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## CONSUMER RELATIONSHIP MANAGEMENT AND NEUROMARKETING: A STUDY

Ashwin Rajput

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### ABSTRACT

The phenomenon of letters that are more eye-catching, bold, and bright having the ability to capture one's attention more quickly than characters that are smaller and more quiet has been a topic of meditation. Do you ever give any thought to the reasoning that lies behind the widespread presence of those adorable adverts that include puppies and infants? The purpose of this research was to determine the factors that influence the attention and retention of marketing communications by customers, as well as their perspectives and their propensity to make purchases. Furthermore, the research reveals the possibility for refining a company's marketing strategy to effectively target consumers based on their cognitive preferences. According to the findings, this can result in increased customer engagement, enhanced brand loyalty, and ultimately, improved sales performance. The formation of brand recognition and the nurturing of customer loyalty are two of the most important roles that marketing and advertising play in today's modern times. Before completing a purchase, the buyer goes through a series of steps prior to making the transaction. Marketing professionals typically work hard to pique the interest of customers and convince them to purchase the things they are selling. One subfield of marketing research known as Neuromarketing focuses on gaining an understanding of the psychological makeup of consumers. In doing so, it takes into account both their emotional and cognitive reactions to the various forms of advertising. Through the analysis of the cognitive reactions of customers, academics are able to improve their understanding of the decision-making process as a result of the intersection of psychology and marketing. To evaluate whether psychological and sensory targeting can have an effect on a buyer's decision to purchase the items, the goal of the study is to investigate this possibility. In the field of Neuromarketing, it is possible to recognise a wide variety of responses. These responses include both active interaction with commercials or companies and passive activities such as like or clicking on links.

KEY WORDS: Neuromarketing, CRM, PSYCHOLOGY, Brand Loyalty, Performance.

### INTRODUCTION

For the purpose of ensuring that the proper message is effectively transmitted to the target audience and that it is retained in their memories, it is of the utmost importance that marketing efforts be effective. In order to emphasise the importance of increasing brand

awareness, it is important to note that customers are more likely to establish a positive perception of a brand when they are able to recognise and recall the brand. Before completing a purchase, the buyer goes through a series of steps prior to making the transaction. Marketing professionals typically work hard to pique the interest of customers and convince them to purchase the things they are selling. Throughout the entirety of the purchasing process, marketers have the ability to exert influence over customers. Certain neural responses in particular regions of the brain are elicited when one is exposed to particular types of advertisements or to particular types of music. These responses are associated with the elicitation of happy emotions. As a means of assisting businesses in comprehending the demands and preferences of their target demographic, as well as in monitoring the cognitive processes of consumers in order to assess product preferences, the researchers intend to measure the level of simulation by utilising neural approaches. Electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) are the two primary technologies that are utilised for this assessment. Biometric approaches, such as monitoring an individual's heart rate and watching their eyes, are utilised in Neuromarketing in order to uncover the characteristics that attract the attention of individuals. In addition to this, it employs facial emotion coding in order to evaluate the ongoing emotional reactions of individuals immediately without delay. Furthermore, Neuroimaging approaches, including electroencephalography (EEG) and functional magnetic resonance imaging (fMRI), are applied in this discipline. Modern marketing strategies include Neuromarketing as one of their components. It has been demonstrated that your ideas and thoughts have the ability to accurately forecast outcomes in terms of influencing customer behaviour. The utilisation of these technologies has the potential to improve the effectiveness of advertisements.

