into the intricate workings of the human mind, unraveling the mysteries behind consumer decisions and paving the way for more effective marketing strategies.

Neuromarketing is an interdisciplinary field that combines principles from neuroscience, psychology, and marketing to understand consumer behavior at a neurological level. It involves using brain imaging technologies like fMRI (functional Magnetic Resonance Imaging), EEG (Electroencephalography), and biometric measurements to study how consumers respond to marketing stimuli, such as advertisements, product packaging, and branding.

The psychology of marketing focuses on understanding consumer behavior, motivations, perceptions, and decision-making processes. It draws from psychological principles to develop marketing strategies and tactics. Key psychological concepts in marketing include consumer psychology, cognitive biases, social influence, perception, memory, and emotional responses.

Neuromarketing and the psychology of marketing are closely linked fields that explore how the human brain processes information and makes decisions related to marketing and advertising. Here's an overview of the connection between these two areas. Both neuromarketing and the psychology of marketing aim to understand why consumers make certain choices. While psychology of marketing relies on behavioral observations and surveys, neuromarketing goes deeper by examining the neurological processes that underlie these behaviors.

Both fields recognize the importance of emotions in marketing. Neuromarketing can provide insights into how specific emotions are triggered in the brain and how they influence memory and decision-making. Psychology of marketing explores emotional branding and the creation of emotional connections between consumers and brands.

Cognitive biases, such as confirmation bias, anchoring, and availability heuristic, are important in both fields. Neuromarketing can uncover how these biases manifest in the brain, while the psychology of marketing uses these biases to design persuasive marketing strategies.

Neuromarketing studies brain responses to marketing stimuli, such as the activation of reward centers in response to certain products or advertisements. This information can be used to optimize marketing campaigns and product design.

Neuromarketing can provide unique insights that may not be apparent through traditional marketing research methods. By measuring brain activity and physiological responses, it can reveal subconscious reactions and preferences.

By integrating findings from both fields, marketers can create more effective campaigns that leverage psychological principles to influence consumer behavior and optimize the delivery of marketing messages.

Both fields also raise ethical questions, such as the potential for manipulating consumer behavior through subconscious cues. Marketers and researchers must consider the ethical implications of their work.

In summary, neuromarketing and the psychology of marketing share a common goal of understanding consumer behavior and decision-making. While neuromarketing offers a more neuroscientific perspective, the psychology of marketing provides a broader framework for understanding the cognitive and emotional aspects of consumer behavior. Integrating insights from both fields can help marketers create more effective and ethical marketing strategies.

In this research paper, we will delve deeper into these key problems addressed by neuromarketing, exploring the methodologies and findings that have shaped our understanding of consumer behavior. By examining the interplay between neuroscience and marketing, we aim to highlight the potential benefits and ethical considerations of neuromarketing in the contemporary business landscape. Ultimately, this research will shed light on how businesses can harness the power of neuromarketing to connect with consumers on a profound level and drive success in an increasingly competitive marketplace.

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### **STATEMENT OF PROBLEM:**

Neuromarketing and the psychology of marketing raise complicated, varied ethical issues. These concerns cover a wide range of subjects, from the possibility for manipulating consumer behaviour via neuroscientific methods to the breach of privacy while collecting information on people's subconscious reactions. Additionally, consumers might not always be aware of the amount to which their neurological data is being gathered and used, raising questions regarding transparency and informed consent.

Cost problems often emerge in the fields of Neuromarketing and the psychology of marketing. These problems can cover a range of research and implementation-related topics, such as the price of purchasing eye-tracking devices, neuroimaging equipment, and test subjects. Taking care of these financial obstacles is essential for organisations looking to acquire a competitive edge through a deeper understanding of consumer behaviour as neuromarketing and the psychology of marketing continue to develop.

It can be difficult to overcome the lack of long-term forecasting power in neuromarketing and psychology of marketing. It results from the dynamic and complicated nature of consumer preferences and human behaviour, which are influenced by a wide range of factors that are outside the scope of short-term neuroimaging investigations or behavioural trials.

