APPLICATION OF NEUROMARKETING TOOLS IN HIGHER EDUCATION INSTITUTIONS: TOWARDS INNOVATIONS, MARKETING EFFECTIVENESS AND STUDENT DRIVEN STRATEGIES IN THE FUTURE CONDITIONS

Manoj M S

Research Scholar, Canara Bank School of Management Studies, PG Department of Management Studies, Bangalore University

Dr. Ritika Sinha

Senior Assistant Professor, Canara Bank School of Management Studies, PG Department of Management Studies, Bangalore University

ABSTRACT: The field of neurosciences has made such an advance that even minute neuronal activity are measured and studied. Each of these advances has created certain paradigm shifts in the term of knowledge in diversified fields such as finance, economics, marketing etc. Many of the institutions have made unsubstantial efforts in utilizing the technology in order to understand the consumer and develop better marketing strategies until the boom of neuromarketing. Neuromarketing concept has created a sensation in the marketing industry across the world; it is yet to be introduced in the Indian market.

In the future, Higher Education Institutions may face with certain number of challenges such as prospects of reduced enrolments, budget deficits, retrenchment and institutional closings. HEIs administrators may have to focus more on the enrolment maintenance and would be more interested in the student's behaviour towards the programs being offered in the institutions.

Neuromarketing can become an important tool in the near future for the higher education institutions when defining student driven strategies. It may help to uncover the hidden reactions of student's reactions and identify the relations between internal emotions and external student manifestation and enrolment behaviour.

This paper outlines the description of neuromarketing and its application of solutions in determining the suitable student driven strategies for the enrolment of programs being offered in the higher education institutions.

Keywords: **Neuromarketing, Higher Education Institutions, Neuroscience**

NEUROMARKETING – INTRODUCTION

Emergence of Neuromarketing is because of recent discoveries made in neuroscience, behavioural economics and social psychology that have altered our understanding on how the brain experiences, interprets and acts in making a particular decision. These are discoveries are being applied to advertising, marketing and consumer behaviour.

Neuromarketing is a branch of neuroscience which is applied by an individual in order to understand the consumers through cognitive processes and explains the preferences of consumers, and also broadens the view on consumer motivations and expectations, there by predicting one's behaviour and explains the rationale behind the success or failures of the marketing or advertising messages.
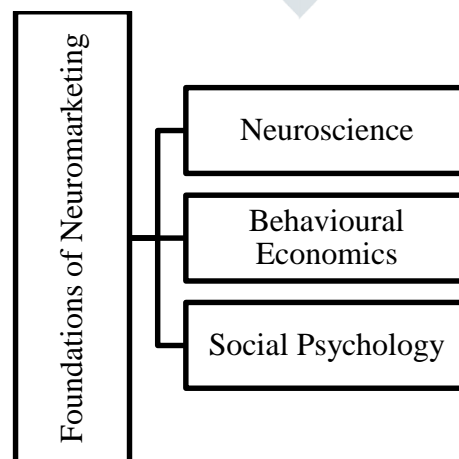

Figure 1: Foundations of Neuromarketing

a. Nueroscience: It is a complex interdisciplinary science which combines all the investigations on the structure and function of nervous systems and interprets them in an integrated manner. Objective of neuroscience is to understand neutral functions at all levels of complexity

b. Behavioural Economics: It is a method of economic analysis which used to explain economic decision making by applying psychological insights into human behaviour

c. Social Psychology: It is a branch psychology that deals with the personality, attitudes, motivations and behaviour of an individual or influenced by group.

REVIEW OF LITERATURE

Neuromarketing is a method to understand consumers' unconscious responses which can be applied to marketing, to include consumer preference, expectation and motivation, behaviour prediction and the evaluation of the effectiveness of advertising (Uprety& Singh, 2013)

Neuromarketing is determined as an emerging field of knowledge which has malleability. Development and application of neuromarketing knowledge is being perceived by different marketing researchers in dissimilar manners. Possessing different perceptions of knowledge is not a new issue, but finding new interconnections between those perceptions is beneficial to knowledge creating and diffusion. The research-practice gap in neuromarketing was briefly discussed and then resolved through the contribution of that commentary, the proposal of a novel Neuromarketing Research Model. The model interconnects basic research reporting applied research reporting, media reporting and power processes. (Michael J.R. Butler, 2008)

Brain based information about consumer preferences, purporting to bypass focus groups and other marketing research techniques on the premise that directly peering into a consumer's brain while viewing products or brands is a much better predictor of consumer behaviour. The findings of the study state that academics and companies using neuromarketing techniques with a code of ethics outperform the brand performance (Emily R. Murphy, Judy Illes, and Peter B. Reiner, 2008)

