Chapter 18
Neuroscience Applications on the Assessments of TV Ads

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ABSTRACT

The progress in neurotechnologies has enabled a potentially better and cheaper analysis for the neural signals not limited to medical applications but influencing several fields from marketing to economics and law to ethics. Since the main targets have been to understand the brain mechanisms better as well as providing useful applications specifically regarding the sector-specific interest, one related application has been about the assessments of TV ads as a complementary and more objective tool than traditional methods that rely on the verbal self-reports and interviews that could be speculative and misleading depending on the given context. For assessing several TV ads within a shorter duration, the use of neuroscientific methods has attracted much interest. This chapter will focus on the current practices with the given constructs for the TV ad research specifically in relation to the practices such as attention, emotional engagement, individual preference, and market success.

INTRODUCTION

Advertising is the structured and composed impersonal communication of information, usually paid for and usually persuasive in nature, about products (goods, services and ideas) by identified sponsors through various media (Arens, 2006). Advertisements are generally presented through media channels such as magazines, newspapers, the Internet, radio, outdoor, and television. Although advertisements on television have lost their influence to some extent, it is undeniable that these types of advertisement still continue to have an impact on the general marketing strategies of companies. Marketing research is the planning, collection, and analysis of data relevant to marketing decision-making and the communication of the results of this analysis to management (McDaniel & Gates, 2013). Advertising as a discipline in social science also uses research methods familiar to social sciences. As such methods, either qualitative

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or quantitative, depend on statements, a subject may give misinformation intentionally or unintentionally related to various factors. In this context, marketing research professionals have demanded supplementary methods that preferably rely on objective tools such as neuroscientific measurement tools.

Therefore, applied neuroscience especially focuses on neurophysiological and biometric responses of the body as a complementary tool for advertising research. Neuromarketing research mainly aims to associate the activities within the neural system (brain and the whole body) with consumer behavior (Hubert, 2008). Even though data collection via neuroimaging seems closer to quantitative approaches, neuromarketing research, including biometric research, shows that it also possesses certain features in common with qualitative methods. In terms of advertising research and assessment, besides bearing a resemblance to quantitative and qualitative approaches in traditional methods, this application-based form of neuroscience is a relatively new approach that has gradually become prominent. Marketing research methods are traditionally based on several quantitative and qualitative methods by which the introspective and verbal outputs are confronted. Despite the fact that these methods are frequently used for sector-specific applications, there has been a trend towards the use of more objective methods, especially in the last decade (Ariely & Berns, 2010). The main motivation has arisen in relation to the need for accessing hidden information that could be described as unconscious information that is even not penetrable by the individual herself (McClure et al., 2004; Dijksterhuis 2004). The second motivation has been related to the possibility of providing cheaper and quicker settings for the assessments so that they could be automatized and serviced at a speed able to would satisfy the sector-specific demand (Ariely & Berns, 2010). These initial motivations resulted in the establishment of more than 300 companies by which different applications have been developed for sector-specific use within the application domain named as neuromarketing. This interdisciplinary field is at the intersection of various fields including marketing, economics, psychology, and neuroscience. There are many applications developed regarding the scientific findings in the academic literature.

One such application based on the use of these neuroscientific methods has been developed for the assessment of TV advertisements. The assessment of TV ads poses a significant challenge, since they are composed of dynamical and complicated bundles of information packages that are influenced by the affect of brand image, the content of the ad and emotional as well as cognitive impact during the ad. These neural assessments are currently used as complementary methods in the sense that the TV ads are examined via the use of neuro-application before they are released to the market. Or they are reprocessed with the deliberate evaluation of the TV ad in the process of optimization. The most widely used applications such as the detection of attention, emotional engagement, and the stress level of the participants during the watching a TV ad (Ambler et al., 2000). The pros and cons of these measurements will be addressed in the second section of this chapter. On the other hand, the most frequently used methods are Electroencephalography (EEG/ERP), functional Magnetic Resonance Imaging (fMRI), Positron Emission Tomography (PET), functional Near Infrared Spectroscopy (fNIRS), Eye-tracking (E-T), Facial Coding (F-C), Skin Conductance Resistance (SCR) and Heart Rate (HR). These are considered as the main measurement tools derived or directly adopted from medical devices that have been shown to provide enough scientific reliability for such applications. There are several reasons for the increasing demand and the use of these methods. These will be briefly explained in the first part of this chapter. Interestingly enough, the academic studies on various subdomains shed light on the evaluation processes of TV ads, revealing that cultural differences appear to be highly significant regarding the ad content (Vecchiato et al., 2011). Different segments of a TV ad could be assessed via the different objective methods (Ohme et al., 2008). The market success of the movies as well as the individual preferences related to these could