So we are focusing on the need for a comprehensive and all-encompassing approach to understanding consumer behaviour.

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### **LITERATURE REVIEW:**

While there have been advancements in neuromarketing research, the existing studies often fall short of delivering a thorough understanding of how neuromarketing fits into the broader marketing mix. To address this gap, this study was devised to offer a comprehensive overview of neuromarketing. It categorises the neuroimaging and physiological tools currently utilised within the marketing mix and illuminates the neural responses tied to consumer behaviour, encompassing aspects such as emotions, attention, motivation, reward processing, and perception.

In this research, we present an innovative framework for the recognition of cognitive and emotional processes within the brain when exposed to neuromarketing stimuli, utilising EEG signals. At the core of our methodology lies a novel classification algorithm. Our approach is built on the fundamental assumption that EEG features associated with cognitive and emotional processes can be represented within a linear subspace. This implies that a test brain signal can be expressed as a linear combination of brain signals from various classes within the training dataset.

Neuromarketing is a contemporary marketing research method that employs neuroscientific approaches to analyse consumer behaviour. In this particular study, our focus was on creating, processing, and studying an EEG database containing consumer responses to image advertisements. Our ultimate objective was to develop predictive models capable of categorising consumer preferences based on their EEG data.

Neuromarketing has garnered substantial attention in the realm of consumer behaviour research, emerging as both a viable alternative and a potential complement to traditional market research methods aimed at assessing the efficacy of advertising campaigns. However, while it has gained momentum in academic circles, its integration into the professional sphere has lagged behind. This discrepancy prompts us to investigate the factors contributing to its relatively modest adoption in the professional arena.

Neuromarketing is garnering growing academic attention in the field of Communication, especially in Spain, where its significance has been increasingly recognized in recent years. This text focuses on analysing the trajectory of research related to neuromarketing in doctoral theses from 2007 to 2018, a

period marked by significant changes in postgraduate study regulations at the national level. Employing a mixed typology meta-analysis methodology, we scrutinise various aspects of this scientific output. Although neuromarketing's presence in the academic landscape remains relatively modest, it is noteworthy that its epistemological appeal continues to gain momentum.

Ethnographic and demographic factors further add layers of complexity to the application of colour in marketing. This complexity makes the effective use of colour in marketing both challenging and intricate. However, when harnessed correctly, colour can serve as a remarkably persuasive tool. As an integral component of human vision, it possesses the ability to capture attention, soothe or irritate the eyes, and significantly impact text legibility.

This guest editorial introduces the application of evolutionary psychology (EP) in the field of marketing and discusses its key principles and controversies. It emphasises the shift from proximate questions (how and what) to ultimate questions (why) in understanding consumer behaviour from an evolutionary perspective.

Evolutionary psychology (EP) has found its way into the domain of marketing, offering a unique perspective on consumer behaviour. EP is rooted in the idea of understanding human behaviour by examining its evolutionary origins. While its presence in marketing is a subject of debate among scholars, with some applauding its relevance and others finding it patriarchal, politically incorrect, and problematic, a central aspect of EP is its focus on uncovering deep-rooted, ultimate explanations for human behaviour.

Traditionally, marketing scholars have concentrated on proximate questions, delving into the "how" and "what" aspects of consumer behaviour. These questions are undoubtedly crucial for understanding the immediate factors driving consumer choices. However, EP takes a different approach by striving to answer the ultimate "why" behind our purchases and product preferences, seeking to identify the adaptive functions that may have provided an evolutionary advantage to certain behaviours.

In the realm of marketing, the effectiveness of messages hinges on their believability and relevance to consumers. Marketers face a dual challenge: first, crafting signals that are credible and, second, making these signals attractive and meaningful to their audience. Drawing insights from signalling theory and signal design features, which have their roots in the study of animal and human behavioural ecology, can help marketers tackle the credibility aspect. Essentially, effective signals must overcome the scepticism of their recipients, often achieved by establishing a clear connection, either through identity or costliness, to the underlying quality they represent. The second challenge involves understanding receiver psychology, which delves into innate preferences rooted in shared human evolutionary history. This chapter offers a comprehensive exploration of signalling theory and receiver psychology, both firmly grounded in evolutionary principles, and provides practical examples and applications that are directly relevant to the business world.

