AN EXPLORATORY RESEARCH AMONG CONSUMERS ON THE PERCEPTION OF NEUROMARKETING

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Résumé — Neuromarketing is an innovative approach which draws on neuro-scientific technologies like eye-tracking or brain imaging techniques to understand the subconscious reasoning and behavior of customers.

In the last two decades, neuromarketing is considered to be an evolutionary research method, together with traditional marketing research techniques that create a synergy in increasing the quality of building products and services that meet consumers' needs.

The first part of this exploratory study seeks to present an overview of neuromarketing literature. The second part encompassing the results of a focus group regarding consumers perception of the use of neuromarketing technologies.

The results show that all participants had some knowledge about neuromarketing. 93% would consider it as a manipulative technique. Most of the participants were not willing to participate in future neuroimaging experiences. The implication of the research is that consumers have positive attitude to neuromarketing. However, their behavior (being a participant in neuromarketing research) is not positive as much as their attitude, which is coherent with
Cognitive Dissonance Theory (Leon Festinger 1957). Some negative issues were identified as the unethical aspect of the techniques, considering it intrusive and manipulative. However, all participants were not shocked that some companies were using neuromarketing techniques.

Key words— Neuromarketing, Neuromarketing perception, Focus group.

I. Introduction:

Unconscious mental processes are major influences in people’s deliberation. Among the newest techniques for the measurement of marketing stimuli are neuroimaging techniques, which make an image of the patient’s brain using non-invasive means. When used in marketing to understand consumer behaviour in relation to markets and commercial trade, these methods are called neuromarketing techniques (Lee, Chamberlain, Brandes 2018). The use of neuromarketing activities has aroused some controversy. On one hand, critics of the subject believe that the use of such techniques would affect consumers’ ability to choose not to consume marketed products, leaving the individuals unable to resist such efforts and making them easy targets for the company’s campaigns (Lee, Chamberlain, Brandes 2018). On the other hand, defenders of neuromarketing activities, such as Lindstrom and Dooley (2010), discuss the benefits deriving from the technique to both consumers and organisations. According to these authors, consumers would benefit from the creation of products and campaigns directed to them and would have their decisions facilitated rather than manipulated. In the other hand organisations would save large portions of their budgets that are currently used on inefficient and ineffective campaigns, ensuring greater competitiveness and improvements to customers. There is yet another segment of researchers who believe that neuromarketing would be much more science fiction than reality because it is impossible to find people with identical thoughts in the world, as thought is changeable and varies according to personal experiences, values, and character (J. Matthew Helm et al., 2020).

In contrast with other themes that examine the use of neuroscientific methods to understand human responses to marketing stimuli, studies under this theme explore the perceptions of the average person on the use of neuroscientific methods for marketing. The work of Koller (2011) offers insights into the area from the consumer perspective, in terms of addressing issues such as willingness of the target market to participate in, ethical and health reservations about, risk, and intrinsic and extrinsic motivation for participating in neuromarketing studies. The work of Cooke et al (2007) outlined the participants perspective about using Neuromarketing techniques and mentioned that the techniques were safe nevertheless it generates some negative and bad emotions. The work of Eser, Isin, and Tolon (2011) extended the work of Koller (2010) by including perspectives from marketing academics, neurologists, and marketing professionals. Their study reveals three factors perceived as the most important aspects of
neuromarketing to the three groups of people: interest and participation, knowledge and awareness, and ethics. Neurologists and marketing professionals perceive neuromarketing more favorably than marketing academics, as neurologists are familiar with the application of neuroimaging techniques and marketing professionals tend to seek competitive advantages and adapt to changing conditions in their businesses.

Nonetheless, insights under this theme are relatively less rich than those of other themes. Furthermore, the importance of shaping a positive perception and outlook of neuromarketing is paramount for neuromarketing to gain acceptance and practice among marketing academics and practitioners, as well as the general public. If not, the intention–behavior gap that impedes many other types of consumer and organizational behaviors may arise in neuromarketing. For example, academics and marketers who are interested in using neuroscience for marketing endeavors may end up abandoning their pursuit of neuroscience research when they are not able to locate good practical guides (or methodological primers) or subject-matter experts who are willing to collaborate with them. Thus, future research that extends current understanding of neuromarketing, such as studies that explore ways to enhance desirable perceptions and mitigate undesirable perceptions of neuromarketing among academics, practitioners, and the public.