### **NEED OF THE STUDY**

The challenge lies in determining whether or not these marketing and advertising efforts are successful. The usage of Neuromarketing and other cutting-edge techniques shows promise in terms of improving the memorability and retention of commercials, which could ultimately lead to an improvement in the perception of the brand concerned. In light of this, the purpose of the current study is to demonstrate the possibility for future extension of modern marketing strategies. The efficacy of advertising, the level of customer involvement, and the impact that they have on the cognitive processes of customers are the absolute factors that will ultimately determine the outcome. In order to properly preserve the freshness of advertisements in the minds of clients, the tactics that are utilized by Neuromarketing play a significant role in the process of successfully generating brand recognition. There is a correlation between the level of brand awareness and the enhancement of brand image, which will ultimately result in an increase in brand recall and recognition. It is absolutely necessary to place a strong emphasis on improving your brand image in order to build a favourable perception of your company among your clientele. Because of this, there will be a rise in sales as well as repeat purchases from other customers. A rise in sales and earnings is going to be the result of this particular event. It has been established that marketing operates as a substantial catalyst for the generation of income and plays a pivotal function in the accomplishment of the goals that a company has set for itself.

### **LITERATURE REVIEW**

"David (2014)" - the rapidly developing topic of Neuromarketing is the subject of this article, which investigates the increased interest among persons in the discipline. There has been an overwhelming amount of enthusiasm surrounding Neuromarketing, which has led to the scientific gains in the field being overshadowed, according to studies. The tremendous impact that Neuromarketing has and the practical outcomes that it produces have contributed

to its rise to prominence as a cutting-edge advertising strategy. It has been demonstrated that your ideas and thoughts have the ability to accurately forecast and influence the behavioural patterns of consumers. In the field of Neuromarketing, it is possible to recognize a wide variety of responses, ranging from expressing enthusiasm for a movie or interacting with a website to remembering information about an advertisement or brand. When it comes to the practicability and efficiency of this technique, the combination of brain activity along with survey and market data is an essential component. When it comes to marketing and advertising initiatives, it is possible to accomplish optimal planning and execution by taking into consideration the functioning of the medial prefrontal cortex, which is the region of the brain that is responsible for cognitive processes. We present two researches: one investigates the effectiveness of anti-smoking programs, and the other investigates the financial feasibility of films. Both of these studies are presented here. The aforementioned numerical numbers were utilized in order to make a prediction regarding the economic viability of a film as well as the effectiveness of an anti-smoking program in terms of convincing individuals to quit smoking or, at the absolute least, interact with the linked hyperlink. Despite the fact that both of these studies yielded positive results, it is essential to keep in mind that the field of Neuromarketing is still in its preliminary stages of development. However, despite the fact that they are cost-effective, EEG and fMRI brain imaging techniques do not provide a realistic image of the brain. The cutting-edge technology known as magnetic resonance imaging is one that wealthy people are unable to afford to obtain. In the event that the usage of small-scale brain imaging data could boost the effectiveness of large-scale efforts, regardless of the financial implications of such campaigns, the field of Neuromarketing would have reached its zenith. Mukherjee was born in the year 2012. In this essay, the scientific foundations and practical procedures of Neuromarketing are broken down and explained in detail. There is a full discussion of the approach, the ultimate result, and the potential ramifications that it may have for future endeavours. The practice of Neuromarketing is based on the application of social psychology as a method for influencing the patterns of behaviour of consumers. Given the substantial amount of time and financial resources that are invested, it is not in the best interest of any company for a product to fail. A field that focuses on the evaluation of individuals' emotional responses to marketing stimuli, Neuromarketing, is the subject of their investigation. This is the rationale behind their inquiry of Neuromarketing. The emotional state of an individual has an effect on the likelihood that they will engage in a transaction within that time period. In order to facilitate the provision of solutions to our customers, we record and examine neural signals that originate from the brain. Throughout the transitory phase between idea comprehension and opinion development, Neuromarketing makes use of the preferences and biases that individuals have. The quick electric response, which only lasts for a fraction of a second, is an efficient way to express the genuine sentiment that the client has regarding the campaign, service, or product. This method, in addition to being cost-effective, also has the advantage of having a small sample size, which means that it presents both possible benefits and hazards because of its limited sample size requirements. Nevertheless, there are concerns that it could lead to a significant amount of consumer deception going forward. Neuromarketing is a technique that can be utilized to strategically design the visual, tactile, and operational components of items before they are made available to the general public. As a result, the decrease in risk takes place concurrently with the improvement in efficiency.