In the current landscape characterised by a burgeoning information overload, traditional marketing communications are losing their effectiveness with individuals becoming increasingly immune to their influence. Consequently, the traditional models of marketing research are no longer capable of providing valuable insights for management decision-making. This situation necessitates the exploration of novel approaches that can delve into the deeper meaning of consumer behaviours and assess their relevance in a rapidly changing environment.

To address this challenge, a fresh multidisciplinary approach is required, one that can effectively decipher intricate behavioural patterns and provide deeper insights into customers and their behaviours. This paper aims to introduce such an approach. It begins with a brief introduction to the fundamental concepts of Jung's analytical psychology and discusses their relevance in the context of marketing. Subsequently, the paper proposes the utilisation of Jungian archetypes as a foundation for implementing a novel market research model.

These are the SWOT analysis

Strengths:

Neuromarketing and psychology both offer useful insights into the underlying forces that shape consumer behaviour, aiding marketers in better comprehending their target demographic.

Neuromarketing methods like brain imaging and biometrics provide measurable information on customer responses, enabling more data-driven marketing strategies.

By comprehending the psychological underpinnings of marketing, it is possible to create advertising and messaging that is more likely to engage consumers and result in a purchase.

Psychology and neuromarketing make it possible to tailor marketing methods to particular customer groups, increasing their relevance and engagement.

Weaknesses:

Because neuromarketing taps into subconscious functions without the consumer's knowledge or permission, it poses ethical questions about consumer privacy and exploitation.

Implementing neuromarketing strategies can be expensive and difficult, which limits its accessibility for smaller enterprises.

Although psychology offers insightful information, individual tastes and motivations can vary widely, making it difficult to forecast consumer behavior.

Consumers' scepticism or mistrust of advertising tactics based on psychological or neuroscientific principles can reduce their effectiveness.

Opportunities:

Increased personalization is possible thanks to developments in neuromarketing technology and psychology, which will increase client pleasure and loyalty.

By combining knowledge from these two areas, marketers can use behavioural economics concepts to influence consumer behaviour.

As technology continues to progress, such as through the use of AI and machine learning, both neuromarketing and psychology will be better able to comprehend and affect customer behaviour.

Since the psychological and neuromarketing concepts are universal, marketing tactics can be used in a variety of cultural contexts.

Threats:

The use of neuromarketing strategies and the gathering of psychological data for marketing purposes may be constrained by increased scrutiny and regulation of customer data and privacy.

Consumers may react negatively and damage a brand's reputation if they believe that marketing strategies are intrusive or manipulative.

It gets harder to establish a competitive edge exclusively through neuromarketing and psychological concepts when more organizations adopt them.

Rapid changes in consumer behavior, affected by a variety of outside influences, can make it challenging for marketers to stay up with and adjust their plans.

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## RESEARCH METHODOLOGY:

Neuro Marketing has gained impetus over the last decade and has seen a substantial amount of research undertaken to understand consumer behaviour and how the human mind works.

We followed a descriptive research method for this research. Descriptive research is used to describe characteristics of a population or phenomenon being studied. It does not answer questions about how/when/why the characteristics occurred. Rather it addresses the "what" question. We used this method to understand neuromarketing and psychology of marketing.

We used case study and survey methods as our primary data to analyse the neuromarketing and psychology of marketing.

Research analysis

Consumer behaviour is influenced by various factors, including pricing strategies, feedback from customers, scarcity, colour, and advertising. Understanding how these factors impact consumer perception and decision-making is crucial for businesses aiming to optimize their marketing strategies. In this paper, we delve into the findings of a survey conducted to explore these aspects of consumer behaviour. Through detailed analysis, we examine the respondents' beliefs and attitudes towards multiple pricing options, the influence of customer feedback, the impact of scarcity, the role of colour, and trust in advertising. The results shed light on the complexity of consumer decision-making and provide valuable insights for businesses seeking to enhance their marketing approaches.

