Neuromarketing: Mind Your Business

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ABSTRACT

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Marketing has been evolving in all its forms. In its present scope, it has metamorphosed from barter system, to production concept, to product concept & so on. Neuromarketing can be considered as another milestone, which is still an evolving process. It can be a powerful tool in market research; where advertising is becoming more scientifically advanced. Todays consumers don't see your advertisement, they FEEL your advertisement.

Keywords: Advertising, Sensory perceptions, Neuromarketing, Market Research, Consumer behaviour

Objective:

Neuromarketing is a dynamic package of medical knowledge, technology & marketing. It is an emerging branch of neuroscience in which researchers use medical technology to determine consumer reactions to particular brands, slogans & advertisements. Researchers can now predict whether you prefer Surf or Rin; Coke or Pepsi etc. Covering everything from product development to packaging to point-of-sale marketing neuromarketing is the guide to access today's newest business frontier: **human brain.**

Methodology:

The paper attempts to throw light on growing perspective of Neuromarketing in & around. It will involve study of various applications of the concept of Neuromarketing through live case studies of the organizations. It will also analyse the limitations of the concept whether advertisers should probe human minds as means of boosting product sales? In this paper attempt will be made to study whether Neuromarketing will ever be used as a mainstream research method.

The paper attempts to understand how even the highest priced or lowest quality products sometimes outsell their competitors, it will look at how some brands that have a devoted cult-like following while others have a zero loyalty, the paper will consider why & how prospects buy products or services even if their choices seem irrational or impractical.

Findings & conclusion will depend upon the case study or example under review

Introduction:

Did we ever wonder why some brands have a devoted cult-like following while others have a zero loyalty? Why even the highest priced or lowest quality products sometimes outsell their competitors. Why & how prospects buy the products or services they do even if their choices seem irrational or impractical.

Objective of all marketing communication is to induce or enhance purchase. Advertising is one of the major components of promotional mix and that of marketing communications.

"Marketers are not concerned with how the consumers process the information and how they perceive the same. The marketers and advertisers communicate what they think is right. They are not concerned about communicating right things in the right manner."

- William M. Weilbacher (2003)

Marketing researchers have started questioning the premise that a target consumer would reflect 'what he/she really thinks' in response to a question in a questionnaire. If the consumer does not reflect his/her actual feelings to a marketing researcher, how can we assume that the results arrived at after such a research would be reliable?

Remember the pre-poll survey where the results declared that some political party would come to power at centre and actually the opposite happened. The survey was conducted by one of the best research organizations. Sometimes the consumers themselves do not know their real feelings about a given situation. They would act in a particular manner at the spur of the moment. It may also happen that, they know their actual feelings but do not intend the marketing researcher to know the same.

We depend on the principle of marketing research to find out consumer preferences, attitudes, likes and

dislikes. We analyze consumer responses and reach certain conclusions. On this basis, marketing and promotional mix is decided. However research has revealed that consumers do not necessarily provide the real answer to researcher. At times they do not even know as to what is that they really think about a given question.

Hence there is some thing over and above all the principles of marketing and advertising which underlie consumer behavior. Gerald Zaltman, the learned Professor at Harvard University has also shown keen interest in the similar area and has authored a book titled: "How customers think: Essential insights in to the mind of the market." Researchers all over the world are trying to find answers to questions on the unfathomable behavior of the target consumers in the fields other than those of consumer behavior, marketing and advertising.

This brings us to neuro-marketing the field has unprecedented potential of showing the path to those managing brands, marketing communication.

What is Neuromarketing-where brain science and marketing meet?

In very simple terms, Neuromarketing is a combination of medical knowledge, technology and marketing. Neuromarketing is a new field of marketing that studies the consumer's response to marketing stimuli. Neuromarketing is the application of neuroscience to marketing. Neuromarketing includes the direct use of brain imaging, scanning, or other brain activity measurement technology to measure a subject's response to specific products, packaging, advertising, or other marketing elements. In some cases, the brain responses measured by these techniques may not be consciously perceived by the subject; hence, this data may be more revealing than self-reporting on surveys, in focus groups, etc.

This concept was developed by psychologists at Harvard University in 1990.The word Neuromarketing was coined by Ale Smidts in 2002.It is an emerging branch of neuro science in which researchers use medical technology to determine consumer reactions to particular brands, slogans and advertisements. The first ever Neuromarketing conference was held in 2004 at Baylor College of Medicine in Houston.The base of Neuromarketing is "meme". Meme is a unit of information stored in the brain. These units are effective influencing human who is making choices and decisions within 2.6 seconds. If mem is chosen properly we remember the good, joke or song and would share it. Memes stay in our memory and are affected by marketers. Examples of memes-aroma of fresh bread, biscuits, sweets, characters in fairy tales, stories of grandmother.

