

Anonymous MIT student
Prof. Schull
December 9, 2008
Thursday 2

Decision and Preference in Neuromarketing

The entire room sat in awe as the speaker suggested that neuroscience will finally crack open the mind of the shopper. “A lot of it is just garbage, but the garbage is so powerful.”

-James Twitchell, professor of advertising at the University of Florida

New fields of science rise with time, emerging in different ways with many different claims. Neuroscience is the new field today, and whether good or bad, accurate or misinformed, the information is there for us as a society to digest. As the capabilities of the new science expand, so do the new branches of research utilizing its technology, concepts, and prior findings. Neuro-marketing, the study of the brain’s response to marketing stimuli and media, is growing by leaps and bounds as it attempts to give companies that little edge over the pack.

The study of our ability to make decisions, and how our preferences for certain products influence these decisions is the focus of a large portion of current research. The most common decisions we make on a day-to-day basis are purchases, and billions are spent every year on advertising campaigns. Traditional marketing strategy, based on consumer preference and cost, is now being analyzed through a microscope instead of a magnifying glass, where fMRI and EEG are opening up a new world of observations.

Studies in neuromarketing are emerging as the new gold standard, but the impact and long term effects of these new techniques is still very much open for interpretation. I will focus my study on three main areas, concerning a variety of neuroscientific studies: first, what the

studies suggest about new marketing models, decision-making, and preferences in the brain, secondly, how these particular findings have been recast in the media and in public opinion, and finally, what the implications of the findings are, and in the long run, how they have influenced our society as a whole.

An interesting article by David Wahlberg of the Atlanta Journal speaks of the cons generally associated with an increase in the effectiveness of marketing. Many individuals feel that the potential to sway buyer's opinions should not be based on factors other than product quality. "It kind of distorts the marketplace relationship," says Jonathan Moreno, president of the American Society for Bioethics and Humanities and director of the Center for Bioethics at the University of Virginia. He argues that better marketing techniques will cripple the consumer's ability to resist the information advertized to them, and they will be forced to make decisions that do not coincide with their true wishes. This, according to Moreno, is something that should be regulated and slowed as much as possible.

The studies to which Wahlberg refers are becoming more and more popular among companies looking to gain an edge over their competition in the marketplace. Marketing consulting firms such as BrightHouse are said to be actively searching for a "buy button" in the brain, however, research director Justine Meaux, counters by offering that they are simply giving companies insight into different ways of developing relationships with consumers. One study in particular performed by researchers from Stanford University focuses on how price, as well as other factors external to the product itself, can have a vast influence in the amount of pleasure a consumer derives from the overall experience of using the product.

The goal of the study was to explore the correlation between price and satisfaction using fMRI technology. Test subjects were given samples of differently priced red wines, and asked to

rate them with respect to each other. Although five differently priced wines were presented to test subjects, only three different wines were used, with the same wine being presented as cheaper and more expensive brands at different times during the experiment. Naturally, subjects tended to rank higher priced wines greater than their “cheaper” counterparts, but what is notable about the fMRI feedback was the pleasure derived from each tasting experience. Not only was the test subject found to report a higher rating for the higher priced wines, but the medial orbitofrontal cortex of the brain, the area responsible for enjoyment in things like odors and taste, had more activity than in drinking less expensive wines. This unexpected result defied many years of marketing philosophy, which said that the pleasure derived from a product is solely related to the quality of that product. Paradoxically, the experience of buying a product has a large effect on the overall enjoyment of the product itself, although it is in no way related to the qualities of the thing in question.

Companies have used this principal of cost-benefit analysis for years, but never before has the concept been proven in a scientific manner. The aforementioned study suggests that consumers are swayed as much by the actual experience of buying a product as the expectation of enjoyment from using that product in the future. This is an important implication of the study’s findings because companies can now use this information to make marketing campaigns more effective in terms of the number of people they are able to convince that their product is worth the price.

On the other hand, there is a huge backlash in popular opinion against increasing the effectiveness of advertisements any more than they already are. Many concerned skeptics are speaking out about this concept, saying that factors which do not directly relate to the merits of a specific product should not be used to influence a potential buyer in any way. We already live in

a nation which suffers from problems such as obesity, consumerism, and gambling; all problems that can arguably be attributed to our pervasive consumer culture. More often than not, the findings of similar studies are received poorly by society on the whole, but with open arms by marketing groups responsible for pushing society to buy buy buy.

Another study that was done compared undecided voter's preferences for either Hillary Clinton or Barack Obama during the 2008 presidential primary election. Although the report by CNN did not have anything to do with consumer preference or advertising, the way in which Lucid Systems identified hidden bias in their research subjects is very similar to the way a neuro-marketing research study would be performed and analyzed. Subjects were monitored with both a fMRI machine, as well as other biometric sensors such as EEG, perspiration, and heart rate. The study found concluded that although voters claimed to be undecided when surveyed before the study, many exhibited preferences for either Hillary or Obama, and were aware only after being told of such a bias. This preference suggests researcher's ability to observe preference in the brain, which may be often chalked off to a bias too small to differentiate during conscious thought.

The results of the study as reported by CNN were very well presented, with colorful images of the brain during an EEG scan, as well as interviews with the subjects afterwards to discuss the hidden preferences. Randi Kaye, reporter for CNN explains in the video how the technology presented by Lucid may be used in the future, to predict people's voting preferences as a substitute for polling previous to an election. Similarly with advertising, a preference bias towards a certain brand will produce the same effect which can be measured using the same tools.