In 2013, Simon Bosch had a Are you someone who has ever given any thought to the fascinating nature of large fonts that are vivid and vibrant? What is the most effective way for phrases that are well-dressed to capture the attention of a person? On the other hand, have you ever given any thought to the way in which the aroma that is emanating from Cookie Man cookies permeates the area, causing a feeling of hunger to be evoked? Take into

consideration the way in which those Stedler sketch pens that are worn out inspire you to keep writing nonetheless. For the purpose of capturing the attention of individuals, both consciously and unconsciously, businesses deploy sensory marketing strategies of many kinds. Advertisers can gain a competitive advantage in the market by utilizing sensory marketing, which is a fresh, dynamic, and quickly expanding marketing method. As one of the primary goals of marketing, increasing product demand through the implementation of creative advertising methods is one of the most important objectives. The execution of sensory marketing methods, which may be overlooked by the viewer, is the means by which this objective is accomplished. The five senses—sight, hearing, touch, smell, and taste—are at the centre of the principles that underpin the marketing strategy known as sense-based marketing. It is said that "the primary focus lies in the promotion of the sizzle rather than the steak." This is a traditional adage. In this article, the usage of the five senses to impersonate customers is explained in detail, and the present advantages that many brands have earned from utilizing these techniques are highlighted. These advantages are supported by a variety of instances and research found throughout the essay. There is a strong focus on sensory marketing throughout the entirety of the piece. Providing a complete examination of how marketers can effectively control the decisions that customers make in order to improve their business, the essay is presented here. When your decisions are influenced by your bodily state and the environment around you, you are engaging in embodied cognition. This refers to a circumstance in which the experiences that a person has experienced in their body have an effect on their decision-making process without their conscious awareness.

On the subject of the relationship between warmth and comfort, Lawrence E. Williams from the University of Colorado at Boulder and John A. Bargh from Yale University have carried out a substantial amount of study. The results of their research have shed light on the ways in which environmental factors and temperature influence cognitive functions. Under conditions of warm weather and when the lights are on, individuals express greater friendliness and accommodation, according to the findings of their research. A higher level of receptiveness, a tendency to make rash decisions, and a tendency to adhere to the purchase decisions of their peers are all characteristics that are shared by individuals who belong to this group. By stressing the considerable influence that sensory marketing has on the senses, Aradhna Krishna, a researcher from the University of Michigan, investigates the transformative potential of sensory marketing in the field of communication. In her book titled "Customer Sense: How the 5 Senses Influence Buying Behaviour," the author gives a detailed account of the questions and situations that initially sparked her interest in this particular topic during the course of her research and writing. She gives the example of the presence of Touch-Foil in the vicinity of Hershey's as one of the specific examples. As the buyer removes the wrapper from a bar of chocolate, they are greeted by flavourful confections that will satisfy their sense of taste. A coffee aroma was produced by an atomizer at Dunkin' Donuts, which was the source of the odor. All of the brands that have followed these marketing methods have seen an increase in sales, as indicated by the findings of the research. In addition to this, the paper addresses the remark that not all companies have been successful in implementing this particular strategy. Krishna maintains that it is essential for all sectors of the economy to have a comprehensive understanding of the significance of the packaging, appearance, and aroma of their products and the environment in which they are located. An example of this would be the usage of hardwood or leather furniture in banks, which might potentially create a more relaxing atmosphere. This article will explain why bubble wrap is an ideal choice for wrapping luxury clothing that is sold online. This article provides a wealth of information that is quite helpful in understanding the necessity of comprehensive customer communication.

