Neuroscience can add insight in complementing classical research

Can brain imaging ever replace subjective research with objective measurement of brands' effects on consumer minds? **David Penn,** Conquest, considers the evidence

THE FAILURE of conventional research to get to grips with the measurement of the unconscious and emotional aspects of consumer behaviour has led many to look beyond the confines of quantitative and qualitative techniques and to embrace the technologies of brain imaging and biometrics.

It's not many years since an entirely new land of MR study hit the headlines. Neuroscientists at Baylor College in Houston monitored brain response (via fMRI) during a test of taste and brand preferences for Pepsi versus Coke. On the blind test, preferences were balanced, but when told what they were drinking, these sensory preferences were overturned, yielding a significant preference for Coke.

That's not surprising, but brain imaging results were. Essentially, when subjects tasted the products blind, part of their prefrontal cortex lit up, but when shown a picture of a Coke can (before drinking the product) the memory region called the hippocampus and another part of the prefrontal cortex lit up. However, when they were shown a Pepsi can, there was no observable difference in brain response to Pepsi delivered blind or branded.

The significance? Both the brain regions affected by Coke branding are implicated in modifying behaviour based on emotion and affect. For the first time, here was (apparently) scientific proof that powerful brands create an emotional response within the brain that can actually be observed and recorded.

Suddenly, a new era seemed to be dawning, in which conventional 'Q&A' research would give way to techniques based on brain imaging and physiological response. So, what has happened to neuromarketing six years on?

Early neuromarketers believed that brain imaging could supplant the unsatisfying, subjective world of conventional research by providing us with an objective measurement of the consumer's mind. They argued that, while we can introspect on our own feelings and thoughts, we cannot see into our own brain processes, nor can any third party observer, such as a qualitative moderator. That window is closed to us researchers except through the route of physiological measurement, which holds out the promise that we can bring the messy subjective world of feelings and emotions into the realm of the factual and observable.

Not surprisingly, this claim provoked much debate about the validity of neuromarketing - particularly as some of its early practitioners suggested that, ultimately, we may be able to dispense with conventional market research altogether. For example, Clint Kilts, of the Brighthouse Institute, argued in 2003 that if the medial prefrontal cortex fires when you see a particular product, you are more likely to buy it, because that product clicks with your mental self-image.

Beyond the brain's components

Yet, others argue that this sort of statement is just crude reductionism. Most academic neuroscientists do not see the brain as a land of wiring diagram, connecting up components labelled 'memory', 'emotion' or 'thinking', but as an astonishingly complex, interlocking set of patterns. Furthermore, it is argued that the most significant discovery of neuroscience is actually the interconnectivity of the different parts of the brain - a discovery that might lead us away from crude attempts to break down (reduce) the brain into its components. Leading neuroscientist Steven Rose goes so far as to suggest that neuromarketing commits a category error by attempting to locate thought and emotion within the brain at all. Yet, proponents of neuroscience believe it is possible to distil the mass of data received from EEC into three key performance indicators of purchase intent: attention, emotional engagement and memory retention.

So who is right? Does neuromarketing open up a new vista on consumer behaviour that would not otherwise be visible, or is it just a fool's errand to attempt to physiologically deconstruct the mind of the consumer? To answer this question, it's worth reflecting on the significance of the Pepsi versus Coke study referenced earlier. One could ask: what's the big deal about this study? Surely everybody - at least in our line of business - knows about the effect of branding on product preference? After all,

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Coke or Pepsi? Brain imaging can provide deeper insights into brand choice

it's the basis of the Pepsi Challenge, where consumers are given the two drinks unbranded and Pepsi usually scores a preference win, although marketplace preference (as evidenced by brand share) tends to give Coke a win.

It's also fair to comment that, from a simple blind versus branded product test, we could have inferred that the change in preference scores (when Coke's branding was revealed) was due to the unconscious emotional impact of its branding.

Yet, when I first read about this experiment, it was like revisiting a familiar place and seeing it in a completely different way. After all, what the Baylor neuroscientists observed in the prefrontal cortex and hippocampus is a reaction brought about by decades of cultural learning. A stimulus triggers a deep unconscious emotional response in the brain, which automatically generates a brand choice.

So, what neuromarketing can tell us (and conventional research cannot) is that emotional arousal has taken place in an individual's brain. It may also tell us that a part of the brain is active -whenever a subject is responding to a particular thing. Without this information, conventional researchers can only speculate that the response they observe (for example, to a brand or a piece of advertising) is an 'emotional' one. Neuromarketing thus provides objective evidence that an emotional reaction has taken place.

But it is one thing to observe an emotional response, and quite another to say what that response means, which brings us to the second thorny question - how objective is neuromarketing? Our knowledge of the brain's physiology is nowhere near as advanced as some neuromarketers would like to believe. Yes, certain parts of the brain are associated with certain mental/cognitive processes. We know, for example, that the hippocampus is associated with memory and the limbic system with emotion, but the key term here is 'associated with'. In other words, we can't say with any certainty what someone is feeling or thinking when we observe a certain response in their brain.

Thus, in practice, a lot of (subjective) interpretation is required to make sense of brain imaging (or any other kind of neuro marketing) data, simply because of the huge number of possible interrelation ships and causal links that exist between what we think (and what we feel) and the data output.

The point here is that emotion is not just about a physiological response; it's also about the cognitive effect of that response - what we normally call 'feelings'. Zaltman and Mast observe that 'emotion without cognitive appraisal is just arousal'. In other words, simply observing an emotion does not tell us anything about what the person experiencing the emotion is actually feeling. And without knowing that, it is very difficult to say much more than 'there is an emotional response happening'. That is why turning physiological measurement into actionable marketing recommenda tions is generally very difficult without conducting conventional research - either quantitative or qualitative - in parallel. OTX's Ian Wright admits that "the most effective use of bio-measures is alongside research techniques that tap into what consumers are thinking". He adds: "Bio measures don't tell us the nature of the response, only that there has been a response."

Making sense of discoveries

Clearly, a lot has happened in the years since the Baylor Institute published its breakthrough, but is this enough to repay the optimism of the early neuromarketers? It seems almost that we have the technology to measure unconscious /emotional response, but what we perhaps lack is the knowledge to make sense of it all. Arthur C Clarke once observed that the moon landing happened too soon - we simply lacked the technology that would allow us to live there. But he also drew the parallel with man's exploration of the South Pole in the early part of the 20th century, and the decades that elapsed before technology was developed that allowed scientists to live there. Perhaps it is a just matter of time before neuromarketing becomes a frontline tool in market research - and perhaps in five, 10 or 15 years, it will be.

Yet, the problem may be philosophical, rather than technological. Otherwise, why do many of the proponents of neurological/biological approaches stress that their techniques are not alternatives, but complements to conventional research, either quantitative or qualitative? Because there is no way of understanding what a respondent is feeling at the time of observation, other than by asking a conventional question. All of which is somewhat ironic (and circular) when we consider that neuromarketing was developed because conventional research was not up to the task of (objectively) measuring emotion.

Fonte: Admap, Washington, v. 45, n. 1, p.14-15, Jan. 2010.