In terms of finding participants, although the technique itself is non-invasive, it does have a slightly negative reputation, and this may impact on possible participation for market research studies (Moore, 2005). However, in neuromarketing studies, participants have generally viewed the fMRI experience positively (Senior et al., 2007).

The ethical use of neuromarketing is also an issue. Questions of whether neuromarketing is just a benign method of helping companies better understand customers' true desires while giving customers the power to influence companies should be addressed. It is also important to determine whether this method is a way of unconsciously suggesting the purchase of an otherwise unwanted item (Ziegenfuss, 2005). In addition to these reservations, the use of neuromarketing by companies that produce tobacco, alcohol, junk food or fast food could be damaging to public health (Ruskin, 2004). In addition, neuromarketing raises powerful ethical issues for children and adults (Acuff, 2005; Lawer, 2004). That is, in the minds of some, neuromarketing raises disturbing questions about the extent to which advertising agencies, market researchers and their clients should be allowed to invade the privacy of consumers.
In fact, despite the literature on the subject, we know very little about neuromarketing and its contributions. There are four groups related with Neuromarketing researches: marketing academicians, neurologists, marketing professionals and consumers. While first three groups are influencer, consumers are subjects to be influenced. The future of neuromarketing study depends on the interaction of these groups. Consumers are also important as much as other groups. Unless consumers accept to be participant in neuromarketing research other groups will not be able to conduct these researchers. Besides this consumers’ attitude also has a guiding role in the future of these studies.

In the light of above, the purpose of the study sought to understand how Neuromarketing is perceived by the consumers. It will also outline the factors impacting the perception of adoption of Neuromarketing techniques based on the UTAUT (Unified Theory of Acceptance and Use of Technology) de Venkatesh et al. (2010).

Neuromarketing issues have been rapidly developing in the research field. Besides, studies conducted to understand consumers perception are very limited. This study addressed on the following research questions:

*RQ1: How NM is perceived by consumers?*

*RQ2: What are the thoughts of consumers toward Neuromarketing ethic and applications?*

*RQ2: Are they willing to participate in Neuromarketing experiences?*

*RQ2: What are the factors impacting the adoption of Neuromarketing techniques?*

To address research questions, a focus group was conducted. Face-to-face interaction provides an advantage of communication without an extended reflection as the interviewee answer the questions more spontaneously (Opdenakker, 2006).
II. General perception on neuromarketing

Neuromarketing has generally been used to objectively identify consumers’ preferences. Although companies are unwilling to disclose their studies of how to improve marketing strategies, several practical studies on neuromarketing were published. Many of the studies were related to marketing communications, like the ones by Lee et al. (2007) and by Fisher et al. (2010). According to Fugate (2007), neuromarketing helps companies identify elements that are neurologically engaging in a TV ad. Another use of neuromarketing that is widely reported is in the development of products and services according to the desires of consumers (Fugate, 2008). The research also indicated that neuromarketing techniques are quite effective for pricing, sales and promotion decisions. An interesting phenomenon happens with the determination of prices. (Kenning, & Linzmajer, 2011). Research on neuromarketing has also been intensely used to determine branding strategies (Perrachione & Perrachione, 2008).

Throughout the duration of this research into the field of neuromarketing, the one commonality that has been encountered is it is a very misunderstood industry. There is a need to help explain neuromarketing in a way that will be easily comprehended among all people, be it the high-powered branding guru to the neuroscientist to the average Joe with no previous exposure to these fields.

The perceptions gathered as to how neuromarketing is being currently viewed is so varied that it is difficult to reach a consensus of what needs to be researched and explained. The neuroscientists see the practical applications of this field of research, but most of them lack the business background in order to discuss its benefits in the branding and advertising fields. Advertisers and marketing professionals can identify the need for research, but seem to have little understanding as to how fully this science can be beneficial to their needs. The business professionals have interest, but only if there is substantial proof that there will be a substantial return on investment. Lastly, the “common people” seem to have the most varied response. There have been perceptions ranging from general interest to people believing this is THE new thing for the future, and every emotion from sheer amazement to utter terror.