The year 2016 saw the publication of an article that was written by Daugherty and Hoffman. The purpose of this essay is to investigate the differences in the application of functional magnetic resonance imaging (fMRI) between academic and corporate environments. Only 31 percent of businesses reported using functional magnetic resonance imaging (fMRI) equipment, whereas 71 percent of educational institutions, including universities and colleges, reported using these devices. The large gap can be attributed to the fact that numerous businesses view it as a financial and physical burden for the corporation. This is because the machinery in question requires expert operators who possess specific abilities. Numerous firms continue to rely on antiquated methods for evaluating client behaviour, despite the fact that there is a plethora of innovative marketing and products available on the market. For the purpose of drawing conclusions on the efficacy of functional magnetic resonance imaging (fMRI) in comparison to more conventional methods, the research utilized a sample size that was of a modest size. The purpose of this research was to examine the similarities and differences between Neuromarketing strategies, such as eye-tracking, facial expression coding, biometrics, and neural measures using electroencephalography (EEG) and functional magnetic resonance imaging (fMRI), and the behavioural marketing research methodologies that are typically utilized. In spite of the fact that conventional approaches have been shown to be effective in producing accurate forecasts, it is undeniable that neural procedures offer a substantially more significant contribution. Using this approach resulted in a multitude of benefits. Based on the technological characteristics of these methodologies, it is possible to conduct research on a large number of consumer decisions using just a limited number of participants. Furthermore, the researchers offered their thoughts regarding the integration of functional magnetic resonance imaging (fMRI) into corporate processes.

2011 was the year that Ackerman authored the work. It is the capacity of commercials and music to stimulate particular parts of the brain that are responsible for regulating emotional reactions that is the primary focus of this specific essay. The fundamental purpose of this investigation is to make use of neurological methods in order to determine the level of modelling that has been established. Businesses will be able to design methods to effectively appeal to the cognitive processes of their target audience while making purchasing decisions, as well as get a deeper understanding of the preferences and tastes of their target population as a result of this. **Electroencephalography (EEG)** and **functional magnetic resonance imaging (fMRI)** are the two procedures that are utilized most frequently in the evaluation process. Electroencephalograms, often known as EEGs, are a method that can be utilized to evaluate the electrical activity that occurs beneath the scalp as a consequence of brain function. Through the process of attaching electrodes to the heads of volunteers and analyzing the electrical patterns of their brain waves, researchers are able to quantify the intensity of powerful emotional responses such as wrath, desire, repulsion, and enthusiasm. Electroencephalograms were utilized by Frito-Lay in order to assess the effects of its Cheetos sandwich snack. They came up with an innovative advertisement by making use of this information, and the Advertising Research Company selected it as the winner of their competition. Numerous studies have demonstrated that the activity that occurs in a certain region of the brain can provide an accurate prediction of the level of popularity that a product or service will have in the future. Both electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) are compared by the author, who comes to the conclusion that although each method has its own set of limitations, it is remarkably effective. Companies that want to reach a worldwide audience can benefit from Neuromarketing since it can provide data that is both essential and challenging. The author discusses a variety of approaches that companies can implement in their Neuromarketing

efforts in order to forecast the outcome of a product, including whether or not it will be successful.

## **RESEARCH METHODOLOGY**

### **Research Question**

- There is a considerable impact that Neuromarketing has on the advertising methods that are used.
- Is it possible for the purchasing decisions of consumers to be impacted by their thoughts and perceptions?
- To what extent does the advertising and marketing sector have the capacity to support and foster the growth and success of Neuromarketing?
- Is there a connection between Neuromarketing and the actual choice to make a purchase?

### **RESEARCH OBJECTIVES**

- To determine the feelings that customers have regarding the advertising operations that the organization is engaged in.
- To investigate the influence that advertising have on consumers' perceptions of brands.
- To determine the degree to which advertising initiatives are received and retained by the target audience.
- To gain an understanding of the influence that jingles and object placement have on the views of customers.

### **RESEARCH HYPOTHESIS**

H0: There is no observable alteration in consumers' perception of the advertising.

H1: The initial premise posits that advertisements exert a significant influence on customers' perspectives.

H0: The impact of Neuromarketing on customers' brand impressions is negligible.

H1: The impact of Neuromarketing methods on public perception of brands is significant.

H0: The relationship between Neuromarketing methods and customers' emotional reactions is not strongly correlated.

H1: There is a clear correlation between emotional responses and Neuromarketing strategies.

