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NEUROMARKETING: TECHNOLOGY BASED SOLUTION FOR ADVERTISEMENT

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Abstract

Salient objects are those particular objects which stand out by qualities or features in more competing way in the surrounding environment. Salience is used in psychology and neuroscience to analyze impact of visual features on customer attention and emotional processing. This lead to Paradigm shift of knowledge basis for obtaining attention of the customer about product or Service. Substantial efforts have been put forwarded to understand the customer and develop effective marketing strategies by utilizing the technology. This emerges Neuromarketing which is a latest advance in brain (Neuro) scanning to understand the expectations, desires and other parameter of the customer. This paper deals about usage of Neuromarketing and sentiment analysis to retain customer attention.

Keywords*: Neuromarketing, Future Advertisement, Salient objects, Neurons, Marketing Strategies.*

INTRODUCTION

Neuromarketing not only became fashionable for lovers of marketing, companies, businesses, etc.; but also for those who are true connoisseurs of brain function. For many, at this time neuromarketing is a business opportunity for people with wide creativity in business, people who know make money through business brain unconventional measurements, or people interested in making money with the ignorance of the subject by people. The Internet has changed the manner in which individuals express their perspectives, by the introduction of web 3.0 users can have conversation about the product or service with manufacturer or service provider. It is for the most part done through blog entries, online discussions, item survey sites, internet based life, and so on. Users expressing their views, emotions and sentiment through social network sites like Google Plus, Twitter, Facebook etc. Social network is producing a huge volume of notion rich information as tweets, reviews, comments, discussion, blog entries, and so forth. Social media network gives a chance to businesses by giving a stage to interface with their target customer for advertisement. A user on the most of the cases depends widely on other user's generated content for decision making about the product available in the online. Because of the huge content generated by the users in a daily basis it becomes a difficult job for the ordinary users to analyze the content. Hence there is a great demand to automate the users review. In this context Sentimental Analysis (SA) has a very vital role to play. Sentiment analysis enlightens the customer whether the data concerning the product is attractive or not before they purchased it. Advertisers and firms utilize this data to comprehend about their product or administrations so that it very well may be offered according to the user's prerequisites. Hence in the context of analysis one can use textual Information retrieval techniques. It mainly focuses on searching, preparing or analyzing the genuine information present. But, there is some other

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textual information which may express subjective features. This information's are primarily focused on sentiments, attitudes, opinions, emotions and appraisals, which may form the center of SA. Sentimental analysis offers many provoking chances to grow new applications, essentially because of the enormous development of accessible data on online sources like sites and social network.

LITERATURE REVIEW

Neuromarketing, from the point of view of a scientific analysis it has been poorly organized web. Pak and Paroubek [1] proposed techniques to classify the twitter tweets as neutral, positive or negative. They were used twitter API to collect the tweets and for the analyses used Naive based algorithms. Parikh and Movassate [2] used Naïve based algorithm and Entropy model. It was found that Naïve based algorithm doing better compared to entropy model. Go and L.Huang [3] developed a solution for sentiment analysis in social network for twitter data by using distant supervision. They provided a model using naïve based algorithm and support vector machine algorithm. Barbosa et al. [4] proposed a method for classifying tweets for sentimental analysis by using two phase automatic method. Method gives the direction of a sentiment on a feature which describes the feeling is neutral, negative or positive.Bifet and Frank [5] designed a solution for sentimental analysis for twitter streaming data using Firehouse API. They were used multinomial naïve Bayes algorithm along with stochastic gradient descent technique. The result shows that stochastic gradient technique was better compared to multinomial naïve Bayes algorithm to classify the twitter tweets as neutral, positive or negative. Agarwal et al. [6] proposed a model to classify the twitter tweets as neutral, positive or negative. They have used tree kernel based model, unigram model along with a feature based model. Results shows that the tree kernel based model was better compared to rest of the model for to classify the twitter tweets as neutral, positive or negative. Davidov et al. [7] designed a solution for the SA for the classifying the emotions of the tweets. This proposed solution uses K-Nearest Neighbor algorithm to allocate a sentimental label with the help of support feature vector for all the training data set. Po-Wei Liang et.al. [8] Proposed a solution for SA with reference to twitter data. These data are collected using the Twitter API. The training data is assigned a label as neutral, negative and positive. This proposed solution made use of Naïve based model and used Chi square feature to eliminate useless features in order to describe the emotion as Either Neutral, negative or positive. Kamps et al. [9] utilized the lexical database WordNet to decide the passionate substance of a word along various measurements. They built up a separation metric for Word Net and decided semantic extremity of adjectives. Liu [10] analyzed that there are various challenges and issues with respect to opinion mining in proposing emotions of the people from the data available in the twitter. Further they quoted that varying languages makes opinion mining as challenging task. Lexicon based method [11] utilizes slant lexicon with sentiment words and match them with the information to decide extremity. They allocate emotional scores to the sentiment words portraying how Positive, Negative and Objective the words contained in the lexicon are. This approach related to Lexicon is focuses on sentimental lexicon Piryani et.al [12] analyses the citation pattern of the paper with the help of sentimental analysis. Bordbar et.al [13] Uses emotional implications for classifying sentimental emotions. For the classification purpose Fuzzy logic was used. Here the major challenge is finding the fuzzy rules. Phuong et.al [14] uses Apriori algorithm for finding the patterns. These patterns are applied in stock market, market basket analysis and so on. Praveen Gujjar et.al [15] argues that sentimental analysis places a very important role in the decision making of the product by the

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customer.

