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Original Paper

A Conceptual Research on the Relationship between Consumer and Advertisement of Neuromarketing

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Abstract

This article aims to examine neuromarketing and neuromarketing techniques, to reveal the effect of neuromarketing on consumer behavior and advertising. Due to today's increasing competition conditions, manufacturers want to read the minds of consumers to promote their products and achieve brand success. For this reason, it is very important to determine consumer behavior and the factors that trigger the purchase. Consumers' perception of the advertisement and how they remember it is of great importance for marketing and brand success. What consumers say and think about the advertisement may not be consistent in some cases. So how can we identify the factors that cause the brain to buy a particular product? At this point, the importance of neuromarketing in discovering the subconscious thoughts of consumers emerges. Neuromarketing is of great importance in making advertising more effective. It can be determined by neurological methods how consumers are affected by which advertisements and which advertisements do not cause a reaction in them. In this context, it is considered necessary to examine neurological methods, the subconscious of consumers, and their relationship.

Keywords

Neuromarketing, Consumer Behavior, Branding, Neuro Techniques, Advertising

1. Introduction

Advertising is getting harder and harder these days. Many advertisements either fade into oblivion or do not even come to our minds, let alone influence our decisions and choices. The brain constantly and unconsciously collects information and refines this information (Dargi, 2013). Some information

remains in our memory, while others are forgotten. Neurological techniques are used to examine how the brain is physiologically affected by marketing strategies and advertisements.

Neuromarketing is an emerging interdisciplinary field that combines neuroscience and marketing (Lee et al., 2007; Kushabaa et al., 2013; Amir, 2018). It links consumer preferences and decision-making to marketing research (Camerer et al., 2004; Pirouz, 2007; Plassmann et al., 2012). Neuromarketing assumes that human brain activity can provide marketers with information that cannot be obtained with traditional marketing research methods (e.g., interviews, srveys, focus groups) (Ariely & Berns, 2010). This is mainly because people cannot (or do not want to) fully disclose their preferences when asked explicitly; because human behavior can (and is) driven by processes operating below the level of conscious awareness (Calvert & Brammer, 2012). In such cases, the effectiveness of different marketing strategies can be evaluated by monitoring the brain activity resulting from consumers observing different ads and products (Astolfi et al., 2009; Ohme et al., 2009).

The main goals of neuromarketing research are primarily to detect small changes in commercial stimuli that may prove to have significant effects on marketing effectiveness (Ohme et al., 2009). Second, it also aims to explain how changes in the depiction or presentation of marketing information affect the way the brain responds (changes in brain signals). It is then assumed to provide information about the preference creation/selection process (Kenning & Plassmann, 2008).

In research on neuromarketing and advertising, the changes in the brain activities of the participants while watching television commercials were examined (Custdio, 2010; Vecchiato, Kong, Maglione, & Wei, 2012). These studies found that the amount of cortical spectral activity from frontal areas and parietal areas was higher for remembered TV commercials compared with the activity elicited by forgotten TV commercials (Ohme et al., 2010; Astolfi et al., 2008). Alpha band activity in the occipital regions and theta activity in the midline and frontal cortical regions were also observed for well-remembered advertisements (Custdio, 2010). Costa, Rognoni, and Galati (2006) investigated patterns of interdependence between different brain regions when volunteers looked at emotional and non-emotional movie stimuli. They concluded that unhappiness constitutes a pattern that includes a large exchange of information between the frontal channels, while happiness involves a wider synchronization between the frontal and occipital regions.

These and similar studies reveal the real thoughts of the techniques used in neuromarketing in the brains of consumers. These techniques, which are used to determine the reasons for advertising promotion, brand awareness, and consumer preferences, provide spot-on for manufacturers to make the right moves when competition is taken into account.

2. Neuromarketing and Techniques Used

It is known that neuromarketing is a meaningful research technique since the start of neuroscience research. Techniques used in neuromarketing research are used to describe decision-making processes that cannot be seen with the naked eye (Duque-Hurtado et al., 2020). The methods used in

neuromarketing research are classified as neurological and non-neurological techniques. neurological techniques;

fMRI (Functional magnetic resonance imaging) is a medical procedure used to measure brain activity by detecting the oxygen level in the bloodstream. When a brain region is more active, it needs more oxygen. (Kulich et al., 2009)

EEG (Electroencephalography) measures and records the electrical activity of the brain (Ohme et al., 2009),

MEG (Magnetoencephalography) provides information about brain activity using a magnetic field. It is a direct measurement of brain activity as opposed to functional measurements such as fMRI. It has a high temporal and spatial resolution.

PET (Positron Emission Tomography) has tremendous flexibility in interrogating biological processes using a range of target studies including radiolabeled small molecules, peptides, antibodies, and cells. PET allows for quantitative imaging of relatively low abundance targets other than the introduction of mass effects with extremely high sensitivity (Shukla et al., 2006),

SST (Stable State Topography) or TMS (Transcranial Magnetic Stimulation) measures and records brain activity. Its high temporal resolution makes it possible to use SST in neuromarketing tests related to TV commercials.

non-neurological techniques; can be listed as Heart Rate and Respiration Rate, Galvanic Skin (Skin) Response, Eye Tracking, Face, Body, and Voice Tracking (Racine et al., 2005).

3. Neuromarketing and Consumer Relationship

Neuromarketing focuses on the subconscious of consumers. Subconscious emotions, thoughts, and desires can be detected through brain scanning tests used in neuromarketing (Tüzel, 2010). Researchers can use advertisements, images, logos, etc. related to the topics they are researching. After showing them to the subjects, they monitor the activities in their brains and measure how they respond to them. Thus, it is determined what the consumers who are constantly exposed to product advertisements are affected by (Hart, 2009). The famous Pepsi-Coca Cola experiment conducted by Baylor College of Medicine to reveal the subconscious preferences of consumers is the best example of this. Many types of research in the field of advertising and marketing reveal that consumer choices are made emotionally, not rationally (Murphy et al., 2008).