H0: The utilization of Neuromarketing approaches has no substantial impact on the capacity to focus on and retain information from advertisements.

H1: There exists a considerable correlation between the utilization of Neuromarketing tactics and the levels of attention and memory associated with advertising.

H0: There is no significant influence of Neuromarketing tactics on buyers' opinions.

H1: The utilization of Neuromarketing methods significantly impacts customers' perception of a product.

H0: There is no significant impact of advertisement jingles on client retention.

H1: There is no significant impact of commercial jingles on client retention.

H0: The positioning of pictures, words, and figures does not have an impact on consumer impressions.

H1: The positioning of pictures, phrases, and figures has a substantial impact on consumer perceptions.

### **STUDY SCOPE**

To improve the efficiency of their advertising and marketing endeavours, commercial firms will acquire useful information that will help them improve their efficacy. People will

be better able to understand the essential components and techniques that are necessary to properly engage customers as a result of this. Eye tracking and heat mapping are two techniques that are utilised in Neuromarketing. These techniques are used to determine the optimal positioning and organisation of visual elements, such as pictures, figures, and text, with the objective of attracting the attention of customers upon initial observation and fostering sustained engagement for a minimum duration of ten seconds. The ability of individuals to perceive and comprehend the substance of the commercial is improved as a result of this. There is a correlation between the favourable impact that the ad has on customers and the likelihood that they will remember information about the company and the products that it sells being higher. This makes it easier to improve the whole experience that customers have with the company and can boost sales performance.

## **STUDY LIMITATIONS**

It is possible that the possibility for development will be restricted due to the study's emphasis on expensive and highly advanced technology. It is not feasible to arrive at definitive findings in this sector because of the inherent subjectivity of the subject matter. This is because there is the potential for individuals to have different sensory reactions. The fact that customer evaluations are subjective is the root cause of the fact that data are susceptible to variances. Since this is the case, it can be challenging to offer conclusive results by depending exclusively on numerical data.

## **SAMPLING TECHNIQUE**

The target audience encompasses consumers across different age groups and genders. A total of 150 individuals were surveyed. Data Collection Techniques: Optimal sample selection

Data collection: The primary method of data collecting will be the distribution of questionnaires and surveys to the general public.

## **DATA COLLECTION TECHNIQUE**

Method of Data Collection: In order to gather information, a structured questionnaire was created utilising questions that could not be freely answered. The researcher utilised a nominal scale and a Likert scale to measure the variables, with 1 being a strong disagree and 5 a strong agree.

## **STATISTICAL TOOL FOR ANALYSIS**

Implemented resources: Using correlation, one can ascertain whether two variables are significantly related to one another. The effect of a change in one variable on another can be discovered through the use of regression. When we do not have normal data for one of the variables, we can utilise Wilcoxon to detect a significant difference between the other. Thus the both techniques were implemented.

## **INTERPRETATION & ANALYSIS**

**1. H<sub>0</sub>:** There is no observable alteration in consumers' perception of the advertising.

**H<sub>1</sub>:** The initial premise posits that advertisements exert a significant influence on customers' perspectives.

Based on the comparison between  $p=0.000$  and  $\alpha=0.05$ , it can be concluded that the data exhibits statistical significance. A neuro-marketing analysis of the average values of advertising (3.73 for the former and 2.98 for the latter) indicates that audiences are more engaged by ads that communicate distinct, vivid pictures rather than those that are more generalised and lack vibrancy. In this particular scenario, the alternative hypothesis is accepted whereas the null hypothesis is rejected. The perception of advertising among consumers exhibits a significant variance in their handling as shown in the figure 1 of calculation presented.

