Brands on the Brain

How Neuroscience is Revealing the True Mind and Motivations of the Consumer

by Gemma Calvert

Never before have consumers been faced with so many choices. From the supermarket to high street fashion houses, the sheer volume of new products and brands is enough to overwhelm even the most experienced shopper. In this cluttered environment, manufacturers have to work even harder to design products that can compete for attention and deliver higher levels of customer satisfaction than those of their competitors. Traditional approaches to understanding consumer needs have typically relied on measuring people's explicit responses via questionnaires, surveys or focus groups. But with new products continuing to fail at a staggering rate of 80% each year, companies are now looking for new ways to help them work out what consumers really want. Over the past few years, advances in neuroscience have made it possible to literally "see inside" the consumer's mind and measure their subconscious responses to brands, products and marketing messages. These deep-seated "implicit" measures are facilitating the ability of marketers to understand and predict consumer behaviour. This is the new and rapidly expanding field of neuromarketing.

What's Wrong with Traditional Market Research?

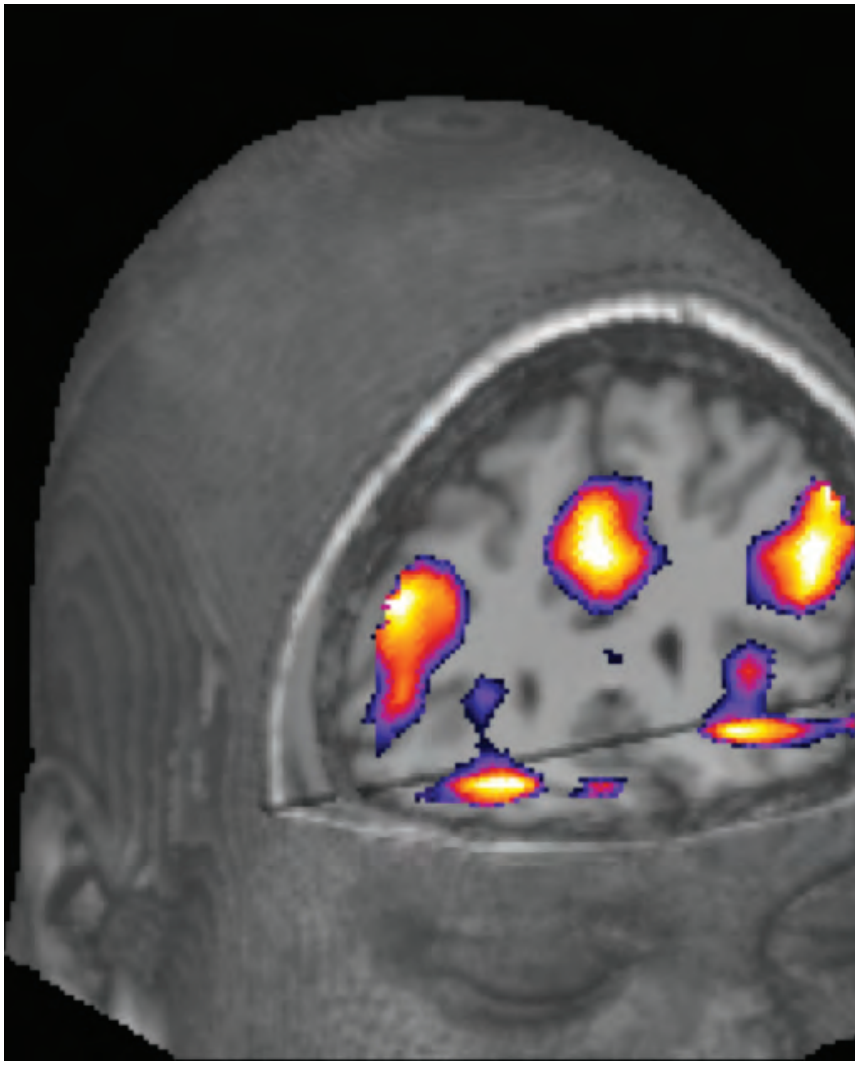
For companies to succeed and flourish in today's economic climate, accurate estimation of what consumers will buy or not is crucial. Careful pre-testing of potential new products, brands and marketing messages in advance of their launch can save millions of wasted dollars. Small wonder then that the methods that companies are employing to gain accurate insight into their consumers' minds have now reached a level of sophistication never previously witnessed in the field of market research. Conventional market research relies almost exclusively on explicit consumer feedback. But this practice of asking people what they want or what they plan to buy seldom predicts their subsequent purchasing behaviour. As the late advertising guru, David Ogilvy remarked wisely, "The trouble with market research is that consumers don't think how they feel, they don't say what they think and they don't do what they say." Little did he know that a few decades later, neuroscientists studying the brain would provide a biological explanation for his observation.

The Subconscious Mind

Towards the end of the 20th century, the introduction of magnetic resonance imaging (MRI) scanners meant that scientists could see inside the human brain during normal behaviour and uncover the mechanisms by which we think, feel and act. Of many new revelations, perhaps the most fundamental involve our new appreciation of the power of the subconscious, and the balance that is always present between the 'implicit' world of the subconscious, and the 'explicit' world of the conscious. Neuroscientists now believe that as much as 90% of brain activity is subconscious. Yet these brain processes that operate below our conscious awareness are now known to influence and determine a vast amount of our behavior. By relying solely on consumers' conscious or spoken responses, marketers are only capturing the tip of the iceberg in terms of the emotions and feelings that drive and determine consumer choice. To redress the balance, marketers have begun to work closely with psychologists and neuroscientists to tap into these vital subconscious brain processes and are able to appreciate consumer behavior with much greater depth and insight than ever before.

