Measuring facial expressions

Fleeting micro-expressions can provide revealing insights into consumers' reactions, says **Dr John Habershon,** Momentum Research

WE KNOW THAT our brains can make a decision up to 10 seconds before we are aware of it and that these decisions are not simply instinctive, but result from learning, retained in our social brain.

This type of decision-making can be tracked by the identification of emotions through studying facial expressions, a technique which is used in computerised systems by companies such as Mercedes Benz and Unilever.

Paul Ekman (the inspiration for the main character in the *Lie To Me* TV show on Sky) has spent much of his academic career studying facial expressions of emotion and offers two key findings: that emotional facial expression is universally communicated and understood across all human cultures; and that emotions on the face can be fleeting, less than a second in duration - what he has termed 'microexpressions'.

We can see a strong connection here between the new understanding of how decisions are made by the brain and how emotions are made on the face. Facial muscles have a direct connection to the brain, revealing involuntary emotions expressed in a fifth of a second - too quickly for the person to be aware of them and often too rapidly to detect without the aid of video analysis. It naturally follows that fleeting involuntary emotions are a window into the decisive moment when the emotional brain is at work.

How far we can predict how the emotional brain will decide, on the basis of the unconsciously expressed emotions, is an open question. We sought to clarify this by running a small-scale test on some press advertising for Lloyds TSB. The ad contains seven benefits of being with the bank, ranging from 24-hour telephone banking to the fact that the bank has more branches than any other in the UK. But, which of these statements impresses and has the potential to move to action, and which are merely nice-to-have features?

During the course of the interview, each of the six respondents was shown each benefit on a board as it was read out. They were asked not to comment and their facial expressions were captured on video. The process was repeated, and this time, the respondents were invited to express their views. The non-verbal responses were analysed using a visual coding system comprising 10 expressions signifying engagement - ranging from the angle of the head, through to the gaze and the movement of the mouth. It is quite apparent when a respondent pays attention, listens and looks and shows approval of a proposition. Conversely, we used six signs of lack of engagement - ranging from a lack of focus on the proposition, to small signs of displeasure in the brow and mouth (Figure 1).

FIGURE 1

Reading facial expressions

Engagement	
Action	**Indication**
Head tilted to one side	Listening
Steady gaze	
Blinking	
Move forward	
Eyes widen	Approval
Smile	
Nod	
Eye movement, quick, left to right	Thinking
Eyes narrow	
Eyes focus	
Lack of engagement	
Action	**Indication**
No reaction	Not thinking
No reaction – move on look	
Eyes out of focus	
Move backward	Displeasure
Puzzled brow	
Displeasure – brow	

Source: Momentum Research

The results of the test were clear. Three of the benefits engaged the respondents, provoking an immediate emotional response. Their verbal responses broadly reflected approval, but with a less defined difference between the 'nice to have' benefits and those with emotional power.

This helped to confirm my view that there is a language of facial expressions, which most of us understand and agree upon. At Beiersdorf (the manufacturer of Nivea), I have trained two panels of consumers and in-house researchers to analyse video footage of expressions of emotions for product testing of body lotions. The key to success is selecting empathetic individuals who are capable of reading expressions.

The future of this technique will see many computerised applications, ranging from the pleasure of car driving to controlling video games. The Franhofer Institute in Germany is working on technology to capture responses to outdoor poster advertising. But, crucially, the final interpretation of the video footage depends upon human beings using their interpretive abilities.

Using facial expressions breaks the conventional association between qualitative research, small samples and lengthy interviews. Ten minutes of video footage provides a rich source of information, combining both the non-verbal information and verbal information.

Cost and resources

In terms of resources, the technique only requires three things: a video camera; the intuitive ability to see facial expressions of emotion; and practice, with basic video editing skills.

Conducting short one-to-one interviews (or interviewing in pairs for greater efficiency) brings quantitative numbers within the reach of genuinely qualitative research. For example, a hall test comprising 40 interviews can be less expensive than conducting two groups - certainly if the cost of a viewing facility is included. There will be additional time for editing, but looking at footage and listening is an excellent way of doing qualitative analysis. With practice, I have found that analysis with editing is almost as quick to complete as conventional analysis.

Presenting to clients follows the normal model of observations, conclusions and recommendations - except it will be supported by edited video footage. But, since the decisive moment lasts only a few seconds, 20 consumers' views can be shown in a minute. In the world of the social brain, a second can be a long time.

Fonte: Admap, Washington, v. 45, n. 1, p. 19, Jan. 2010.