Neuromarketing is an interdisciplinary field that combines psychology, neuroscience, and economics being coined just six years ago and its goal is to study how the brain is physiologically affected by advertising and marketing strategies (Lee, Broderick & Chamberlain, 2007)

Neuromarketing research removes subjectivity and ambiguity by going right to measuring observable brain behaviour. Neuroscience has played an important role in improving behavioural predictions and advancing the understanding of consumers. It also allows insight into neural differences seen in individuals when no behavioural differences are observed (Venkatraman, Clithero, Fitzsimons &Huettel, 2012)

Consumers would benefit from the creation of products and campaigns directed to them and would have their decisions facilitated rather than manipulated, while organisations would save large portions of their budgets that are currently used on inefficient and ineffective campaigns, ensuring greater competitiveness and improvements to customers (Lindstrom & Dooley, 2010)

If neuroscience is seen in its childhood, neuromarketing is clearly in an embryonic state. Marketing academics just wake up to the possibility offered to reveal the brain circuits involved in the search, selection and purchase of a product (Morin, 2011)

While the economy has begun using neuro-imaging techniques in its research that has resulted in neuro-economics marketing has shown leery at the idea of expanding their research using new techniques, even though both fields share common interests, such as decision making and exchange (Lee, Broderick & Chamberlain, 2007)

Conventional methods for testing and predicting the effectiveness of those investments have generally failed because they depend on consumers' willingness and competency to describe how they feel when they are exposed to an advertisement (Marichamy&Sathiyavathi, 2014)

Neuromarketing offers methods for directly probing minds without requiring demanding cognitive or conscious participation and it could be a solution for the companies for limiting their spending on marketing (Rantalainen, 2014)

Advantage of neuromarketing is that individual's brain contains hidden information about their true preferences. Such information can be used to influence their buying behaviour. This would outweigh the costs for the use of the neuromarketing tools (Ariely&Berns, 2010) (Hubert & Kenning, 2008)

Neuromarketing has revealed significant new information about human preferences and emotional responses by measuring the brain activation when customers view and evaluate different products or advertisements (Plassmann et al., 2012)

Neuromarketing has surfaced as a new branch of marketing that studies the consumer's subliminal reactions to marketing material, brands, products and product groups. It has been described as a way to apply the methods of neurology lab to the questions of the advertising world (Wilson et al., 2008)

STATEMENT OF THE PROBLEM

In order to market or brand a course or particular institution, there must be an accurate understanding of the students' desires for efficient marketing. For this very reason, institutions are greatly depending on the utilization of market research to help them acquire stakeholder's knowledge. Over the years, institutions have been using traditional methods of marketing their courses using survey and focus group discussion; as the things are moving forward institutions are depending on telemarketing, communication through social media to obtain the information for them to devise their market strategies. Though useful techniques, they all strictly rely on verbal feedback from students and other stakeholders that may or may not be credible information. This paper highlights an alternative approach to market research in the near future through the field of neuromarketing, a newer, innovative branch of market research that use the technology of neuroimaging to study the response of a student or stakeholder's brain under the presence of marketing stimulus.

RATIONALE BEHIND APPLICATION OF NEUROMARKETING SOLUTIONS IN THE FUTURE BY HIGHER EDUCATION INSTITUTIONS

For the higher education institutions, neuromarketing is still a new concept, after the application of neuromarketing solutions by corporate companies, higher education marketers are assuming that there is a lot of potential to discover automatic and implicit process in determining the decision making process in order to exercise the suitable strategies, and in turn also reveals the secret information about the student behaviour, which cannot be obtained by the use of traditional marketing methods. With application of neuromarketing by HEIs in future, more effective student segmentation can be carried out, which in turn can lead to improved marketing of courses by considering the course and brand preferences of the institution

UNDERSTANDING THE STUDENT'S BRAIN

For decades, marketing research methods used by higher education institutions have been aimed to explain and predict the effectiveness of advertising campaigns conducted in order to influence the students mind. As the conventional techniques have failed miserably, since emotions are strong mediators of how students process messages understanding and modelling their cognitive responses to selling messages has always been a methodological challenge. For instance, institutions have always relied on students' and stakeholders abilities to report how they feel about a particular piece of advertising and responsiveness given by the institution in providing them suitable guidance either in a counselling interview or through a survey. Unfortunately, these methods may have considerable limitations. First, they assume that student are actually able to describe their own cognitive process which can be known has many subconscious components. Second, numerous factors do provide motivation for the students who actual participate in the research to distort the reporting of their feelings, including career placements, placement training or some external pressure.

