



The Brain and Emotion

Where Neuroscience and Marketing meet.
By Dr. Sundeep Thinda

The namesake of our company, Sigmund Freud, was originally a physician with an interest in neuroscience before eventually becoming the most famous psychiatrist of all time. Due to the frustration of trying to understand the complexities of human behaviour by simply studying the brain, he developed theories “... based on psychological observations and intensive involvement with his patients’ view of the world – perception, beliefs, dreams, motivations, drives and actions ” (Gordon, 2001). Freud felt that to truly understand and treat his patients, he needed to recognize how the unconscious mind influenced their conscious processing.

Today, thanks to advances in the neurosciences, we have a much clearer understanding of how the brain processes information and of the myriad of unconscious phenomenon that exist. Neurological imaging techniques such as functional magnetic resonance imaging (fMRI) technology allow us to observe the brain as it processes information. By measuring changes in blood flow and blood oxygen levels in various areas of the brain, fMRI imaging identifies areas of increased neural activity. When people lying inside these large scanners are shown different products or brands, changes in blood flow to different areas of the brain can be detected which corresponds to increases or decreases in neural activity. In this way, the cognitive and emotional activity of the brain can be observed in real time.

The growing body of evidence from the field of neuroscience largely supports the conclusion that emotions come first and form the basis of rational thinking and behaviour. Internationally recognized neuroscientist Antonio Damasio (1996) has proposed a somatic marker

hypothesis, which suggests that a person’s decision making behaviour is biased by stimuli associated with pleasure or aversion. Through lesion and brain imaging studies, Damasio has identified areas of the brain associated with this effect to be located in the prefrontal cortex (the area of the brain directly behind your forehead). In this brain region, there are two specific areas that are important in terms of recognizing whether a person is processing information using emotion or cognition. The ventromedial prefrontal cortex (VMPC) is the area that is associated with reflexive reactions (where information about rewards and punishments are stored) and has active connections to the limbic system (the area of the brain responsible for emotional processing). On fMRI scans, this is the area of the brain that lights up when a person responds emotionally. The dorsolateral prefrontal cortex (DLPC) has active connections with the hippocampus and midbrain and is the area associated with cognitive processing. When this area of the brain lights up, it is said that the person is using rational thinking and logic.



Studies examining taste preferences for Coke versus Pepsi using the fMRI technique (such as the one by McClure et al. 2004) have demonstrated that when preference decisions are made based solely on sensory information (“I really enjoy the taste of brand ‘A’ cola versus brand ‘B’”), the VMPC shows high levels of activity (emotional processing). However when cognitive factors come into play (“Brand ‘A’ and brand ‘B’ are similarly priced, which one should I buy?”) the DLPC shows higher activity (cognitive

processing). This is consistent with the somatic marker hypothesis. Sensory information is immediately filtered through our emotional processes (reward expectations) and unconsciously influences our decision making before we even begin to rationally think about the product or brand. Essentially, emotional processing has already started before the cognitive processing of a brand takes place.

Brain research has also shown that the strength of a brand significantly influences the amount of energy a consumer needs to expend in terms of the decision making process. Using neuro-imaging techniques we know that stronger brands are processed with less effort (less blood flow and oxygen utilization by brain neurons), whereas weaker brands show higher levels of neural activity in cognitive processing areas such as working memory. The evolutionary benefit of unconscious processing is that it provides us the ability to make choices, evaluations and judgments without constantly taxing our brain with higher level cognitive processes. Basically, this allows us to be more efficient and productive.

At Sigmund, our processes are designed to provide the emotional insights that help build stronger brands. By uncovering the emotional triggers that activate brand associations held in the consumer's memory, we help make the product or brand more relevant and memorable. For example, when we connect the physical properties of a brand (i.e. name or packaging) with the emotional and psychological benefits or feelings produced by using the brand or product, we help define and enhance the brand image, which thus requires less effort to process. Since much of consumer behaviour is automatic and learned, this enables the many aspects of a brand to be experienced beneath the realm of conscious attention, a realm where the emotional associations strongly influence consumer decision making.

Using findings from brain imaging research, the field of neuroscience has provided objective support to the concept that decision-making is primarily associated with the part of the brain that deals with emotion rather than cognition. By helping companies identify the emotional underpinnings that help build stronger products and brands, Sigmund enhances consumer

decision-making which is not always driven by logic, rationality or conscious awareness. What if Sigmund's process allowed you to know your audience at a deeper, richer level?

References:

Gordon, Wendy (2001). The darkroom of the mind - what does neuropsychology now tell us about brands? *Journal of Consumer Behaviour*. 1(3), 280-292.

Damasio, A. R. (1996). The somatic marker hypothesis and the possible functions of prefrontal cortex. *Philosophical Transactions of the Royal Society of London--Series B*, 351, 1413-1420.

McClure, S. M., Li, J., Tomlin, D., Cypert, K. S., Montague, L. M., & Montague, P. R. (2004). Neural Correlates of Behavioral Preference for Culturally Familiar Drinks. *Neuron*, 44(2), 379-387.

About the author.

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