

Neuromarketing

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Dr Joseph Ciorciari. Photo: Eamon Gallagher

Marketers are using neuroscience to create advertising which speaks directly to your brain.

How do you decide which [running shoes](#) to buy? Why do you prefer the [iPhone](#) over all other [smart phones](#)? Why did smokers crave a cigarette after watching an ad designed to turn people off smoking, while non-[smokers](#) were disgusted by it? These are the questions advertisers, marketers and market researchers are constantly faced with and Swinburne Neuroscience Professor Richard Silberstein has some of the

answers.

Neuromarketing or consumer neuroscience is a relatively new area of research that combines neuroscience with market research. It uses brain-measuring technology to find out what consumers really think of advertising.

Until recently, market research companies had access to limited methods to assess the effectiveness of an ad. According to Professor Silberstein, these methods rely on assessment using the right hemisphere of the brain, which focuses on details and specifics, to explain why we did or didn't like an ad. "Basically, the current [research tools](#) that people are using for market research are good for fact-based ads, but they are no good for advertising that is more creative and emotional, which we are getting more and more of," he says.

"More and more advertising is directed at emotion. People are very poorly aware of their emotional processes and it's even harder to vocalise or express them."

Brain-measuring technology

Research is proving that emotions are the most powerful drivers of our decision-making. But there's another reason why advertising is working to appeal to our emotions. And that is due to heavy competition between brands that have little to set them apart, except for our [emotional connection](#) to them.

Take a tube of toothpaste, for example. Why do some people buy Colgate Total White Stripe over Macleans Ultimate White Ice Sensation? Professor Silberstein explains we make these decisions based on emotion, not fact. It is important to note, however, that there are some cases when rational processes come in to play. People will often

choose a home loan, for example, based on the lowest interest rate a bank can offer.

Professor Silberstein's company Neuro-Insight uses a technology invented at Swinburne called Steady State Topography (SST) to measure the effectiveness of a piece of commercial communication by tracking rapid changes in the speed of neural processing in different parts of the brain.

"When a part of the brain becomes more active it tends to process neural information faster. SST is probably the only technology that can measure that particular feature of brain response," he says. "The right hemisphere of our brain is concerned with imagery, but also with the emotional connection and that's the one that's hard to get at by using traditional market research methodologies."

SST can measure if an ad is being stored in our long-term memories—probably the most important aspect of judging whether an ad is effective or not. "One of our measures for advertising effectiveness is if there is a high level of memory encoding during either the key message of the ad or during the branding of the ad," says Professor Silberstein. The company can also measure whether the subject likes or dislikes something, their engagement with the ad, and emotional intensity experienced while watching an ad.

"When you put all of that together we can give a profile of psychological processes and we can see how they change on a second-by-second basis.

"We can give an insight into the mind and emotions of the people a company is trying to communicate with. We can tell not what are people thinking, but how people are thinking," says Professor Silberstein.

Your decision-making personality

Swinburne's Dr Joseph Ciorciari has been working in the same area, but specialises in how the biology of personality and thinking style impact decision-making.

Through their joint research, Dr Ciorciari and Dr John Gountas, from Murdoch University, recently found that there is a neurobiological validation for the four broad personality types Dr Gountas believes each of us lean towards when making decisions. These four personality types are logical, pragmatic, emotional and imaginative.

"When we make a decision we have a dominant personality [thinking style] and we may shift to another depending on the impact our environment is having on us," says Dr Ciorciari, a senior lecturer who has taught in the biomedical sciences, biomedical engineering and psychophysiology undergraduate, honours and postgraduate programs, and is the program coordinator for the undergraduate psychology/psychophysiology course at Swinburne.

Targeted advertising

Examining consumer behaviour through the prism of these personality types allows marketers to better target advertising. Dr Ciorciari and Dr Gountas have done studies on advertisements designed to curb the road toll. "We did a couple of studies on young men watching these ads, using an EEG technique called LORETA, which looks at the source of where the electrical activity is emanating from the brain. It gives you a better estimation of which region is involved in decision-making," says Dr Ciorciari.

The research showed that certain ads caused young men to completely switch off. "The ads had absolutely no impact. We didn't find memory systems activating. We saw systems working because they were watching, but the information wasn't getting in."

However, one ad shown to the men took a completely different approach. "It pulled on the heart strings, it gave the young men who were watching it an opportunity to see the suffering of those who were left behind. It was extremely effective," says Dr Ciorciari.

The ability of consumer neuroscience to determine whether an ad is effective is the reason more corporations, including Google, Coca-Cola and General Motors are using it to influence consumer attitudes. "If you want to put together a better ad, you can work out where the negative bits are, based on neuroscience. You can then better construct the ad to help maintain attention, to make it more effective," says Dr Ciorciari.

This technology and research is illuminating the human mind and our decision-making processes. It offers insight into the most effective ways companies can communicate with us and helps scientists and advertisers to understand what resonates, and therefore what is most powerful. It is shaping advertising.

Provided by Swinburne University of Technology

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