

Ethical Acceptability of Neuromarketing- Relevance, Limits and Limitations

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The human brain is arguably the most complex biological organ in the known universe with billions of cells making millions of connections with other cells into the complex repertoire of behaviour exhibited by humans. Psychologists, behavioural scientists, economists, marketers are all concerned with the study of nervous system as there is an intimate relationship between various aspects of individual behaviour including thoughts, cognitions, decisions and our physiological system. Neuroscience has recently seen a surge of applications in marketing research to understand consumer behaviour. Neurological research is being tested as a new source of evaluating the initial and ultimate “emotional impact” of advertising and marketing beyond what individuals can assess.

Let’s understand what Neuroscience is all about. *Neuroscience* is a branch of scientific and clinical knowledge dealing with the nervous system, particularly the brain. It is a science that deals with neurons, their patterns that influence the decision-making process. And *marketing* as such is a process of creating awareness, propagating and inducing a positive buying behaviour on the part of the current and potential consumer. Marketers believe that neuroscientists should supplement all their efforts that are destined to bring consumers in the marketing realm. Neuromarketing is an emerging field that applies medical technologies such as fMRI to scan the brains of people as they consume particular products or look at the advertisements. It aims to discover what kind of stimuli trigger neural responses. Marketing initiatives tries to influence human behaviour and grow market share/achieve tangible results of profitability by understanding the human condition. Ethical questions need to be answered when considering modern advertising techniques:

- What responsibility, if any, does a company hold for honestly educating the consumer about its product/service?
- Is it ethical to use technological advancements to sell products/services?
- Is it the buyer’s responsibility to be aware of these strategies and not allow them to manipulate their emotions?

Ethical behaviour as such implies conducting one’s life in complete accord with a firmly held set of values and principles. These principles may be derived from religious beliefs, philosophical understanding, and social norms etc. The question is that whether creating tools that attempt to reveal preferences, choices and responses to specific products and campaigns ideas is ethical or not. Some have aired criticism that neuroscience may reveal too much about the brain to those who would seek to use the information to their advantage. The major concern is that everyday a person could be made vulnerable to the mechanisms of persuasion that neuroscience reveals.

Neuromarketing is an applied extension of neuroscience. The application of brain scan technology to marketing, especially the use of fMRI gave rise to the term. Conventional marketing influences both, how people experience the brand and the resultant emotional memories; and how people experience the advertising and the resultant emotional memories. Marketing comprises of the management of the emotional memories of both the brand and all its communications. Using experimental methodologies combined with imaging and other neuroscience tools can better help marketers understand the mechanisms of decision-making, choice, preference, risk seeking or avoidance. Brain wave recording devices have been available through decades but now they can pinpoint more precisely which regions are active as people respond to products or make brand choices or are exposed to advertisements.

LITERATURE REVIEW

Let us throw some light on various studies done so far in application of neuroscience to the field of marketing and its criticism. In 1957, Vance Packard wrote “*The Hidden Persuaders*”, a book about marketing that featured harsh criticism of “psychology professors turned merchandisers”. Packard opined that marketers were using the resources of the social sciences to understand consumer’s irrational and emotional urges to increase the product consumption. Rita Carter (2000), “*Mapping the mind*”, London, Phoenix, uses a wonderful analogy that brain-scan machines are opening the territory of the mind as the first ocean-going ships once opened up the globe. However, she cautioned that our exploration and the vision of the brain that we now have is probably no more complete or accurate than a sixteenth century map of the world.

Various studies have used -verbal reports, behaviour and segment reactions. But mostly, the focus has been on correlation with so called “known-centres” such as reward centre, self referencing centre, face recognition, liking centre, anticipation centre etc. As a result, neuromarketing studies have been increasingly pointed to various “known centres” in the brain.