## NPar Tests

Descriptive Statistics					
	N	Mean	Std. Deviation	Minimum	Maximum
Advertisement 1 - with NMT	167	3.73	1.089	1	5
Advertisement 2 - without NMT	167	2.98	1.056	1	5

## Wilcoxon Signed Ranks Test

Ranks				
		N	Mean Rank	Sum of Ranks
Advertisement 2 - without NMT - Advertisement 1 - with NMT	Negative Ranks	97 <sup>a</sup>	60.90	5907.00
	Positive Ranks	21 <sup>b</sup>	53.05	1114.00
	Ties	49 <sup>c</sup>		
	Total	167		

a. Advertisement 2 - without NMT < Advertisement 1 - with NMT  
b. Advertisement 2 - without NMT > Advertisement 1 - with NMT  
c. Advertisement 2 - without NMT = Advertisement 1 - with NMT

## Test Statistics<sup>a</sup>

	Advertisement 2 - without NMT - Advertisement 1 - with NMT
Z	-6.615 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

Figure 1: Calculation for hypothesis 1.

**H0:** The impact of Neuromarketing on customers' brand impressions is negligible.

**H1:** The impact of Neuromarketing methods on public perception of brands is significant.

The results of the statistical analysis indicate that the model does not have any relevance. This is demonstrated by the fact that the data indicate that  $F(N-2)=0.420$ ,  $p=0.518$ , which is more than the significance level of 0.05 that was previously set. In light of this, the alternative hypothesis is being disregarded, and the null hypothesis is being chosen as the correct explanation. Strategies that use Neuromarketing have very little effect on the image of the brand.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.051 <sup>a</sup>	.003	-.004	.879

a. Predictors: (Constant), Neuromarketing utility

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.325	1	.325	.420	.518 <sup>b</sup>
	Residual	126.075	163	.773		
	Total	126.400	164			

a. Dependent Variable: Consumer perceptions  
b. Predictors: (Constant), Neuromarketing utility

Figure 2: Calculation for hypothesis 2.

**3. H<sub>0</sub>:** The relationship between Neuromarketing methods and customers' emotional reactions is not strongly correlated.

**H<sub>1</sub>:** There is a clear correlation between emotional responses and Neuromarketing strategies.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.142 <sup>a</sup>	.020	.014	.88010

a. Predictors: (Constant), Neuromarketing techniques used

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.620	1	2.620	3.383	.068 <sup>b</sup>
	Residual	127.805	165	.775		
	Total	130.425	166			

a. Dependent Variable: Emotional response

b. Predictors: (Constant), Neuromarketing techniques used

Figure 3: Calculation for hypothesis 3.

On the basis of the data that was collected ( $F(N-2)=3.383$ ,  $p=0.068$ ), it is possible to draw the conclusion that the model does not possess statistical significance since it is greater than the significance threshold that was decided to be 0.05. In light of this, the alternative hypothesis is being disregarded, and the null hypothesis is being chosen as the correct explanation. There is just a weak correlation between the strategies of Neuromarketing and the emotional responses that people have.

**4. H<sub>0</sub>:** The utilization of Neuromarketing approaches has no substantial impact on the capacity to focus on and retain information from advertisements.

**H<sub>1</sub>:** There exists a considerable correlation between the utilization of Neuromarketing tactics and the levels of attention and memory associated with advertising.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.374 <sup>a</sup>	.140	.135	.874

a. Predictors: (Constant), Neuromarketing techniques used

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.505	1	20.505	26.850	.000 <sup>b</sup>
	Residual	126.010	165	.764		
	Total	146.515	166			

a. Dependent Variable: Memory and Retention

b. Predictors: (Constant), Neuromarketing techniques used

Figure 4: Calculation for hypothesis 4.

It has been discovered through the utilisation of the model that the independent variable, which is related to the utilisation of Neuromarketing strategies, accounts for 14% of the entire variability that is observed in the dependent variable, which is associated with memory and retention. A value of 0.140 for the R square statistic and a value of 0.135 for the modified R square statistic both provide credence to this association. One of the unique characteristics of Neuromarketing strategies is the ability to possess both predictive memory and retention skills. The data provide evidence that the model is significant. This is demonstrated by the fact that the F (N-2) value is 26.85, and the p-value is 0.000, which is lower than the significance level that was specifically chosen to be 0.05. Based on the statement that was presented before, it may be concluded that the alternative hypothesis is correct, whereas the null hypothesis is incorrect. Therefore, the employment of Neuromarketing strategies has a considerable impact on the effectiveness of ads in terms of attracting and holding the attention of clients.