With the emergence of neuro-imaging techniques, it has offered many exciting methodological alternatives; where it may finally allow institutions to probe the student's brains in order to gain valuable insights on the subconscious process explaining the rationale behind the success or failure. The institutions trust that students have both the will and the capacity for them to report on how they are affected by a specific piece of advertising.

With the uprising of neuroscience through the last decade, institutions and market researchers have to undergo a formal training in cognitive neuroscience. As institutions and other marketers fear that there might be breach in the privacy issues of students and stakeholders, due to the introduction of neuro-imaging technology in the near future for them to gain more insights on the information.

As already companies like Pepsi and Coca-Cola have understood the effectiveness of the neuromarketing tools. In few years down the line, neuromarketing tools might become a prominent tool for the higher education institutions, where they can get factors which can demonstrate that the need for innovative advertising research using the tools on the brain is quite strong and timely.

NEUROMARKETING TOOLS

Based on the recent trends, there have been two broad categories of tools that are available for measuring the responses of students and stakeholders. Neuromarketing tools enable institutions to efficiently design their strategies for recruiting the prospective students
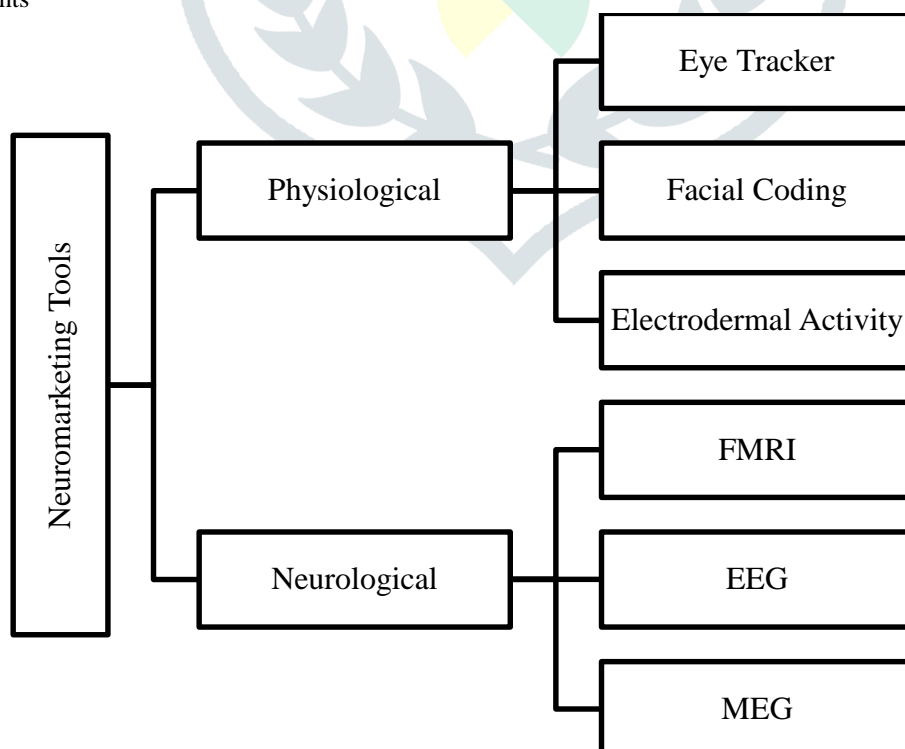

Figure 2: Categories of Neuromarketing Tools

PHYSIOLOGICAL RESPONSE

1. EYE TRACKER:

There is a general belief that memory is one factor that would be determining the effectiveness of advertising, which has led to the idea that memorable ads are the ones that generate more sales for the companies. Memorability of advertising has been a central focus for the academic and market researchers, where still impact of attention for the marketing material is still being underestimated.

Eye tracker is a technology which is used to collect data, which determines the presence of students' presence, attention, focus, consciousness or other mental state. As this information, would give higher education institution a deep insight into the students' enrolment behaviour or to design revolutionary new strategies.

Eye tracking tools gives a lot of invaluable information about the sequence and frequency of saccades and fixations, where such data helps the HEIs to track how students extract and accumulate information from the advertisement from various medium; Also determine how size, colour, and placing of different elements of ad such as websites, brochures, content of the course etc. shapes the accuracy and latency of ads memorability.

2. FACIAL CODING:

Many research studies have demonstrated emotional reactions shaping the attitude towards an ad where in turn individual's intention is altered for them to purchase the advertised product.