Javier Cervantes et al.,(details in reference) , have presented that marketing research is often still limited to traditional methodologies or qualitative techniques that can fall prey to subjectivity and purely descriptive analysis. Medical methodologies - such as the exploration of the human brain using Neuroimaging (and especially functional Magnetic

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Resonance Imaging) - and their application to marketing research are able to fill this gap, and to at least partially explain the underlying neurophysiological processes of consumers' decisions and perceptions. This opens up the possibility of a better understanding of the potential impact of different marketing elements. This paper gives a comprehensive introduction of the application of neuroimaging methodologies to consumer research, and focuses on consumers' purchasing decisions, as well as discussing the opportunities and limitations offered by such an approach. Valérie Morrisson and Pierre Gomy, (details in reference) are of the opinion that neuroscience, in particular, dramatically improved industry knowledge of how memory works, and how attitudes develop. This paper draws on research into emotional and implicit attitudinal measures, and argues that 'hidden' effects are important to understanding how advertising works. Among its findings were that engagement with an ad, and recall of it, lies in the 'emotional' reactions consumers have; advertising can also change or reinforce previously held brand perceptions; and that consumers do combine rational action with more emotional behaviour.

David Penn, (details in reference) offers a critical discussion of neuromarketing (the application of neuroscience to marketing). Since 2003, there appears to have been little progress to justify the prediction then made that it would become a key part of the decision-making process, and it is now generally considered that neuroscience complements, but does not supersede or replace, conventional research. The key reason is that it can only tell that there has been a response, not the nature of that response, so a huge amount of subjective interpretation is needed to make sense of brain-imaging data. However, neurological techniques do pick up unconscious emotional responses. As such, the most interesting challenge may be at the frontier between the cognitive and the emotional brain.

Hilke Plassmann, et al., (details in reference) proposed that marketing actions, such as changes in the price of a product, can affect neural representations of experienced pleasantness. The paper provides evidence for the ability of marketing actions to modulate neural correlates of experienced pleasantness and for the mechanisms through which the effect operates.

In the long term, neuromarketing will be far more socially welcome for applications that focus on products and causes with a clear social benefit-application like road safety messages and persuading people to give up smoking or to resist over-eating. Developing and testing strategies that are designed to cure rather than create social pathologies is hard to argue with. Used in this type of application, neuromarketing will be refined to public applause rather than public alarm.

LIMITS OF NEUROMARKETING

Myth and mystique will be difficult to dispel and will prompt regulation to constrain neuromarketing. Marketers should influence thinking, feeling and willingness of a potential consumer, but there is no clear indication of genes that are activated to influence thinking, feeling and willingness. For argument sake, let us say, we have identified set of genes (G) that are activated and will generate set of enzymes (E) that will influence thinking process of a consumer and lead to a positive buying behaviour towards the product. Now the question arises is, how to induce the activation of gene set G and generation of enzymes set E. We cannot use medical pills/tools to induce this physical change in the mind of buyer that causes neurological impact for positive buying decision. In essence, even if we precisely find set of neurons that participate in positive buying decision of a consumer, we still need to influence these neurons, genes and enzymes which is already taken up under the conventional means of advertising and marketing.

Even if we have not identified the neurological changes that are taking place in the buyer's mind to influence positive buying behaviour, it only indicates that we did not understand the chemical processes that are taking place internally. But we already influenced the buyer using conventional methods of marketing and advertising. Companies scan the brains of a representative sample of its prospective customers, assess their reactions to the company's products and advertising and tweak the corporate image accordingly. Companies place test subjects in MRI (Magnetic resonance Imaging) machines and analyzing their brain activity. MRI scanning offers the promise of concrete facts- an unbiased glimpse at a consumer's mind in action. It is noted that to an MRI machine, one cannot misrepresent ones responses. We believe that fMRI only gives insights about the snapshot of brain during the decision making process. But it will not explain how to instigate the brain to reach to that state. It has to be done by using conventional methods of marketing only.

We can examine how the study of process is irrelevant to the actual activity of marketing by taking the example from our "**Sweet-ball Theory**". For a cook to cook it, all he/she needs to know is the recipe consisting of condensed milk, flour, sugar and sugar syrup wherein flour is mixed with condensed milk and other ingredients to make fine balls of the flour which are fried in oil. But if we try to understand the taste of the same by taking it to the lab and decompose it and try to find how many sugars are bonded with how much of flour at what ratio and temperature etc, it would make an interesting study. But we will not be able to explain the taste well. On the other hand, if you just eat it, we will be able to explain it much better. Similarly, if we try to explain the process of neurological changes that are taking place in the process of making positive decisions, we will just consider the snapshot of the brain but it doesn't really facilitate us much. To manipulate the brain to get it to that state, we still need to depend on conventional methods of marketing. Thinking, feeling and willingness are the aspects that generate different states within the brain that may make consumers to take decisions but to get to those states we still need to use conventional marketing considering the well known social, economical and environment factors.

