



NewScientist

They know what you want

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WHY DO people who prefer the taste of Pepsi faithfully buy Coke? Will the Catwoman movie trailer make you want to see the film? And are women subconsciously drawn to the sight of a bikini-clad model hawking beer on television?

Scientists and ad execs hope to unravel advertising mysteries like these with neuromarketing - a new spin on market research, which shuns customer surveys and focus groups in favour of technologies such as functional magnetic resonance imaging (fMRI) to peer directly into consumers' brains. Though the technique has still to prove its credentials with journal publications, a handful of consultants and companies have already started spending their marketing budgets on scanner time.

The idea is to watch what goes on in people's brains when they see or think about desirable and undesirable goods - a pair of Armani jeans versus a supermarket's own brand, for example. Researchers hope to learn about our hidden desires and preferences, and how to manipulate them so companies can flog us more of their products. It conjures up Orwellian images of commercials targeted to inflame our most secret desires. Yet some analysts believe neuromarketing is a form of advertising snake oil, a ploy to make marketers shell out millions for the latest bunch of bells and whistles. Can neuromarketing truly see into the mind of the consumer, or is it just a con?

Neuromarketing caught public attention by recreating a famous soda pop conundrum inside a brain scanner: why is Coke more popular than Pepsi when more people pick Pepsi in blind taste tests? Neuroimaging expert Read Montague from Baylor College of Medicine in Houston,

Texas, scanned people's brains using fMRI as they blindly drank either Coke or Pepsi and reported which tasted best. He found that a region called the ventral putamen within the striatum lit up most strongly when people drank their favourite soda. This area is known to be associated with seeking reward. More people preferred Pepsi, just as the decades-old challenge said.

But when people were told which soda they were drinking, their preferences changed: more people chose Coke. And this time the brain area that showed most activity was the medial prefrontal cortex, a spot associated with higher cognitive processes. The results - which Montague hopes to publish soon - showed that people make decisions based on their memories or impressions of a particular soda, as well as taste. In the advertising world, this "brand recognition" is one of the most sought-after qualities advertisers attempt to engender.

While the experiment hasn't really thrown up any new marketing insights yet, researchers hope this new approach might help them pin down what this elusive brand recognition is all about. Clinton Kilts, a neuroscientist at Emory University in Atlanta, says it's about making a person identify with an object. He found the same prefrontal region that Montague identified lit up whenever people look at pictures of things they love. He says the area is associated with self-referential thinking. He now hopes to learn what sets up these personal associations. "Say you love Ford Mustangs. Maybe that comes from your family upbringing around Detroit, or the fact that it was your first car," he says.

According to Steven Quartz, a neuroscientist at the California Institute of Technology in Pasadena, neuromarketing could also uncover predilections we are unaware of. "Surveys are based on the assumption that we accurately probe our own preferences," says Quartz. "But basic science says that a lot of what underlies our preferences is unconscious." From the advertisers' point of view, neuromarketing's strength is that it may hit on subconscious biases that traditional advertising methods, such as focus groups fail to uncover.

He is designing a neuroimaging package that will help movie studios measure the success of their trailers. For example, he showed women a trailer starring wrestler-turned-action hero "The Rock". In traditional surveys women generally rate The Rock as unattractive, but their brain activity says otherwise: areas associated with facial attractiveness light up when women watch him on screen. Studios could use this information to try to tweak the movie pitch towards women, Quartz says.

But while Quartz believes his technique will predict blockbusters much better than surveys do, he still has to prove it. His group plans to test neuromarketing against traditional questionnaires, as well as against physiological measures that are much cheaper and easier to monitor than brain responses, such as the galvanic skin response, which gives an overall measure of arousal.

While scientists may be excited about the possibilities, neuromarketing has many critics. Douglas Rushkoff, a New York author who often writes about the advertising industry, doubts the technique will catch on. He describes neuromarketing as an elaborate ploy. "I don't see success beyond their ability to con marketers into giving them money," he says.

But others find the very idea frightening. Gary Ruskin, who runs consumer champion Ralph Nader's Commercial Alert group based in Portland, Oregon, says: "Even a small increase in advertising efficiency could boost advertising-related diseases such as obesity." Ruskin has protested against Kilts's work, which he did in collaboration with BrightHouse, a marketing consultancy firm based in Atlanta and one of neuromarketing's leading lights.

Making companies more moral

Caught between sceptics and downright opponents, Kilts and Joey Reiman, BrightHouse's founder and CEO, claim that rather than predicting an individual's shopping behaviour, neuromarketing will help them to understand how people develop preferences. "Our goal is to change company, not consumer, behaviour," says Reiman. He adds that this philosophy could improve advertising ethics. "What if you could, for example, show a company that their moral and ethical behaviour has a bigger influence on consumer preference than the colour of their packaging or current tag line?"

This responsible spin on neuromarketing may be more a reaction to negative press than a genuine hope for a more moral advertising industry, however. BrightHouse has recently changed its gung-ho approach, erasing the term neuromarketing from their website and replacing it with the blander "neurostrategies". And it has swapped an Orwellian logo of two eyes piercing a brain with an innocuous picture of the BrightHouse building.

The bottom line is that neuromarketing still has some way to go before it can prove itself effective - either by uncovering our secret wishes or by convincing companies that good behaviour sells. In the end, the

controversy may amount to nothing. In April, Montague tried to capitalise on the neuromarketing buzz by organising a conference geared towards marketing professionals. It was cancelled due to lack of interest.

Perhaps this is because the neuromarketers have yet to find what the industry would really love: a signature brain pattern that predicts consumer behaviour. Maybe they never will. "I don't think we have a buy button," says Kilts. Quartz is perhaps nearest, with a plan to compare the brain activity of people who liked a movie trailer and went to see the film with those who liked it but stayed home. But even if such a thing is found, Kilts doesn't think advertisers could manipulate it. "We're not that good and the human brain isn't that stupid," he says.

