Chapter 3
Consumer Neuroscience Perspective for Brands:
How Do Brands Influence Our Brains?

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ABSTRACT

Neuroscientific tools have increasingly been used by marketing practitioners and researchers to understand and explain several different questions that have been issued for a specific company or a general understanding. In this respect, the neuroscientific approach has been evaluated as a potential tool for understanding the neural mechanisms directly related to marketing with its contribution to providing novel perspectives. The chapter addresses one of the most relevant subjects, brands, for issuing the strategic role of applied neuroscience in marketing and consumer behavior. The first section of this chapter focuses on a novel definition of brand, and the next section covers the brand image, brand perception, and brand loyalty. The second section summarizes the main findings regarding the neuroscience of brands. In the final section, the findings from a related experiment have been provided for the potential roles of neuromarketing for developing marketing strategies for brands.

INTRODUCTION

Neuromarketing focuses in particular on the body's neurophysiological and biometric reactions as a supplementary method for marketing studies. Work on neuromarketing primarily aims at integrating behaviors inside the nervous network (brain and entire body) with customer behavior (Hubert, 2008). While data collection through neuroimaging appears similar to quantitative strategies, work on neuromarketing, including biometric analysis, indicates that it still has some characteristics in common with qualitative methods. In terms of advertisement analysis and evaluation, this application-based type of

DOI: 10.4018/978-1-7998-3126-6.ch003

neuroscience is a fairly recent technique, which has slowly become popular, despite bearing a resemblance to quantitative and qualitative approaches of conventional methodology (Kessler *et al.*, 2012). While such methods are often used for sector-specific purposes, there has been a shift towards utilizing more analytical methods, especially over the last decade (Ariely & Berns, 2010). The key explanation for this was the desire to reach secret knowledge that could be represented as implicit details that cannot even be accessed by the user (McClure et al., 2004; Dijksterhuis 2004). The second motive was linked to the prospect of supplying the tests with cheaper and quicker settings so that they could be streamlined and serviced at a pace that would satisfy the sector-specific requirement (Ariely & Berns, 2010). Such initial motives culminated in more than 300 firms being formed under which various technologies were created for sector-specific usage within the product domain known as neuromarketing. This interdisciplinary area is at the nexus of diverse disciplines including communications, finance, psychology, and neuroscience.

The commonly used neuroscientific methods could be evaluated under two groups: (1) the ones that directly get data from the brain like EEG/ERP or fNIRS, and (2) the ones that indirectly obtain data from the brain like skin conductance resistance or eye tracking systems. These methods are adopted from clinical applications and research thus many of these have a long history in medicine. Here, some of the common methods will be explained in sufficient details. EEG/ERP, neuroelectrophysiological method, focuses on acquiring the brain potentials via the electrodes placed on the scalp. On the other hand, eye-tracking method measures the eye gaze in terms of understanding the direction of eye movements, attention level and fixation points. Meanwhile, the neuroimaging methods such as fMRI and fNIRS are based on the neurophysiological changes among the blood, especially oxygenation level (Alivisatos, *et al.,* 2013).

ACCESSIBILITY OF THE METHODS

The growing use of neuroscientific approaches has caused a long-lasting impact on various fields including economics, ethics and marketing. The implementation of these neuroscientific methods has been adapted directly from the literature of neuroscience, thus providing scientific legitimacy and reliability as research context (Hammou *et al.,* 2013; Badoc *et al.,* 2014). The costs of the equipment used to use these methods differ widely, depending on their technological requirements and limitations. For example, in terms of its sampling frequency, channel number and software package for data acquisition and data analysis, an EEG / ERP system can be found at a price of 100 USD up to more than 100.000 USD.

Prices have typically continued to decline over the last decade, as the use of open source (free software) is favored because future convergence of inexpensive apps has become feasible. There are eye-tracking tools, for example, with prices down to $100 and no software package built for high level data analysis. Prices have typically continued to decline over the last decade, as the use of open access (free software) is favored because future convergence of inexpensive apps is feasible. Of starters, there are eye-tracking systems with costs down to $100 and no software kit built of high data analysis standards. Deleting the artifact components from the raw data to include a collection of accurate and appropriate data analyzes is an extremely crucial reality. Otherwise, it may result in deceptive results that may contain unacceptable internal and external noise levels.