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at International Research Conference 2023 on **“Enhancing Productivity in Hybrid Mode: The Beginning of a New Era”** organized by Dr. D. Y. Patil B-School, India in association with The Centre of Economic Diplomacy, Croatia, Europe, Dr. Soetomo University, Indonesia, Boston International College, Nepal, Association of Indian Management Schools, India and Center for Education Growth & Research, India in hybrid mode (Online & Offline) on **May 29, 2023 to May 31, 2023**

Dr. Atul Kumar
Professor,

Dr. D. Y. Patil B-School

Conference Convener

Prof. (Dr.) Nur Sayidah
Vice Chancellor

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Dr. Amol Gawande
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NEUROMARKETING: OPPORTUNITIES AND CHALLENGES FOR BUSINESS

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Abstract:

Neuro-marketing is the innovative, emerging and developing technology in the world from the last two decades in marketing research. Neuro-marketing is a combination of psychology, neuroscience and marketing. Neuromarketing study consumer's brain responses to advertisement. Former style of marketing research approaches and methodologies were not useful to examine and learn the buyer's behaviour. The study was conducted with the help of secondary data available from various sources; previous research, reports, literature, books, newspapers, articles, journal, magazine, websites, etc. This review involved concept, need, importance, tools and techniques and challenges in neuromarketing. This is observed that, various factors may be preventive adoption of techniques, organizational culture and the cost of the neuromarketing tools, techniques and methodology. Lack of training and research institutes, therefore educationalists, colleges and universities need to think and take necessary action about the education of neuromarketing. Finally with compare to some challenges before the entrepreneurs of small scale business, but this methodology more effective for large scale business for identify the customer's non-conscious reactions to various advertisements, strategies, methods, develop new unique strategies, complete the consumer's needs and desires, Improve advertising campaigns and strategies.

Keywords: Challenges, FMRI, Neuromarketing, Neuro-science, Opportunities

Introduction:

'Neuromarketing' was believed to be introduced by Dutch marketing professor Ale Smidts in 2002, just roughly 22 years ago, hard research and experimentation in the field were established in the 1990s. (Smidts A., 2002) U.S. Marketing professor Gerald Zaltman was two of the pioneers in this, filing a patent four years before the term 'neuromarketing' was even coined. Neuromarketing is the innovative, emerging and developing technology in the world from the last twenty years in marketing research. Presently customers get exposure to different information related to numerous products and services through various platforms. The extensive accessibility of information related to products and services are useful to consumers for assessment, differentiate and choice of the products and services, Hence use of the old-style marketing policies existed not sufficient for the study of customer behaviour. To sustain in worldwide business competition, neuromarketing strategy is more helpful to business therefore

most of the entrepreneurs started the use this technology as well as they are promoting research in neuromarketing technology. The neuromarketing technology supports marketers to recognize and evaluate the several consumer's activities interrelated with the consumer behavior, attitude building, insights the consumer's mind, related to a combination of neuroscience, psychology and traditional marketing strategies will be more effective and efficient for MSMEs. Neuromarketing methodology more effective for large scale business for identify the customer's non-conscious reactions to various advertisements, strategies, methods, develop new unique strategies,

Literature Review:

Neuromarketing is a new, innovative and experimental area of marketing research. Challenges of reliability, validity, and generalization issues in conventional methods in marketing research and need to work on this on a priority basis. (Chiemelie B. I. and Kenechi J.O., 2020)

Neuromarketing recognise customer's reactions during online shopping and it helps to improve business sale but, neuromarketing is not dispossessed from moral issues concerning the customer's privacy. Marketing professionals recommended that neuromarketing has good potential in Indian business research (Kumar A., 2020)

Alsharif A. H., Salleh, N. Z. M., Baharun R., Abuhassna, H. and Alharthi R. H. (2020) Systematic study of 119 documents and 21 publications found that the research in customers' behaviors, emotional and cognitive methods in marketing research continuously improving. growing the research and publications. The research in neuromarketing developed by researchers and research institutions from various countries and published in most productive journals as well as productivity. (Alsharif A. H., 2020)

Branding is important for a competitive business era. The neuroscience technique can help the business owners for evaluation of different elements related to the brands and that can enhance the scientific study of how the brain responds to branding and advertising communications by systematically observing that the brain is the most important factor for branding the products and achieving the business goals. (González-Morales A., 2020)

Promotion is the most important factor to connect new customers as well as keep holding on to existing customers for the long period. Neuromarketing studies which kinds of advertisements can invite the first-hand consumer and keep in mind the present consumer. Marketer gets the experience of impact of several advertising and promotional activities on consumer behavior and scrutinizes and applies those features which are useful for the business. (Brierley, 2020)

Communication through numerous programmes and stimulus can impact customer choice and favour. Neuroscience technology is useful to understand Cognitive and unconscious emotional responses related to travel and tourism sectors. (Michael I., 2019)

Neuroeconomic and neuromarketing are emerging interdisciplinary sections of neuroscience these purposes are to identify the support systems and impact of economic as well as suitable behavior in day to day life. Neuroeconomic and

neuromarketing approaches discover entire measures of financial impact on human behavior. (Braeutigam S., 2013).