Consumer behaviour is a multifaceted phenomenon influenced by various internal and external factors. Businesses strive to understand the intricacies of consumer decision-making to tailor their marketing strategies effectively. One such approach involves conducting surveys to gauge consumer perceptions and attitudes towards different marketing stimuli. In this paper, we present the findings of a survey aimed at exploring how consumers perceive and respond to factors such as pricing options, customer feedback, scarcity, colour, and advertising. By analysing the responses in detail, we aim to uncover valuable insights into consumer behaviour and decision-making processes.

**Pricing Options:** The survey revealed intriguing insights into how consumers perceive the presentation of multiple pricing options. Approximately 55.6% of respondents expressed a belief that the presentation of multiple pricing options affects their perception, while 20% firmly held this belief. Conversely, a smaller proportion of respondents disagreed with this notion. Furthermore, around 13.3% remained neutral on the matter. These findings suggest that a significant portion of consumers are influenced by the way pricing options are presented, highlighting the importance of strategic pricing strategies for businesses.

**Customer Feedback:** Another significant aspect of consumer behaviour explored in the survey was the influence of customer feedback on purchasing decisions. The results indicated a strong consensus among respondents, with 44.4% agreeing and 40% strongly agreeing that positive feedback from customers influences their decision to buy a product. Only 15% of respondents remained neutral on this topic. These findings underscore the importance of cultivating positive customer experiences and leveraging customer feedback as a marketing tool.

**Scarcity:** The survey findings regarding the influence of scarcity on consumer behaviour revealed interesting insights. While a majority of respondents expressed a belief that they are more inclined to buy based on scarcity, a notable portion remained neutral or disagreed with this assertion. This suggests that while scarcity can be a persuasive marketing tactic for some consumers, it may not resonate equally with others. Businesses must carefully consider the effectiveness of scarcity based marketing strategies based on their target audience.

**Colour:** Colour is a crucial element in marketing and branding, with the potential to evoke emotions and influence consumer perceptions. The survey results regarding the influence of colour on purchasing decisions were mixed. The majority of respondents remained neutral on this topic, indicating that

colour may not be a significant factor for them when making purchasing decisions. However, some respondents expressed strong opinions, believing that colour does or does not affect their decisions. These findings highlight the nuanced nature of consumer preferences and the need for businesses to tailor their colour choices accordingly.

**Trust in Advertising:** Trust in advertising plays a pivotal role in shaping consumer perceptions and behaviour. The survey findings regarding trust in advertising revealed interesting trends. A significant proportion of respondents either expressed neutrality or disagreed with the information presented in advertisements, with only around 34% agreeing. This suggests a level of scepticism among consumers regarding the credibility of advertising messages. Businesses must strive to build trust with their target audience through transparent and authentic communication strategies.

Responses to the survey question "does the colour scheme of a specific brand affect your perception?" The majority, at 46.7%, "strongly agree" that a brand's colour scheme influences their perception, indicating a significant impact of colour on brand perception. Another 33.3% "agree," reinforcing the idea that colour schemes are influential. Meanwhile, 20% of participants are "neutral" on this topic, neither agreeing nor disagreeing with the statement. The chart does not show any respondents selecting "disagree" or "strongly disagree," suggesting that the respondents generally feel that colour schemes are an important factor in their perception of a brand.

Inquiring as to how much feedback from other clients affects people's choices, majority of people believing that positive feedback from customers influence their decision to buy a product because the number of people who agree and strongly agree are 44.4% and 40%. Only 15% of the population in neutral. So, majority of people believe that feedback is quite influential.