The video is compelling, with impressive clips of subjects wearing sophisticated brain testing equipment, which is very suggestive of Twitchell's quote from before. Impressive images go a long way, commanding much respect as instruments which "unlock" the brain's secret desires. The video ends by suggesting that this new technology is much better at telling what a voter is *really* thinking, and could be the future of political polling. Drawing on the close similarities between this and the previous study, parallels in marketing applications can easily be drawn. In any case, society is changed by the images of technology being able to simply hint at what we are thinking internally. It is arguably something that has never before been possible, and the whole process is incredibly compelling to the average viewer.

A perfect example of how neuroscience is being used to analyze the way we are affected by advertisements can be seen in Martin Lindstrom's interview on NBC's Today Show, where he speaks about the positive effects of cigarette warning labels in inducing cravings within the brain. The interview is based around a study done by acclaimed branding expert, Martin Lindstrom, author of the bestselling book *Buyology*. In this study, he shows how smoking labels such as "Smoking kills" and "Smoking causes a slow and painful death" can actually stimulate the center of the subconscious brain responsible for craving and addiction, which overrides the conscious rational feeling that smoking is bad for your health. Lindstrom presents his findings, saying, "We couldn't help but conclude that those same cigarette warning labels intended to reduce smoking, curb cancer, and save lives had instead become a killer marketing tool for the tobacco industry."

Moving back to the Today Show interview, aired on October 20, 2008, Lindstrom's main points were iterated in a way that was both engaging and overly compelling. Findings are described as "disturbing yet astounding," as well as "counterintuitive." In this sense,

neuroscience has very much reframed the argument on the effectiveness of tobacco warning labels, something that was taken as a given for discouraging smoking in general. “Give some credit to neuromarketing research for shedding light on why warnings have been so ineffective in cutting overall smoking rates,” he says at the end of his article in neurosciencemarketing.com. Lindstrom is one of many neuroscientists attempting to reframe the generally negative connotations of neuroscience marketing in the popular media, and with findings as compelling as his, it is hard not to take notice.

These and similar findings have begun to balance the playing field in terms of positive implications of neuromarketing. There would be little reason to expect Lindstrom’s results to be as widely accepted if they were conceived outside the context of neuroscience, fMRI, and new technology in general. Studies such as this one have a bolstering effect on neuromarketing research, proving that the profit of individual companies is not the only motive of research in the area. In this case, neuroscience research reframes the way we may choose to observe a marketing decision in a very revealing way, making it possible to draw conclusions that are counterintuitive and have always been considered logical in the eyes of society.

Neuroscience, just like any other branch of science, is a tool for understanding the physics and biology of the things around us. Similarly, neuromarketing is equally useful for understanding the human brain under a variety of marketing stimuli, good or bad. It is not the technology itself which should be cast in a negative light, any more than biology was for suggesting that our species derived from a common ancestor of apes, a notion which was first criticized, but now is widely accepted scientific theory. An intervention such as Lindstrom’s findings, does wonders for advancing this idea, and tends to counteract claims made by critics of neuromarketing, such as ones discussed before. The field is not without its shortcomings,

however, and many claims may tend to be exaggerated to create a more impactful effect than they would if presented in a normal context.

Taking the findings of various neuromarketing studies as a whole, studies can be grouped into one of two categories. One is the type of study which reframes marketing tactics, thus revealing new ways a branding or advertisement can have a positive or negative effect on the consumer, such as Lindstrom's study. The second category are studies whose findings simply bolster prior marketing strategy, or rather, dilute the more compelling findings, such as those described in the former section of this study. Herein lies the major dilemma of neuromarketing, and I believe, marketing science in general: to present claims that are counterintuitive, yet hold true in the face of research. After all, we rely on experts to tell us the things we *cannot* figure out for ourselves. Even though reading a study which shows people enjoy wine that they believe to be more expensive is interesting, it is something anyone familiar with marketing could have reasoned out.

Consumers tend to feel better about a purchase when they believe that they have made an informed decision about the merits of a particular product. A major problem inherent in neuromarketing research is this: as consumers learn more about the way neuro-marketers are attempting to influence their buying decisions, they become more immune to marketing in general, as they realize they are no longer making a decision informed by facts alone. As Susan Linn, instructor of psychiatry at Harvard Medical School, says, "The marketing industry has done a good job convincing people about their free will and that they are making logical, well-thought-out decisions about the things that they buy." The further marketers pry into alternative methods for selling a product, the more people become desensitized to advertisements in general. It is, in a way, a self-defeating notion that better marketing will lead to better sales.

The neuromarketing field is still emerging as a powerful tool that researchers can use to better understand the relationships between buyers and sellers. But although the technology itself is powerful, and the implications vast, continuing work must be done to delimit the boundaries of useful information from superfluous findings that simply bolster well known marketing theory. The way in which neuromarketing has affected society as a whole is compelling in some regards, and weakening in many others, but the technology itself has taken grounding in the scientific community, and will continue to influence our decisions at the supermarket, Wal-Mart, and just about everywhere else whether we realize it or not, or care.

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STS.010 Neuroscience and Society
Spring 2010

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