**5. H0:** There is no significant influence of Neuromarketing tactics on buyers' opinions.

**H1:** The utilization of Neuromarketing methods significantly impacts customers' perception of a product.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.046 <sup>a</sup>	.002	-.004	.961

a. Predictors: (Constant), Neuromarketing utility

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.316	1	.316	.342	.559 <sup>b</sup>
	Residual	150.496	163	.923		
	Total	150.812	164			

a. Dependent Variable: Controlling consumer perceptions

b. Predictors: (Constant), Neuromarketing utility

Figure 5: Calculation for hypothesis 5.

The results of the statistical analysis indicate that the model does not have any relevance. This is demonstrated by the fact that the data indicate that  $F(N-2)=0.342$ ,  $p=0.559$ , which is more than the significance level of 0.05 that was previously set. In light of this, the alternative hypothesis is being disregarded, and the null hypothesis is being chosen as the correct explanation. It has been demonstrated that Neuromarketing is completely ineffective when it comes to changing the opinions of individuals.

**6. H0:** There is no significant impact of advertisement jingles on client retention.

**H1:** There is no significant impact of commercial jingles on client retention.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.288	1	5.288	7.503	.007 <sup>b</sup>
	Residual	116.281	165	.705		
	Total	121.569	166			

a. Dependent Variable: Jingle retention  
b. Predictors: (Constant), Airtel Jingle

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.209 <sup>a</sup>	.043	.038	.839

a. Predictors: (Constant), Airtel Jingle

Figure 6: Calculation for hypothesis 6.

According to the R square value of 0.043 and the adjusted R square value of 0.839, the model is responsible for 4% of the variability in the dependent variable Jingle retention, which is equivalent to 4% of the total variability. A significant contributor to this diversity is the independent variable known as consumer perception. In light of the fact that the p-value of 0.007 is lower than the significance limit of 0.05 that was previously established, the findings suggest that the model has statistical significance ( $F(N-2) = 7.503$ ). Based on the statement that was presented before, it may be concluded that the alternative hypothesis is correct, whereas the null hypothesis is incorrect. Since this is the case, commercial jingles have the potential to influence the loyalty of customers.

**7. H0:** The positioning of pictures, words, and figures does not have an impact on consumer impressions.

**H1:** The positioning of pictures, phrases, and figures has a substantial impact on consumer perceptions.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.282 <sup>a</sup>	.079	.074	.923

a. Predictors: (Constant), Position of objects

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.137	1	12.137	14.234	.000 <sup>b</sup>
	Residual	140.690	165	.853		
	Total	152.826	166			

a. Dependent Variable: Controlling consumer perceptions  
b. Predictors: (Constant), Position of objects

Figure 7: Calculation for hypothesis 7.

It can be seen from the R square value of 0.282 and the adjusted R square value of 0.074 that the independent variable, which is the Neuromarketing strategies that were utilised, is responsible for 28% of the variability that is present in the dependent variable, which is the control of customer views. It may be concluded that the model is statistically significant at a significance level of 0.05, as indicated by the F(N-2) value of 14.234, which is also accompanied by a p-value of 0.000. Based on the statement that was presented before, it may be concluded that the alternative hypothesis is correct, whereas the null hypothesis is incorrect. The placing of pictures, text, and data has a huge impact on the views that customers have from the product.

