

**SUMMARY OF PHD THESIS OF
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PhD Thesis Title: The Use of Neuromarketing Tools in the Study of Consumer Satisfaction of Online Learning Services

Keywords: consumer behaviour, decision-making process, neuromarketing tools, eye tracking, online learning services

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SUMMARY

This doctoral thesis entitled "The use of neuromarketing tools in the study of consumer satisfaction with online learning services" aimed to demonstrate the role of cognitive neuroscience in research and modeling of consumer behavior. The work addresses a relatively new field on the Romanian market: the use of neuromarketing tools, a form of scientific research with wide applicability in the business environment. Neuromarketing, introduced as a concept in 2002 by Professor Ale Smidts from the Erasmus University of Rotterdam, is an inter- and transdisciplinary field that combines psychology, neuroscience, marketing and neuroeconomics. This area is of special importance in marketing, for offering the promise of a subtle mechanism for influencing consumer behavior and decision-making.

Research methods used in neuromarketing are based on advanced neuroimaging techniques such as electroencephalography (EEG), functional magnetic resonance imaging (fMRI) and eye-tracking, in addition to methods that measure reaction speed such as tests implicit. These

techniques allow researchers to observe and analyze the brain activity and physiological reactions of consumers in real time, providing direct insight into the cognitive and emotional processes that influence purchasing behavior. In contrast to traditional market research methods, such as focus groups and questionnaires, which rely on participants' conscious and verbal responses, neuromarketing captures subconscious and non-declarative reactions that are often inaccessible by conventional means. This is an essential dimension because it is estimated that about 90% of our decisions are made at a subconscious level, with subsequent rationalizations serving more to justify decisions already made than to actually make decisions.

Prin captarea acestor reacții subconștiente, neuromarketingul oferă o înțelegere mai profundă și mai precisă a mecanismelor de luare a deciziilor. Acest lucru permite dezvoltarea unor strategii de marketing mai eficiente, bazate pe o cunoaștere reală a comportamentului consumatorului, contribuind astfel la optimizarea campaniilor de marketing și la creșterea impactului acestora. Această abordare inovatoare deschide noi perspective pentru companii, permițându-le să creeze mesaje și produse care rezonază cu adevărat cu nevoile și dorințele consumatorilor.

By capturing these subconscious reactions, neuromarketing provides a deeper and more accurate understanding of decision-making mechanisms. This allows the development of more effective marketing strategies, based on a real knowledge of consumer behavior, thus contributing to the optimization of marketing campaigns and increasing their impact. This innovative approach opens up new perspectives for companies, allowing them to create messages and products that truly resonate with consumers' needs and desires.

This paper highlights the breadth of documentation done in the fields of economics, marketing, neuroscience and psychology, aiming at a deeper understanding of consumer behavior in today's business context. This integrative research illustrates a modern and holistic approach to the topic, relevant both now and for years to come. Neuromarketing research is proving to be particularly valuable for understanding consumer behavior because it goes beyond simply collecting responses from questionnaires or focus groups. They allow for a deeper and more detailed exploration of how people react to stimuli. By using advanced neuromarketing techniques, researchers can investigate subtle, subconscious processes and gain a clearer understanding of the reasons behind consumer choices and preferences. Neuromarketing uses advanced techniques such as neuroimaging, biometrics, and implicit testing to study consumer behavior, taking advantage of technological advances and wide access to information. Although it was initially perceived as a revolutionary method, it has been shown that neuromarketing will not replace traditional research, but complement it. Combining neuromarketing with traditional methods allows for a deeper understanding of consumer reactions and motivations.

In the framework of the thesis, the author presented six studies carried out by her, using various tools to address different aspects of consumer behavior. The first study aimed to analyze the perception of vaccination against Covid-19 in Romania, using EEG technology as a neuromarketing tool. Two of the studies focused on the Romanian market's perception of humanoid robots, one focusing on robots involved in education, and the other on robots used in various other fields. Eye-tracking and galvanic skin response (GSR) techniques were used for these studies. Another study involved researching secondary sources and then conducting a comprehensive analysis of the applicability and effectiveness of neuromarketing tools. The fifth study was based on a qualitative research, focused on identifying the fears perceived by Romanian students when entering the labor market in the post-Covid-19 pandemic context. The sixth study was conducted to test the model proposed by the authors, using eye-tracking

techniques and questionnaires to investigate the level of satisfaction of consumers of online learning services.

The approach to ethics in neuromarketing research was debated in the doctoral thesis card in a dedicated chapter, considering that this field involves access to sensitive and intimate data about the behavior and cognitive processes of consumers. Neuromarketing uses advanced techniques, such as EEG, eye-tracking and galvanic skin response (GSR) measurement, which allow researchers to probe the subconscious and non-declarative reactions of individuals. This depth of analysis raises ethical concerns related to data privacy, informed consent, and the possibility of psychological manipulation of consumers. Without a rigorous ethical approach, there is a risk that this data will be used to exploit the cognitive vulnerabilities of individuals, instead of being used to improve consumer experiences in a transparent and accountable way. It is therefore crucial that neuromarketing research is regulated and conducted according to clear ethical standards to protect the rights and integrity of consumers while ensuring that these practices contribute to fairer marketing.

In conclusion, neuromarketing has become a mainstay in marketing research, providing unique and profound insights into consumer behavior. Through the use of advanced technologies such as neuroimaging and biometrics, this field allows for a more detailed exploration of the subconscious responses and cognitive processes that influence purchase decisions. This advanced approach not only improves companies' ability to develop more effective marketing strategies that are better suited to individual consumer needs, but also contributes to optimizing their experience in interacting with brands. By gaining a deeper understanding of consumer motivations and preferences, companies can create products and campaigns that better resonate with their target audience, leading to increased satisfaction and brand loyalty. In this way, neuromarketing not only brings significant benefits to marketing strategies, but also plays a crucial role in improving the relationship between consumers and brands, contributing to the long-term success of businesses.