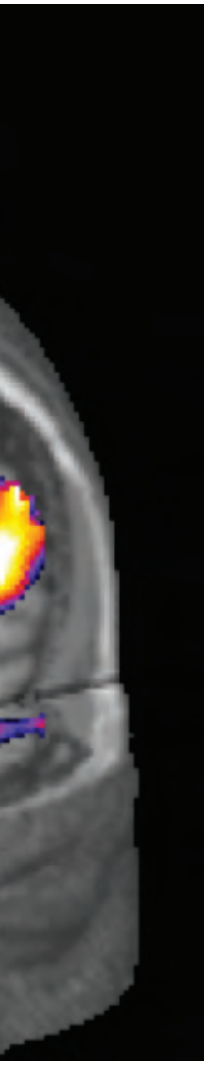
How Does It Work?

Neuromarketing is the term widely used to describe this burgeoning new field and practitioners and academics are using a large range of different tools to measure and interpret consumers' subconscious brain responses. The methods range from the use of high tech medical research scanners – functional magnetic resonance imaging (FMRI) which measures brain activity while



Functional magnetic resonance imaging (FMRI) scan of the brain as consumers watch advertisements at different times of the day.

respondents are exposed to, for example, different marketing messages or new product ideas while lying in an MRI scanner, to electroencephalography (EEG) which measures electrical signals from the brain at the scalp surface, to eye trackers and biometric belts that measure involuntary attention or arousal levels by monitoring eye movements, heart rate and thermal changes on the skin. It is also possible to capture consumers' immediate, "gut instinct" responses online using a range of behavioral tests that require participants to react in less than a second and before the conscious brain has time to respond and influence their decision. These methodologies are transforming the way we understand consumers and the impact of marketing. It is now possible to investigate the reasons why consumers behave the way they do, what emotional and cognitive processes drive motivations, how subtle environmental cues influence choices and how subconscious brain processes exert their control without our knowledge.



Applied Neuroscience – How Research Is Helping Industry

At the Nanyang Business School at Nanyang Technological University, we are using functional MRI, EEG and behavioral methods to study the subconscious biases and brain processes that characterize consumer decision-making. Our research has shown that contrary to the once popular view that we think, choose and only then experience an emotional response to that choice, it now appears that emotions come first, our selection follows and only then do we reflect on the outcome of our behavior. In practice, the explanations behind the choices we make are often mere post-hoc rationalizations designed to justify the appropriateness of our decision. This has very real implications for market researchers attempting to illuminate the reasons underlying consumer choice. By capturing implicit, as well as explicit, consumer responses, marketers can gain much deeper insight into the real benefits provided by a brand or product. For example, the experience of eating a chocolate bar may have less to do with the perceived flavor (despite what consumers may tell us) and more to do with the sound that a particular candy makes when we eat it. Because sound and flavor are represented in different brain areas, we are now able to determine which sensory cue is driving activity in the brain's reward areas. By scanning people's brains as they are exposed to the sights, sounds, tastes, smells and feel of products, we are able to discover how the senses interact and influence our perception, often in a super additive way (the whole is greater than the sum of the individual sensory parts), and can combine to either enhance or decrease our liking for a product.

In another brain imaging study on the feasibility of potential brand extensions (for example, the likelihood that consumers of an existing brand will still value the perceived attributes of that brand if it moves into another product category), our respondents said they approved of the planned extensions, but their brains told a different story. Activity in the brain's disgust areas increased when viewing one particular brand extension, yet respondents reacted consciously to it in a positive way. Serendipitously, this particular line of new products was launched in another country backed by confirmatory focus group data, and failed in the marketplace. Studies such as these illustrate the importance of collecting consumers' implicit reactions as well as their spoken feedback.

Recently we have begun to study how subconscious societal influences shape behavior across different cultures. Why is it that in many Asian countries, demand for high profile luxury brands has ballooned? What psychological rewards do these goods deliver and can we explain why consumers are happy to spend such a large percentage of their income on owning and displaying the latest brand? Standard surveys have not been entirely successful at predicting or explaining this behavior and the differences in preference across Asian countries. By capturing implicit consumer responses across different countries in South East Asia, we hope to shed further light on how brands come to represent different rewards among distinct emerging markets.

Our current research on how the subconscious mind influences behavior also extends into the areas of health and public campaigns to promote positive lifestyle changes. Specific questions being addressed include how to make warning labels on cigarette packs more effective by resonating at the emotional level rather than employing increasingly shocking images to which smokers have habituated, and understanding the (often subconscious) environmental and physiological cues that prevent us from kicking bad habits and forming more positive ones. Our research to date has found that far from decreasing smoker's craving for nicotine, specific types of warning labels (those that spell out warnings in black and white) actually increase activity in the nucleus accumbens – an area of the brain involved in nicotine craving. We are now working in conjunction with the Global Agenda for Neuroscience and Behaviour at the World Economic Forum to demonstrate over the next few years, how neuroscience and psychology can be used to effect positive behavior change and help governments develop much more effective public health campaigns.

Professor Gemma Calvert BSc DPhil CPsychol FRSA is the Founder of Neurosense Limited, the world's oldest established Neuromarketing Agency, a Fellow of the Institute for Asian Consumer Insight and a Visiting Professor at the Nanyang Business School, Nanyang Technological University, Singapore. For more information about the article, please contact Gemma at gcalvert@ntu.edu.sg.

Glossary

Neuroscience

The study of the brain. In this article, we use the term to refer specifically to the study of human brain function.

Neuromarketing

The application of the tools and approaches derived from psychology and neuroscience to understand consumer behavior – predominantly their subconscious responses to products, brands and the entire range of marketing related stimuli.