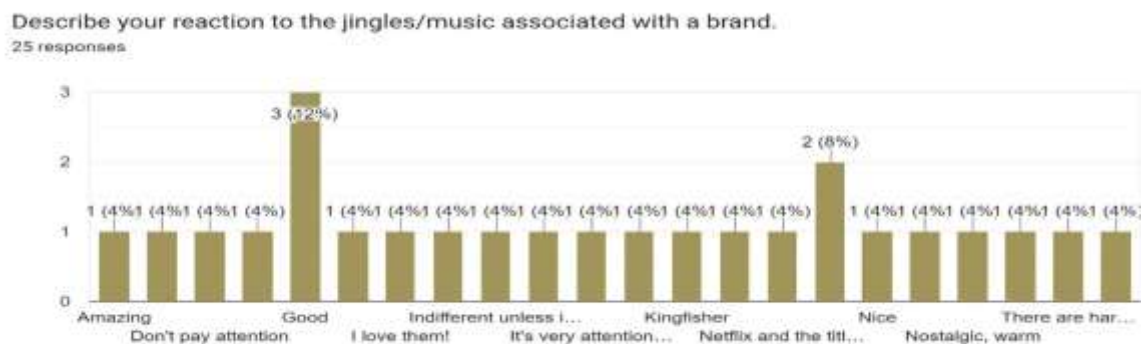
We inquired if individuals are more inclined to buy a product when it is scarce, and we found that although most individuals believe they are not inclined to buy it. Still a significant amount of respondents are neutral or disagree.

Does the colour scheme of a specific brand affect your perception? The majority, at 46.7%, "strongly agree" that a brand's colour scheme influences their perception, indicating a significant impact of colour on brand perception. Another 33.3% "agree," reinforcing the idea that colour schemes are influential. Meanwhile, 20% of participants are "neutral" on this topic, neither agreeing nor disagreeing with the statement. The chart does not show any respondents selecting "disagree" or "strongly disagree," suggesting that the respondents generally feel that colour schemes are an important factor in their perception of a brand.

Do customers trust information presented in any advertisements, majority of people are either neutral or disagree about this. Only 34% (approx.) are agreeing it. This shows how people trust the information that is presented in advertisements before them.

Does the idea of limited-time offer or limited stock influence your purchasing decisions? The data reveals that 35.6% of respondents "strongly agree" that limited-time offers or limited stock influence their purchasing decisions. A further 31.1% "agree" with the statement, indicating a significant majority of respondents are influenced by such marketing tactics. Meanwhile, 20% of participants remain "neutral" on the matter, and a smaller segment of 8.9% "disagree." A very small slice of the chart, which is not quantified, represents those who "strongly disagree." In essence, the chart suggests that the majority of respondents are indeed swayed by the urgency created by limited-time or limited-stock offers when making purchasing decisions.

Do presentation of multiple pricing options affect the perception of a products value, here 55.6% and 20% of the people are believing that presentation of multiple pricing options affect their perception. And 13.3% where neutral about it. And very minor portion of people are disagreeing it .

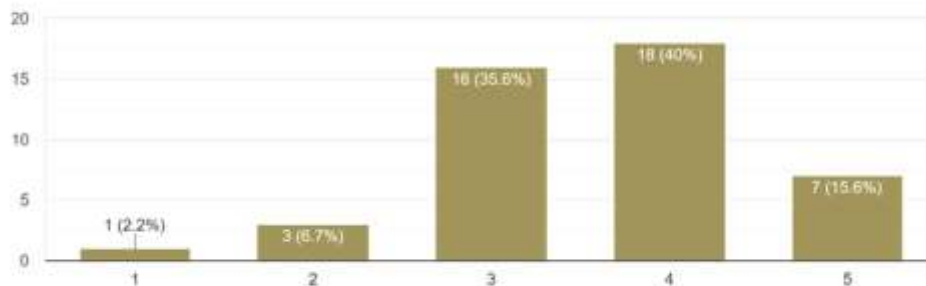


In summarizing the survey results depicted in the image, it's evident that individual reactions to brand jingles or music vary widely. While some participants find the jingles amazing or nice, indicating a positive association with brand music, the majority seem indifferent unless the music evokes nostalgic childhood memories. This suggests that nostalgia plays a significant role in the effectiveness of jingles. Other opinions range from enjoyment to a lack of attention, showing diverse levels of consumer engagement. Although there are some positive responses, such as love for the jingles, they appear to be exceptions rather than the norm. Overall, the data highlights the importance of personal connection and nostalgia in creating memorable brand