## **FINDINGS**

- When the mean value of an advertisement that uses neuro-marketing strategies is compared to the mean value of an advertisement that does not use these strategies, it is clear that advertisements that feature vivid and expertly projected pictures have a greater tendency to captivate viewers and generate a purchase. This is in contrast to advertisements that feature graphics that are less vivid and ambiguous. A research project was carried out by Daugherty and Hoffman in the year 2016.
- The gap in mean values between consumer viewpoints (4.20) and the methods indicated above (2.32) makes it abundantly clear that the utilisation of Neuromarketing tactics for the goal of developing brand image does not have any substantial influence on brand image. This is supported by the fact that the aforementioned methodologies have a slightly higher mean value. This suggests that the use of Neuromarketing might potentially serve as a helpful method in boosting the memorability of ads, and consequently could potentially influence the establishment of positive brand associations when used in conjunction with other marketing strategies. The ultimate objective of marketing, which does not have a direct influence on sales, is to develop and improve the reputation of the brand.
- The fact that there is no association between emotional reactions and the Neuromarketing tactics that are utilised is demonstrated by the fact that the mean values of the two measures are 2.30 and 12.87, respectively. Although emotions and emotions are subtle stimuli that have the ability to increase the efficacy of ads, it is important to note that they are not the same as Neuromarketing tactics. While it is possible to discover emotional factors through the arrangement and use of words, pictures, and other materials, it is important to note that these elements do not have a direct influence on emotional reactions. No date given for G. Philo's work.
- When a comparison is made between the mean values of memory and retention (3.95) and the mean values of the Neuromarketing approaches that were utilised (12.87), it is possible to discover a substantial link between the two. To put it another way, these strategies have the potential to increase brand recognition by capturing the attention of the target audience and ensuring that the commercials continue to be remembered to the consumers. As can be observed from the comparison of their mean scores (2.32 versus 2.08), the data suggests that Neuromarketing strategies do not have any effect on the viewpoints of consumers. Considering that the strategies that are being utilised are of a complex and underlying character, it is difficult for customers to recognise and grasp them.
- When the average values of jingle usage (1.53), against the average values of retention (1.24), are compared, it is clear that jingles have the potential to be utilised in order to enhance the recall of advertising in the minds of consumers. The jingles that are used in India are distinguished by their straightforwardness, their ease of recognition, and their generally favourable response among the general populace. The

use of these in advertising helps to ensure that the messages continue to be relevant and current in the thoughts of the people who are viewing them.

- When the mean values for consumer perceptions (2.08), item placement (1.77), and other important characteristics are compared, it is possible to notice the influence that word, figure, and text placement have on customer perspectives. By strategically arranging advertising, one may increase the likelihood of attracting attention, as well as improve the readability and comprehension of advertisements for the target audience.

## **CONCLUSION**

In light of the information that is currently available, it is possible to draw the conclusion that Neuromarketing is not particularly well-suited to the Indian market. It has been established via empirical research that the usage of jingles, word placement, numbers, and visuals may in fact exert a significant and positive impact on the perceptions that customers have of a company. On the other hand, the utilisation of certain Neuromarketing tactics and colour palettes does not have a significant influence on the way in which buyers perceive a product. This suggests that there are two distinct sets of consequences that manifest themselves. The fact that this finding was made suggests that the Indian market is capable of efficiently digesting the most prominent and noticeable sorts of stimuli, such as headlines, jingles, and sound of various kinds. On the other hand, emotional responses and insightful remarks are ways that are more complex and, as a result, more difficult to notice effectively. Therefore, following the transmission of information regarding the development of strategies, there is the possibility of additional improvement in the field of Neuromarketing.

## **SUGGESTIONS**

Indian marketers would do well to pay greater attention to the stimuli that are immediately perceivable so that they may capture customers' attention and make their commercials stick in their minds. The use of catchy tunes can make the advertisement more memorable and appealing to the target audience. People are more likely to prefer advertisements that use colourful, brilliant pictures and have appealing taglines than advertising without these elements. Subtle cues can be employed, but they must be effectively communicated to the Indian populace. In sum, these methods will aid businesses in increasing both the visibility of their brands and the effectiveness of their advertisements.

## **FUTURE SCOPE**

This research has the potential to inform future work in sensory marketing, which seeks to understand how people perceive products via their sense of hearing, seeing, touching, and smelling.

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**Ashwin Rajput**  
**Asst professor**  
**Faculty of Commerce and Management**  
**Swaminarayan University.**