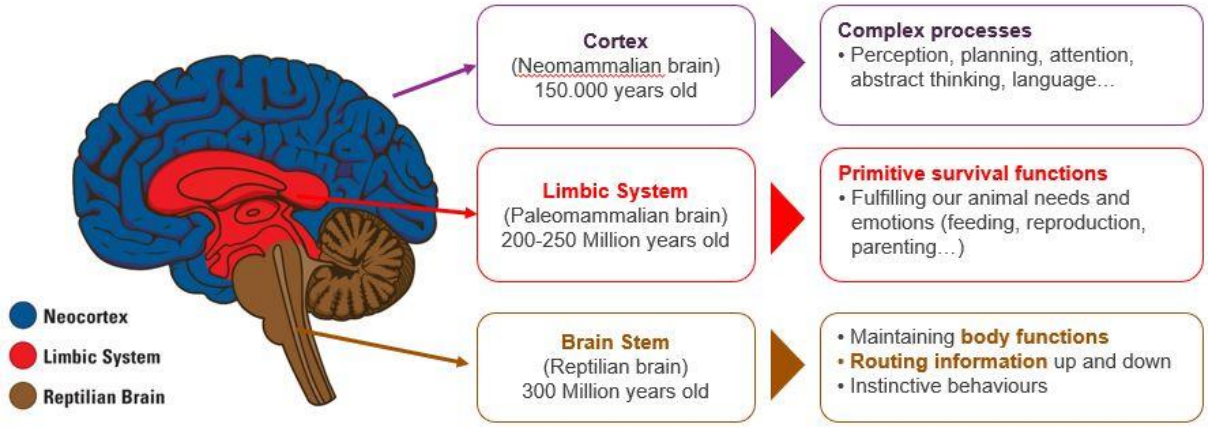

Figure 1. Model of Human Brain (MacLean, 1982)

For neuromarketing to be effective on consumers, advertisers must first target the sensory brain, then the primitive brain. In this case, attention channels are opened and information is transmitted to the rational brain. It is assumed by researchers that non-verbal, holistic, and pictorial images are stored and processed by the right side of the brain (Kumar, 2015).

4. Neuromarketing and Advertising

The research that made neuromarketing an interest is a study done by scientists to reveal the motivation behind brand preferences. This work is the famous Coca-Cola-Pepsi experiment. The aim of the research was primarily to reveal why consumers prefer one over the other even though they are essentially the same. Then they tried to understand how cultural messages affect our perception of products.

The experiment was simple: There were two taste tests—one blind and one where subjects knew which drink was which—and the researchers observed the corresponding brain activity. While the volunteers were unaware of which brand they were drinking, fMRI showed activation in the ventromedial prefrontal cortex, a key "reward center" when they drank Pepsi. However, once the subjects knew which soda was which, the scans showed brain activity in favor of cola in the hippocampus, midbrain, and dorsolateral prefrontal cortex (which are the memory and emotion centers). In other words, people liked the taste of Peps but believed that they preferred Coca-Cola based on nostalgia and emotional connections. From these results, researchers revealed that "Coke preference is more influenced by brand image than taste," according to BridgerD, Lewis D (Brit, 2001, 2004).

The result of this experiment, on the one hand, looks interesting and amusing, on the other hand, it is alarming. It's frustrating, to say the least when ads can cause your brain to believe something that contradicts what the rest of your body believes. For this reason, there are many critical approaches to the subject of Neuromarketing (Freeman, 2009). According to the Forbes article, finding the "buy button in the skull" and testing products, packaging, and ads for their ability to activate it assumes an

inexplicable purpose (James, 2004).

Researchers have discovered which part of the brain facilitates product recognition and selection of primitive impulses such as power, nutrition, and sex. When it comes to brand loyalty, they found that memory and emotion play a very important role. “In the not-too-distant future, companies will be able to tell with certainty whether an advertising campaign or product redesign is triggering brain activity and the neurochemical release associated with memory and action,” says James Bailey, professor of organizational behavior at George Washington University.

5. Conclusion

According to Vicky Phan, “Neuromarketing is an emerging branch of neuroscience in which researchers use medical technology to determine consumer responses to specific brands, slogans, and advertisements. By observing brain activity, researchers in lab coats can predict more accurately than you can whether you prefer Pepsi or Coke. Critics have already denounced neuromarketing research for finding it manipulative; however, while the field is already highly controversial, there are views that its continued development will ultimately have a profound impact on the study of consumerism and general human behavior.

Neuromarketing is a new field. While some work has been done in the last 10 years, only a small number of experiments have proven its ability to meet the needs of both researchers and companies. Ethics is sometimes questioned, as the neurological techniques used in neuromarketing are directly related to observing the functions of the human brain and a strong interference with privacy.

There is little evidence that traditional methods of measuring the effectiveness of advertisements are profoundly useful. Experimenting by applying neuromarketing is very expensive and will be a deterrent for those who want to explore the field shortly. It has also been observed that participation in collaboration with various currents such as Psychology, Neurology, and Marketing is necessary to study this field. Another concern has been regarding the possible side effects of such procedures when experiments are conducted in the absence of medically approved authorities.

Despite the possible negative effects of neuromarketing tried to be explained above, it will be an indispensable method that marketing managers and advertisers will use to develop accurate and effective advertisements in the near future. Neuromarketing minimizes the margin of error in the creation of advertising content by shedding light directly on what goes through the minds of consumers. In addition, it is thought that there will be a decrease in the cost of neurological tools with developing technologies.

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