Inquiring about the extent to which your purchasing decisions are affected by subconscious or emotional appeal, with varying responses. Most agree that it does have an effect, with the majority falling in the 'agree' category. From our perspective, this analysis is quite telling about the power of nostalgia and

emotional resonance in marketing. While many might overlook the impact of a good jingle, the data shows that when a tune connects with us on a personal level, perhaps reminding us of our past, it can significantly influence our perception of a brand. It's clear that successful brand music isn't just about catchy tunes; it's also about striking a chord with the audience's emotions and memories. The chart reinforces this, as it indicates that many consumers acknowledge that their purchasing decisions are swayed by subconscious and emotional factors.

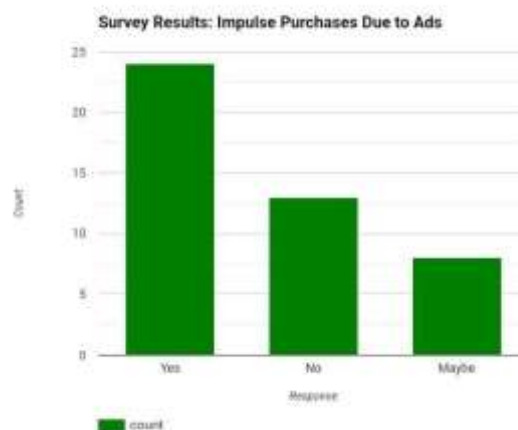
How would you rate the attractiveness of brand or product's logo or visual identity?  
45 responses



The majority of respondents rated the attractiveness as high, with 18 responses (40%) giving a rating of 4 out of 5, and 16 responses (35.6%) giving a rating of 3. Fewer respondents rated it as very high (5 out of 5) or low (1 or 2 out of 5). Based on this data, I'd say that the visual appeal of a brand's logo or identity plays a significant role in consumer perception. Most respondents seem to find brand logos quite attractive, which implies that companies are generally successful in creating visually appealing identities. This is crucial since a logo is often the first point of contact between a brand and potential customers. The fact that the majority of ratings are on the higher end of the scale suggests that an attractive logo could contribute positively to a brand's overall market success.

Do customers perceive brand trustworthy, reliable, innovative, the survey results show that a slight majority of customers (50.00%) perceive brands as trustworthy, reliable, and innovative. However, a significant portion of customers (43.18%) also provided neutral responses ("Maybe"), indicating that there is room for improvement in brand perception.

Have they ever made a purchase based on an impulse caused by an advertisement, over half of the respondents (53.33%) indicated that they had made an impulse purchase based on an advertisement. This suggests that advertisements can be effective in influencing purchasing decisions. However, a significant portion of respondents (28.89%) said no, and some (17.78%) were neutral ("Maybe"), indicating that not all customers are susceptible to impulse advertising.