Thus, Neuromarketing is a promising and emerging field with tremendous potential for application in the functional areas of marketing, brand management and advertising. It has emerged after bringing together applicable concepts from the field of neural-science, psychology, human neuro-physiology and even neuro-chemistry.

Introduction of the Buying Brain:

"*Understanding the human mind in biological terms has emerged as the central challenge of science in the twenty-first century."*

-By Dr. Eric Kandel, Neuroscientist and winner of the Nobel Prize for Physiology or Medicine

Millions of people in our global economy have jobs that depend on communicating with and persuading the human brain. So it is vital for us to understand how the human brain really works, what is attractive to it, how it decides what it likes or dislikes or how they decide to buy or not buy the infinite variety of products and services.

The basic lesson is that human brains process much of their sensory input subconsciously. Most of the works our brains are doing day and night are below our personal consciousness. Our senses are taking in about 11 million bits of information every second. Most of that comes through our eyes but all other senses are contributing-hearing, touch, smell, taste. Research has shown that our conscious brain can process at best 40 bits of information per second. All the other is processed subconsciously. That is why our brain appears to be a mystery.

This has really widened the scope of Neuromarketing. The concepts of Neuromarketing provide a real competitive advantage in a crowded and cluttered market. The languages of consumers change from country to country and culture to culture, however the language of human brain is the same i.e. universal. Thus, Neuromarketing has greatly affected products, brands, packaging, and advertising as well.

Structure of Human Brain:

Human brain is made up of billions of cells. These cells are called neurons. The neurons can communicate with one another through small junctions. These junctions are called synapses. When a neuron is active, it sends an electrical impulse to its own terminal or end. The impulse generates a sequence of physic-chemical events leading to the release of a chemical molecule. This chemical molecule is called a neurotransmitter and serves as a messenger. This neurotransmitter forms a bridge between the two neurons and the impulse gets transferred. Once a neuron is activated it is described as *'a neuron has fired'*. A single neuron connects with 600 to 1500 other neurons. Neurons form circuits, circuits form networks, networks form systems, systems form super systems and the super systems are equivalent to galaxies.

"Neurons are the basic working units of the brain and the central nervous system, designed to transmit information to other nerve, muscle or gland cells."
By Dr. A.K. Pradeep Founder and CEO, Neurofocus Inc.

Our brain is a part of central nervous system which has following parts:

Area of Brain	Function	Importance
Spinal cord	Sending message from nerves to different parts of the body	0
Medulla oblongata	Respiration, controls blood pressure, senses of taste and hearing	1
Pons	Controls movement, respiration and sleep	0.5
Cerebellum	Maintains postures, controls head and eye movements, muscle movements, language as well as cognitive functions	1.5
Midbrain	Co-ordination of visual and auditory reflexes	0.5
Thalamus	Taste, smell, touch	2
Hypothalamus	Eating, drinking, growth, motivation	3
VMFL	Decision-making	4

Value range 0 to 5
(Source: Neuromarketing a Peep into Customer`s minds by J.K. Sharma, Deepali Singh, K.K.Deepak, D.P.Agarwal)

Brain Laterality:
Human brain can be divided into two hemispheres: Right and left. The left one is supposed to be logical while the right one is creative. It is very interesting to note that the left hemisphere receives inputs better from the right side and vice-versa. This can be a very vital input to print advertisers, OOH (out of home) media and banners on the internet. The visual matter should be placed towards the left while the text on the right. Similar application to packaging which acts like a silent salesman for the product which is on the shelf.

Modern techniques for examining the effect of communication on human brain:
· EEG
· fMRI
· GSR

EEG:
EEG stands for electroencephalography in which activity in the brain tissue is recorded. This is a passive technology in which sensors are used to capture minute electrical signals that brainwave activity produces. The output is generated in the form of waves which are of four types:

· Beta waves-these are the fastest of all with low amplitude. Beta waves are generated when brain is actively engaged in some mental process. Example: delivering a lecture, in meeting

· Alpha waves-these are generated when our brain is at rest. Their frequency is lower than that of beta waves. Example: person taking rest after completion of any job

· Theta waves-The amplitude of these waves is greater while their frequency is lesser. Theta waves represent

a person who is performing some leisure activity.