OBJECTIVES

- To assess the effectiveness of neuro marketing strategy
- To assess the strategy related to advertising

METHODOLOGY

In-order to assess the effectiveness of neuro marketing strategy and strategy related advertising author relies on secondary data. Using sentiment analysis author is trying to obtain the neuro marketing strategy. Sentiment analysis is a process that computerizes mining of attitudes, mentalities, suppositions, perspectives and feelings from content, tweets and database sources through Natural Language Processing (NLP). SA includes classifying suppositions in content into classifications like "neutral" or" negative " or "positive". SA is also called as opinion mining, subjectivity analysis or appraisal extraction. An example for terminologies for Sentiment Analysis is as given below,

<SENTENCE> = '''Your paper has been accepted. Congratulations
<OPINION HOLDER> =<author>
<FEATURE> = <conference>
<OBJECT> = <paper>
<OPINION >=
<POLARITY> = <positive>

SA is a term that incorporates numerous undertakings, for example, conclusion extraction, assessment characterization, subjectivity arrangement, rundown of suppositions or spam detection. SA plans to examine individuals' assumptions, attitudes, mentalities, conclusions feelings, and so forth towards items, people, subjects, associations, and administrations etc., Neuromarketing is defined as a new branch of marketing that makes use of technology to determine a consumer's internal, subconscious reaction to products and brand names. In order to plan effective marketing strategies. Based on the resultant techniques derived from neurosciences better identification and understanding of cerebral mechanisms fundamental to consumer's behavior is possible. This is helpful in the prospect of increasing the efficiency of the commercial actions of companies. Neuromarketing is a branch of the general field of neuroeconomics, which is an interdisciplinary field that combines economics, neuroscience and psychology, to study the functioning of the brain in decision-making situations according to Kenning and Plassmann [16].

Neuromarketing is a new field of marketing which uses medical technologies such as functional Magnetic Resonance Imaging (fMRI) to study the brain's responses to marketing stimuli. Researchers use the fMRI to measure changes in activity in parts of the brain and to learn why consumers make the decisions they do, and what part of the brain is telling them to do it. Marketing analysts will use neuromarketing to better measure a consumer's preference, as the verbal response given to the question "Do you like this product?" may not always be the true answer. This knowledge will help marketers create products and services designed more effectively and marketing campaigns focused more on the brain's response. Neuromarketing will tell the marketer what the consumer reacts to, whether it was the color of the packaging, the sound the box makes when shaken, or the idea that they will have something their co-consumers do not.

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EYE TRACKING IN NEUROMARKETING

By making use of a lightweight headset with three cameras, it is possible to record exactly where a person is looking as he or she is exposed to some kind of visual display. For example, a person is navigating through a website, looking to purchase an item. With eye tracking it is possible to mark exactly where the person is looking for specific information about the item, how they compare different items, and where they look to navigate to the shopping cart or other areas of the site.

VOICE ANALYSIS IN NEUROMARKETING

Voice analysis records the psycho physiological stress responses that come across in human voice owing to the response of the vocal cords to such stress.

HEART RATE IN NEUROMARKETING

Heart rate means the number of heartbeats that occur during one minute. According to www.esomar.org pupilo meter is "a device used to measure the dilation of a participant's pupil in response to a visual stimulus".

FUTURE ADVERTISING IN INDIA

The famous "Pepsi vs. Coca-Cola" experiment, in which scientists studied the motivation behind brand preferences, was what brought Neuromarketing into the spotlight. The researchers observed that although Pepsi and Coke are essentially identical, people often favour one over the other. They subsequently sought to investigate how cultural messages work to guide our perception of products as simple as everyday beverages. The fact that a series of ads could actually cause brain to believe something that contradicts what the rest of body believes is unnerving. Because of this, there is a growing controversy surrounding the subject of Neuromarketing. A Forbes article indicates that all this is moving toward an elusive goal: to find a 'buy button inside the skull' and to test products, packaging and advertising for their ability to activate it. So far, researchers are figuring out which part of the brain facilitates product recognition and choice; they are related to primal urges like those for power and sustenance. As for brand loyalty, it turns out that memory and emotion plays a crucial role. 'In the not-too-distant future, firms will be able to tell precisely if an advertising campaign or product redesign triggers the brain activity and neurochemical release associated with memory and action. Future advertising in India is listed below

1. Internet/Online Advertising Market
2. Mobile Advertising Market
3. The Rise of OTT as an Advertising Medium
4. Outdoor Advertising Market
5. Affiliated Marketing
6. Customer centric marketing

Neuromarketing is new area and although some work has gone into it over the last decade. Only few experiments performed have evidentiated its ability to meet the requirement of the researcher as well as of companies. Since it is directly related with observing the functions of the human brain and strong intrusion into privacy hence ethics will be questioned every now and then.

CONCLUSION

Neuromarketing is an emerging branch of neuroscience in which researchers use medical technology to determine consumer reactions to particular brands, slogans, and advertisements. By observing brain activity, researchers in lab-coats can predict whether customer prefer Pepsi or Coke more accurately than customer. A practical, computationally cost-effective neuromarketing and sentimental analysis is proposed in this paper. Sentiment analysis and neuromarketing helps the organization to understand the customer like point. Based on the interest of the customer the product recommendation can be done. Salience is used in psychology and neuroscience to analyze impact of visual features on customer attention and emotional processing. This lead to Paradigm shift of knowledge basis for obtaining attention of the customer about product or Service. This emerges Neuromarketing which is a latest advance in brain (Neuro) scanning to understand the expectations, desires and other parameter of the customer.

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