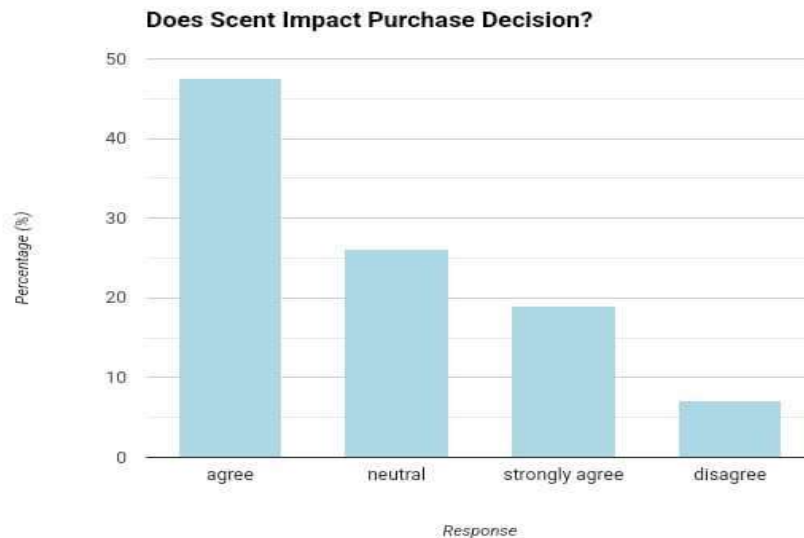
Inquiring if the smell of the product ever grab their attention? Based on the survey results, smell is a somewhat important factor that grabs customer attention. Over three-fifths (60.00%) of the respondents indicated that the smell of a product grabs their attention. Only a small portion (13.33%) said that the smell does not grab their attention. It is important to note that some people are more sensitive to smells than others.

How likely are you to remember a brands logo after seeing it once? The analysis of the question asked the average time to remember a logo is estimated to be 92.08 seconds. However, the standard deviation is quite high (286.11 seconds), indicating a large variation in responses. The median time to remember a logo is 7.5 seconds, which is a more representative value of the central tendency in this case due to the skewed nature of the data.

It is evident from responses that a significant portion of the participants struggled to quantify the logo recall time. This suggests that logo recall might be a complex phenomenon influenced by various factors beyond a simple time estimate. The converted responses, indicate that on average, people remember a brand's logo for a short to moderate amount of time after seeing it once. However, there's a high variability in recall time across individuals.

Knowing if different textures or tactile sensations influence your perception of a product, the survey results suggest that a significant portion of respondents (51.11%) believe that textures or tactile sensations influence their perception of a product. This highlights the potential importance of product packaging and design in creating a positive user experience.

Questioning whether the scent of a product is a factor in their purchase decision., the results suggest that a significant portion of respondents (47.62%) believe that the scent of a product can impact their decision to purchase it. This highlights the importance of considering scent in product development and marketing strategies.



### Learnings: -

1. Emotional Engagement: Neuromarketing research consistently shows that emotions play a significant role in consumer decision-making.
2. The Power of Storytelling: Narratives have a unique ability to captivate audiences, evoke emotions, and make information more memorable.
3. Cognitive Biases Influence Decision Making: Various cognitive biases, such as confirmation bias, anchoring bias, and availability heuristic, influence how consumers perceive and .
4. The Importance of Social Proof: Social proof, or the tendency for people to follow the actions of others, is a powerful psychological principle in marketing.
5. The Impact of Visuals and Imagery: Visual elements play a crucial role in capturing consumers' attention and conveying brand messages.
6. The Scarcity Principle: Psychology research has shown that scarcity, or the perception of limited availability, can increase the perceived value of products and drive urgency in purchasing decisions.
7. Personalization and Individualization: Personalized marketing efforts that tailor messages and recommendations to individual preferences and behaviors are more effective in engaging consumers and driving conversions

### Conclusion:

Consumer behaviour is influenced by a myriad of factors, including pricing options, customer feedback, scarcity, colour, and advertising. The findings of the survey presented in this paper offer valuable insights into how consumers perceive and respond to these stimuli. Businesses can leverage these insights to refine their marketing strategies and better meet the needs and preferences of their target audience. By understanding the complexities of consumer decision-making, businesses can enhance their competitive advantage and drive success in an increasingly dynamic marketplace.

Overall, these findings underscore the complexity of consumer behaviour and provide valuable insights for businesses aiming to optimize their marketing strategies. In conclusion, understanding these nuances and tailoring marketing approaches accordingly can empower businesses to better engage with

consumers, enhance brand perception, and drive success in the competitive marketplace. Additionally, future research could explore how emerging technologies, such as virtual reality or augmented reality, may further influence consumer perceptions and behaviours, providing additional avenues for businesses to innovate in their marketing strategies.

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