

## Neuro-Marketing: A Peek Inside Your Mind?

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What drives people to buy a pet rock? Or a BMW? Or a \$5 cup of coffee? Marketers are interested in these questions, and they have come up with a number of techniques for figuring out the answers. In many cases they simply ask the consumer. Sometimes they observe the consumer in action and attempt to deduce the underlying rationale. In other cases, carefully designed experiments can provide valuable information about things such as which advertisements do people respond to or what kind of store layout encourages buying. Nevertheless, market researchers continue to struggle to better understand what buyers are thinking.

Recently, this has led to the emergence of *neuro-marketing* – a set of techniques that aim to look directly into consumers’ brains to see what is going on when buying decisions are being made. Some early results have demonstrated interesting findings that fuel continued exploration of the power and potential of neuroscience applied to marketing.

Take for example, one of this year’s more popular Superbowl commercials: the FedEx Caveman. During the commercial a caveman’s attempts to send a package are frustrated by the realities of hominid life during the age of dinosaurs. His boss blames him when the Pterodactyl carrying his message is eaten by a T-Rex. Angry, he storms out of the cave and is promptly squashed by the foot of some kind of enormous lizard. At this point, most people watching the ad laugh or giggle and, probably, forget what the ad was about.

However, another interesting thing also happens, a small part of the viewer's brain that is known to respond to fearful and threatening stimuli (the amygdala) spikes with substantially elevated levels of activity. The researchers at UCLA's Ahmanson-Lovelace Brain Mapping Center, who have been studying the brain's response to Superbowl ads, believe that this spike indicates that the brain is threatened by the image. From the outside, the response to the ad is one of humor and enjoyment, inside the brain the response appears to be one of fear. By directly observing this type of neural activity some researchers believe that they gain valuable insights that allow them to predict consumers' preferences.

For example, Read Montague, Director of the Human Neuroimaging Lab at the Baylor College of Medicine, has demonstrated that many consumers' brains really do prefer Coke to Pepsi. Interestingly, and consistent with what Pepsi has been telling us for years, Montague found that in a blind taste test Pepsi is preferred to Coke. However, he went further and also conducted the test while scanning the brain activity of a group of participants while they took the "Pepsi Challenge." What he found was that Pepsi produced a stronger response in the ventral putamen, an area of the brain that is believed to process feelings of reward. However, when Montague told his subjects what they were drinking he found the preference reversed and most people said they liked Coke more than Pepsi. And, they weren't just saying it. Their brains actually reacted differently when they knew they were drinking Coke. In addition to elevated activity in the ventral putamen, subjects' brains were active in areas that are involved in memories, self-image and action control. It appears that memories and other impressions of the drink – what marketers would call brand associations – were affecting the consumers' evaluation of

the taste. As with the FedEx commercial, the brain scans provided information that the people themselves were unaware of, but marketers are likely to find useful. Montague took it a step further and demonstrated that he could predict, based on their brain images alone, who would prefer Coke and who would chose Pepsi.

Other studies, examining political marketing in the United States, found that voters' brains have a strong positive emotional reaction to the party that they affiliate themselves with. Moreover, Democrats have a strong reaction in their amygdala (indicative of fear and/or threat) when watching president Bush, while Republicans do not. Interestingly, a study conducted at Emory University, found that when responding to political messages the part of the brain associated with reasoning (the dorsolateral prefrontal cortex) was passive. All of the action was occurring in areas associated with emotion (orbital frontal cortex), conflict resolution (anterior cingulated) and moral judgments (posterior cingulated). Moreover, it also appeared that once people arrived at a conclusion, activity increased in the ventral striatum, which is an area associated with reward and pleasure.

While some researchers have argued that these sorts of results empower buyers by making them aware of how they can be influenced, opponents see the application of neuroscience to the practice of marketing as a disturbing development that requires oversight and regulation to protect consumers. Opponents are especially troubled by the fact that this approach can often provide researchers with insights into consumer behavior that consumers themselves don't have access to (because brain imaging provides information about neural activity that is not necessarily consciously available to the person being scanned – i.e., the brain activity being imaged is often occurring at a non-

conscious level). Yet another group of researchers do not believe that this type of technology will provide us with any truly new insights – for example, is it shocking to learn that Democrats react negatively to president Bush?

Nevertheless, there is growing interest surrounding these techniques. The allure of a better understanding of consumer decision making is powerful. As a result, corporations are likely to continue to make use of tools ranging from traditional consumer surveys to brain imaging studies. Emerging techniques, such as genetic profiling, are also likely to play a role in the marketing plans of the future for drug companies, food manufacturers and others. Neuro-marketing is in its infancy, and if consumers and society want to play a role in how such technologies are developed and applied, they should make it a priority to learn more – acting sooner rather than later.

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