· Delta waves- They have the highest amplitude with lowest frequency. Example: a person in deep sleep

Dr. Hans Berger was the pioneer in application of EEG in 1920`s.This is the only method that measures the electrical activity of the brain. On March 21, 2011 NeuroFocus the Neuromarketing arm of Neilson announced Mynd™ world`s first dry, wireless Full-brain EEG measurement headset.

fMRI:
fMRI is functional magnetic resonance imaging wherein the person is scanned by making him/her lie down in a long, narrow tube made up of very powerful magnets. When these magnets become active electrical fields are produced. fMRI depends upon the blood flow to brain. More the flow of blood more is the neural activity.

GSR:
GSR stands for Galvanic Skin Reaction which provides us with information to determine the extent of subject's involvement in an external stimulus. Human skin is a good conductor of electricity. Example of External stimulus: audio, visual.

Success stories of the applications of Neuromarketing: Campbell`s Soup
Background:
Condensed soup has been a slow growing category in which the budget conscious consumers have little tolerance for price increase. The objective of the company was to boost sales by 2% over the next two years without increasing the prices.

Problem Identified:
It is not easy to know what prompts people to buy soup, except for something warm to eat on a frosty day. They identified a need to connect better with their consumers.

Methodology Used:
The organization took help of Neuromarketing studies to tackle this problem. For years Campbell`s researchers asked the consumers whether they remembered an ad & whether it made them buy the product. The analysis further revealed that, ads had very little impact on the sales. The traditional interview had limited usefulness as the words of the respondents did not capture their unconscious responses.

The organization settled on biometric tools combined with a different type of deep interview to more accurately gauge which consumer communications worked better. Campbell then hired Innerscope Research Inc. a Boston Company to conduct further research. Biometrics tells only if a person reacted to something not whether they liked or disliked something. The Neuromarketing tools can`t pin point what emotions a person feels but if all the biological metrics move simultaneously in the same direction, the subject is likely to be emotionally engaged with something. Researchers interviewed 40 people at their home & later in grocery stores. The team also clipped small video cameras to the 40 testers at eye level & made them watch the tape of themselves shopping for the soup. Sensors attached to the video monitor tracked the eye movements & pupil width. Vests that the testers wore also captured skin-moisture levels, heart rate and pace of breathing as well as posture.

Findings:
The warmth and other positive attributes people associated with Campbell`s soup at home evaporated when they faced the store shelves. Typically, the consumers show simultaneous blips in most of their biological metrics when they decide to buy something. The people who spent more time exploring varieties showed more & bigger spikes in biometrics and tended to put more soup cans in their baskets. The Campbell team figured it could boost sales by triggering more emotional responses in stores & prompting more people to focus on more soups.

Following are the changes in the labeling based on Neuromarketing experiments:

· The studies showed that when logo was placed at the top with red background it drew too much attention so the new label suggested had logo at the bottom of the can so that all labels look similar.

· The bowl was updated while the spoon in earlier packing design showed very less emotional connects to the consumers. As a result the new creative was without the spoon.

· The steam was added in the creative of the soup to give a feeling of warmth as well as to increase the consumers emotional connect.

· The different varieties of soup were color coded for easy identification to the consumers

Future of Neuromarketing:
There is no element of doubt that Neuromarketing will enable advertisers to be very specific in providing products that the consumers really want. The more senses you trigger about your products and service you can influence the buying behavior. Still Neuromarketing is in ones infancy and not free from critics as well as issues.

NeuroFocus, Inc. is an American multinational Neuromarketing company with headquarter in Berkeley. NeuroFocus combines neuroscience research with consulting and marketing practices. NeuroFocus is the global market leader in neurological testing. In India too they have set up an office in Chennai. First *annual Neuromarketing awards* were announced by media brands IPG Media Lab and Affectiva at Cannes Lions International Advertising Festival in June 2011.On February 2-3rd 2012 *Neuromarketing World Forum* met in Amsterdam with a theme "Science meets business" where *Neuromarketing Science and Business Association* was launched. This was a great success as 100 delegates from 29 countries participated in the same.

Yet this concept is not totally free from criticism. The cost of conducting studies can be a major hurdle especially for start-ups. Brain activity in a lab may not equate to brain behavior in a mall. Neuromarketing studies are not yet common in B2b scenario where the buying process is lengthy and involves many people. In-spite of all these issues Neuromarketing is here to stay. All advertising campaigns are not commercial as many focus on changing the behavior of the people. For example to convince people not to smoke, don't drink and drive or talk on a cell phone while driving.

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