With respect to HEI, market researchers are still struggling to assess whether commercials from higher education institution have evoked desired emotions of students and are finding it very difficult to determine at which point they occur. The reason for being so problematic for them to measure emotions is that they belong to the category of nonverbal communication. Traditional research methods such as survey, focus group may fail to allow researchers to identify the exact points at which they occur.

Facial expressions is one of the prominent sources of nonverbal information, which are very information and truthful as they are visible to others and occurs spontaneously. Both the presence and absence of emotional expressions can be used to determine the spontaneous reactions of students and stakeholders to advertising material.

Emotions such as happiness, sadness, anger, fear, disgust, contempt, and surprise are classified into positive and negative; and are believed to influence the students and stakeholders by evoking motivation to approach or withdraw. It would be very much crucial to fix elements which may fail to deliver desired emotions.

Rise of cutting edge technologies for face reading have opened an opportunity for the HEIs to uncover hidden student reactions in a new way. This allows identifying and tracking emotions from the beginning to the end of an advertisement.

Tracking of these emotions enables the researchers to bridge the gap between attention to ad and enrolment decisions by classifying the elements, which could disrupt the development of desired feel of an advertisement; which could in turn allow the researchers to predict the effectiveness of advertising with higher accuracy.

3. ELECTRODERMAL ACTIVITY:

Electrodermal being one of the physiological responses, is a biological activity which are used as the measurement of biometric parameters such as blood pressure, breathing, cardiac rhythm etc. Skin conductance is one of the most widely studied properties, where it can be quantified by applying an electrical potentiality between two points of skin contact and also to measure the resulting flow of current between them.

Skin conductance does not fall under conscious control, where it is being modulated autonomously by sympathetic activity and has the ability to drive aspects of student enrolment behaviour, cognitive and emotional states. It also offers a direct insight into autonomous emotional regulation.

NEUROLOGICAL RESPONSE

1. fMRI (FUNCTIONAL MAGNETIC RESONANCE IMAGING)

Functional magnetic resonance imaging (fMRI) is one of the most frequently applied brain imaging technique in the world. Many software packages are available which can help the HEIs to analyse the data images and determine how often the brain engages the areas for attention, emotion, memory and personal meaning.

This technique works by measuring the changes in neuronal activity that is happening across the whole brain as individuals perform different cognitive or emotional tasks. Through this tool, it is possible to characterise and quantify the involvement of different cognitive and emotional responses during the perception and selection of different stimuli, including course, brands and collaboration.

2. EEG (ELECTROENCEPHALOGRAM)

For measuring attention and emotion, eye tracking and facial encoding is very much useful. But in order to measure and track the changes taking place in subconscious responses to optimize HEIs ability to create and deliver brand messages that connect with the emotions of students and other stakeholders.

Many scientists and researchers have suggested that higher emotional intensity can lead to a better memory encoding. Face coding software's may enable institution to track the emotional intensity of students, but these measures do not give direct information about the memory processes such as encoding and retrieval of information.

In traditional market research, explicit memory is being tested out to measure the recall and recognition. But, neuroscience has a chance to demonstrate for the HEIs that implicit memory could be a better predictor of students' enrolment behaviour as it drives automatic and effortless responses to advertising.

3.   MEG (MAGNETOENCEPHALOGRAPHY)

MEG is an electrical tool used in neuromarketing, which is almost similar to EEG (Electroencephalogram), where it can be placed on students head to measure magnetic potentials in order to record the brain activity. Neurological processes which are associated with a particular brand-choice or course choice can be separated into different stages through the observation of MEG responses.

Brain activity as a function of electrochemical signals between neurons creates a magnetic field which can be amplified and mapped by MEG.

USES OF NEUROMARKETING FOR THE HEIS

- It can tell HEIs what's going on in the students and other stakeholders' brain while they are experiencing a marketing stimulus
- It can tell HEIs how brains of students and other stakeholders' react to marketing stimuli presented in different situational contexts
- It can tell HEIs how brains translate these reactions into students' decision and enrolment behaviours

CONCLUSION

Gaining the attention of today's students and stakeholders is not an easy task for the higher education institution. In order to maximise the brand relevance of the higher education institution in the heart and minds of the students and stakeholders, they would have to understand the minds of the students for them to come up with a suitable strategy to influence them for the enrolment.

Neuromarketing has the potential to become an important tool for the higher education institutions, where it can study the brain processes of students and their changes during decision making in order to be able to predict the student's enrolment behaviour. Neuromarketing, on the other hand also analyses whether communication is imprinted on the brain in a more permanent way, and focuses on the scientific aspects of advertising. With this tool, institution can devise a better student driven strategies in the near future.

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