

measured. As an innovative marketing research method, eye-tracking experiment could be applied to complement the results of latter methods.

Finally, at personal level, consumer emotional and cognitive reactions to an advertisement are determined. Traditionally, consumers are asked to indicate their emotions and future purchase behavior by filling the questionnaire. If company decides providing neuromarketing research, such methods as heart rate measurement, galvanic skin response, and facial expressions could be applied to indicate actual consumer reaction to an ad.

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CONCEPTS OF NEUROMARKETING AND GUIDELINES FOR CONDUCTING NEUROMARKETING RESEARCH

The trend of the combination of prefix *neuro-* with the specific scientific fields is obvious and growing each year since the early XXI century. The interdisciplinary subfields like neuroeconomy, neuromarketing, neuroinformatics, neuroeducation, neurolaw and many more which applied neuroscience in their context have developed. Moreover, the emerging field of neuromarketing became relevant not only from the academic point of view, but also from the business point of view. Ruangguttamanun (2014) figuratively stated, that «the equation $E=mc^2$ has changed the world, possibly, neuromarketing could make some different in marketing world as well». However, the term neuromarketing, even if it logically seems as application of neuroscience to marketing, is much more complicated. As Schneider and Woolgar (2015) indicated, neuromarketing can mean different things at different times and to different people. Hence, the basic generic concepts of neuromarketing, which would be generally recognized, are scarce.

Furthermore, neuromarketing raised ethical, professional and academic issues as it constitutes a bridge between two worlds, that of neuroscience and that of economics (Sebastian, 2013), or more precisely, marketing. Ducu (2017) implied, that there are overlapping ethical concerns between neuromarketing ethics, bioethics and what is now called «neuroethics». Consequently, not only ethical and socially responsible marketing practices and methods have to be applied in the field of neuromarketing, but all of the ethical decisions and methods applicable to neuroscience, psychology, economics and all of the related fields have to be taken into consideration in order to implement ethical neuromarketing practice or research. Therefore, the **scientific problem** is raised by a question: what are the main generic concepts of neuromarketing and what guidelines are relevant for conducting neuromarketing research? The **aim of this study** is to determine the basic generic concepts of neuromarketing and the guidelines for conducting neuromarketing research.

According to Sebastian (2014), *neuromarketing* reflects the *fusion of two fields — neuroscience and marketing*. Agarwal and Dutta (2015) specified that *consumer neuroscience* refers to academic research at the *intersection of neuroscience, marketing, and psychology* while *neuromarketing* generally refers to popular interest in *neurophysiological tools which are used for conducting commercial market research*. Nevertheless, Daugherty, Hoffman, and Kennedy (2016) pointed out that *consumer neuroscience* is «the utilization of neurological and physiological measurement tools to analyze and understand human behavior in relation to markets and marketing exchanges». As it can be seen, consumer neuroscience as well as neuromarketing refers to the intersection of neuroscience and marketing, moreover, consumer neuroscience as well as neuromarketing applies neurological and physiological measurement tools to analyze and understand human behavior in marketing context. Hereafter, Daugherty and Hoffman (2017) stated that among marketing scholars, the concepts *consumer neuroscience* and *neuromarketing* are often used interchangeably. Hence, the distinction of these concepts becomes more definite only at the theoretical level as both concepts refer to application of neuroscience theories and / or measurement tools to marketing theory and / or practice. Consequently, ***consumer neuroscience (usually denote to academic perspective) or neuromarketing (usually denote to practical perspective) are interchangeable concepts referring to the intersection of neuroscience, marketing, economics, and psychology while applying neurological, physiological, psychological, and traditional marketing measurement tools to analyze and understand conscious and unconscious consumer response to marketing.***

Due to the reason that neuromarketing refers to the intersection of many distinct scientific fields while applying research methods from latter fields, it raises overlapping ethical concerns. Consequently, in order to implement ethical and transparent

neuromarketing practice or research, **guidelines for conducting neuromarketing research** are determined (Murphy, Illes and Reiner, 2008; Ducu, 2017):

1) Protection of research subjects.

- Full disclosure of research goals, risks, benefits, possibility to withdraw from the research at any time for any reason, all the elements that may have an impact on physical and psychological integrity in verbal and written forms must be provided.
- The verbal confirmation and signed form of information and informed persons' consent must confirm that research subject understood all the information.
- Confidentiality, anonymity and research subjects' data must be secured.
- Explicit protocols for dealing with incidental findings must be performed.
- Protection of vulnerable niche populations (e. g. children, economically disadvantaged minorities, etc.) must be insured by all means necessary.

2) Research reliability and validity.

- Correct sampling method and adequate sample to reach the aim of the research must be selected.
- Research design must be globally recognized or reliably formed and confirmed to reach the aim of the research.
- The reliability and validity of the measurement tools as well as equipment (hardware and software) for the research must be checked and confirmed.
- Statistical significance of the research results should be assessed if possible.
- The competence of the specialists interpreting the results of the research should be validated.

3) Transparency in communicating results.

- Neuromarketing research publications must govern the highest ethical standards, with all of the procedures transparently disclosed and all of the findings supported by the research results.
- Consumer neuroscience as well as neuromarketing are interchangeable concepts referring to the intersection of neuroscience, marketing, economics, and psychology while applying neurological, physiological, psychological, and traditional marketing measurement tools to analyze and understand conscious and unconscious consumer response to marketing. Nevertheless, the concept of consumer neuroscience usually denotes to academic perspective, while the concept of neuromarketing usually denotes to practical perspective;
- As neuromarketing refers to the intersection of neuroscience, marketing, economics, and psychology while applying research methods from latter fields, there are overlapping ethical concerns about neuromarketing ethics;
- In order to implement ethical and transparent neuromarketing practice or research, main guidelines for conducting neuromarketing research govern protection of research subjects, the assurance of research reliability and validity and finally the ensured transparency in communication of the neuromarketing research results.

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ИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ КАК ОПРЕДЕЛЯЮЩИЙ ФАКТОР УСТОЙЧИВОГО РАЗВИТИЯ ПРЕДПРИЯТИЙ В РЕСПУБЛИКЕ БЕЛАРУСЬ

Настоящее время характеризуется повсеместным внедрением и использованием информационных технологий. В самом широком смысле информационные технологии (ИТ) — это совокупность методов и средств, используемых для сбора, хранения, обработки и распространения информации.

Можно совершенно смело утверждать, что если раньше информационные технологии выступали неким элементом, дополняющим сферу, в которой они применялись, то сейчас практически все процессы, протекающие в различных сферах, полностью от них зависят.

Инновационная политика, которая стала важнейшим фактором в устойчивом развитии любого предприятия, которое заботится о своем успешном будущем, диктует определенные правила игры на сложившемся и высокотехнологическом