Objectives:

1. To study the concept of neuromarketing for business.
2. To study the various tools and methods available in neuromarketing.
3. To classify the challenges and opportunities of neuromarketing.

Research Methodology:

This review highlighted the conceptual framework of neuromarketing methods, current trends in neuromarketing, various tools and techniques available in neuromarketing Opportunities and Challenges before neuromarketing in worldwide competitive business in the minds of customers and marketers, and success stories of neuromarketing. The study was conducted based on secondary data available from various sources; previous research, reports, literature, books, newspapers, articles, journal, magazine, websites, etc.

Concept of Neuromarketing:

Neuromarketing involves the learning of in what way people's brain reply to advertisements and new brand related communications by systematically monitoring brainstorm movement, eye tracking system and skin response and these methods are used for the study of the brain to forecast customer decision-making behavior.

Neuromarketing tools and measurement:

Neuromarketing techniques are to identify and collect various responses of consumers related to marketing activities. (Kumlen, 2011). With this perspective, brain activity can be easily assessed (Hubert, 2010).

- **Eye-tracking :**

An eye tracker is a device for measuring eye positions and eye movement which is related to internal brain activities. Eye trackers are used in research on the visual system. This is the most accepted method for measuring eye movement through a camera which records the movements of the person. This method is easy to understand and use in several marketing research.

- **fMRI:**

fMRI Means functional magnetic resonance imaging. Changes in brain movement among the several brain areas and basically study the blood oxygen level. fMRI used to decide the amount of activation caused by instigation produced through advertising techniques.

- **Electroencephalography (EEG):**

EEG is a brain scanning method in neuro-research technique that measures changes in brain electrical activity. It's a method usually used in neuromarketing studies to measure cognitive procedures, such as calculations, in order to predict consumer behavior.

- **Facial Coding:**
Facial coding is used to read faces with more accuracy. It measures and records the voluntary and involuntary activities of facial muscles. A small smile may not display what correctly feels but FC reads and interprets subtle reactions offering insights. It is a low-priced and handy technique that can be implemented using a webcam also.
- **GSR:**
Galvanic Skin Response evaluate measures the skin heat and electrical characteristics passed through the skin by nerves and sweat; this is useful for recognising and evaluating emotional arousal psychological and physiological changes.
- **Cognitive Analysis:**
CA used in Artificial Intelligence and Data analysis. Skin response, eye tracking to provide a universal opinion of a human reaction to a specific activate. Cognitive analysis confirms that there is none of mis-reading in any biometric reading.
- **Empathic design:**
This user centered methods and its study on the consumer's attenuation attentions related to feelings towards the products. This is a low cost and low risk method for identifying the consumer's critical need and this is very useful for new product development processes. (Dorothy F. and Jeffrey L, 1997)

Challenges before Neuromarketing:

Major challenges before neuromarketing are:

- **Costly Method:**
Neuromarketing is very expensive method and cost of equipment and software for data analysis also very high as compare to traditional marketing therefore, not useful for small and medium size business.
- **Lack of Training:**
Neuromarketing in an emerging technology of business management but very few institutes provide training to students.
- **Time:**
The more time spent for data collection as well as analysis therefore, this is a lengthy process for business decisions therefore need more effective software for data collection, data management and data analysis and interpretation.
- **Ethics:**
Ethical philosophy is a significant aspect related to neuromarketing research. Researcher are given permission to study and understand the customer's individual attitude, emotional responses, design of purchase, etc. (Bakardjieva E., 2017). This method is primarily used for business decisions of new product development, decision making, marketing and profit and purpose.
- **Governments lay down publicly held regulations:**
Neuromarketing research is growing day by day and this study is related to human behavioral, emotional, and Intelligence and related to social media platforms.

Therefore, we need strict guidelines for customer's, companies and researchers to keep information safe and confidential.

Managerial Implications:

Neuromarketing is an emerging tool to market research related to brain responses of the consumer through advertising and attention to purchase the products. Business Industries as Coca Cola, Hyundai, BBC, Microsoft, Ford, Campbell's and Frito-Lay, Takeaway, National Cancer Institute, Heinz, Intel and L'Oreal, P&G, Yahoo, etc. used various methods of neuromarketing with various tools and techniques e.g. as fMRI, EEG, Facial Coding, GSR, Cognitive Analysis, Empathic design, Eye Tracking etc. Hence neuromarketing backbone and a great potential for marketing management and business in future.

Conclusion:

Neuromarketing is recent and scientific methodology that use for study worldwide business opportunities based on consumer's responses. The research in neuromarketing neuroeconomics increases from last twenty years and it helps to opens up more research opportunities in the fields of marketing like advertising, estimating/pricing, process of new product development, brand development, consumer behavior, customer satisfaction, decision making, and communication etc. but, some major challenges before neuromarketing is cost, times, lack of training and research institute, therefore, educationalist, colleges and universities need to think and take necessary action about the education of neuromarketing. more research for the same. As compared to merits and demerits the neuromarketing will have a huge potential for the entrepreneurs in the upcoming competitive business era.

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