Ralph Nader's "*Commercial Alert*" in their website has condemned neuromarketing experiments as unethical. They opine that Neuromarketing is likely to be used to promote "human disease and suffering". Chris Firth of the *Institute of Neurology in London*, "*A probe inside the mind of the shopper*", puts it in more realistic perspective stating that just because one can

see and measure the increased level of activity of the brain, it doesn't mean that they are more authoritative than the person actually thinking or feeling. There are some limitations to neuroscience techniques as it serves to tell us what happens in the brain or what is activated when we make decisions or are in the process of making decisions or responding to outcomes. It does not however give us any insight into why we make these decisions and why we respond in the manner that we do. 'Discovering the feeling' has largely been neglected in traditional research. Researchers have even tried to physically record the emotions a respondent is experiencing through a variety of techniques like fMRI, galvanic skin response, and smile /frown muscle movement. But these approaches have only served to reinforce the idea that measuring emotions is difficult. Current research methodologies concentrate on the overly cerebral approach and force respondents to make logical connections to explain their behaviour. This has three serious flaws:

- Often respondents can't tell us why they did something because they don't understand it themselves (although this doesn't necessarily stop them from trying).
- Direct questioning results in respondents logically projecting from what they know about the brand – giving us a list of imagery that the brand portrays and what they believe makes sense.
- This type of research results in an over reliance on intuitive analysis.

ETHICAL ACCEPTABILITY OF NEUROMARKETING

There is, of course, nothing inherently problematic about the use of scientific technology to advance commercial interests (Eaton and Illes, 2007). But the use of technology that probes the inner workings of the human brain, especially beyond what one might divulge in traditional behavioral testing, raises substantial ethical issues. Neuromarketing, like human cloning or embryonic stem cell research, stirs the question of whether or not its application in the real world is ethical. A number of studies are now being made under a more socially acceptable label-Neuroeconomics. A code of ethics needs to be framed for implementation of neuroscience to marketing. Mounting social pressure may see the required changes especially if neuromarketing technology delivers on its promise and finds wider use.

Critics point out that 'the brain' is an enigma and just because we can see neurons firing doesn't mean we always know what the mind is doing. For all the admirable success, neuroscientists do not yet have an agreed-upon map of the brain. Neuromarketing may be able to speak out the difference between advertisements that people merely like and those that are actually effective. Creating an immediate bond between consumer and product is the dream of every company. With the help of neuroscience, marketers claim that companies can know with certainty whether their products are making that special connection. Neuromarketing studies obtain objective information about the inner workings of the brains of consumers without resorting to the subjective reports that have long been the mainstay of marketing studies. Thus, neuromarketing purports to provide qualitatively different information, ostensibly superior to that obtained by traditional means, about the economically valuable topic of consumer preferences. Yet it raises several ethical concerns on its applicability like protection of various parties who may be exploited by the deployment of neuromarketing and protection of consumer autonomy if neuromarketing reaches a critical level of effectiveness. Neuroethics comes as a rescue in proactively dealing with ethical issues unique to knowledge about and manipulation of the human brain to offer guidance for beneficent and non-harmful deployment of neuromarketing techniques. The issue that advanced technology in the neurosciences, in particular fMRI, might allow invasion of the inner sanctum of private thought needs to be addressed. The question is whether it is ethically correct to use the new tools of neuromarketing that provide sufficient insight into human neural function to allow manipulation of the brain such that the consumer cannot detect the artifice and that such manipulations result in the desired behavior in at least some exposed persons. Such neuromarketing is not to be encouraged as it would represent a major incursion on individual autonomy.

CONCLUSION:

Like genetically modified human organs, cloning and stem cell research, some applications will be desirable but others will require guidelines and ethical code of conduct or even legislation from regulatory authorities to control the direction of technology to business in general and marketing in particular. Whatever be the outcome, it should be taken in the right spirit that research in business should be used to understand the consumer better and make their life better. There would surely be a long-lasting conflict between the marketers using neuroscience to attain marketing goals and those condemning its use to influence consumer decisions to help consumers retain control over their minds.

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