This variety in misconceptions is a large reason why it has been hard to see advancement in neuromarketing and plays a major role in the lack of understanding the potential it has to marketing strategy, brand development, and advertising methodology. Dooley (2015) suggests this lack of understanding and limited view of the field is linked to a lack of research.
Neuromarketing main variables:

Several variables related to neuromarketing techniques have been cited in the literature. Table 1 summarizes the most important and repeated variables and their explanations. Meanwhile, employing neuromarketing methods resulted in different advancements in marketing, within this work we have decided to choose the most cited variables and those related to consumers experiences.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Author</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>Malhotra, et al; 2003</td>
<td>Neuromarketing is reported to be more expensive than traditional marketing research due to requiring specialized equipment. However, providing new equipment and technologies require massive investment in early stage, the cost of equipment becomes less when it becomes available.</td>
</tr>
<tr>
<td>Ethic</td>
<td>Murphy et al; 2008</td>
<td>Neuromarketing is considered as a manipulative technique. Academics and companies using neuromarketing techniques should adopt a code of ethics.</td>
</tr>
<tr>
<td>Attitude</td>
<td>Eser, Z.; Isin, F.B.; Tolon 2011 Koller et al; 2011</td>
<td>Neurologists and marketing professionals perceive neuromarketing more favorably than marketing academics. The application of fMRI is not universally embraced by the respondents</td>
</tr>
<tr>
<td>Use destinatio n</td>
<td>Koller et al; 2011</td>
<td>Neuromarketing attitude change positively when the techniques are used for NPO.</td>
</tr>
<tr>
<td>Usefulness</td>
<td>Malhotra, et al; 2003, Solnais, C.; et al, 2013</td>
<td>Neuroimaging is a powerful technique in delivering useful findings related to the users’ behavioral psychology.</td>
</tr>
<tr>
<td>Perceive dRisk</td>
<td>Ania G. Wieckowski 2019</td>
<td>The technology seems risky. Companies face two main risks being defrauded (wasting money on something that isn’t going to give them the benefit they thought they were paying for) and damaging their image.</td>
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<tr>
<td>Time-saving</td>
<td>Giraldi et al ; 2014</td>
<td>The simultaneity of information collection and speed are other benefits of neuromarketing. Some neuromarketing methods can evaluate the consumer responses at the same time at which they are subjected to the marketing stimuli.</td>
</tr>
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</table>
### Main studies on Neuromarketing perception and attitude

In the following we have stated the main indexed articles that studied the neuromarketing perception and attitude from neuromarketing stake holders’ perceptions (consumers, neurologists, professionnels, academicians, companies...)

<table>
<thead>
<tr>
<th>Word of mouth (Reputation)</th>
<th>Fisher et al., 2010; Pop et al., 2014</th>
<th>The neuromarketing is badly broadcasted, journalistic language about this type of research focused on the idea of a &quot;buy button&quot; for manipulating the decisions of consumers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of knowledge and awareness</td>
<td>Eser, Z.; Isin, F.B.; Tolon 2011 Egrie, J. &amp; Bietsch, S. (2014)</td>
<td>Neurologists and marketing professionals perceive neuromarketing more favorably than marketing academics, as neurologists are familiar with the application of neuroimaging techniques. Consumers were not familiar with Neuromarketing, the highest percentage found it interesting and would like to hear more.</td>
</tr>
<tr>
<td>Quality of information</td>
<td>Malhotra, et al; 2003 Fortunato, V.C.R.; Giraldi, J.d.M.E.; de Oliveira, J.H.C.</td>
<td>A higher quality of information is available through neuromarketing techniques as they collect sensitive information beyond the level of human consciousness.</td>
</tr>
<tr>
<td>Biasness</td>
<td>Malhotra, et al; 2003 Solnais, C.;et al ;2013 Fortunato, et al; 2014</td>
<td>Neuroimaging is able to concurrently record and assess the neural responses of consumers at the same time that the marketing stimulus of awareness is occurred, therefore decreasing the risk of recall bias normally linked to the self-report instruments.</td>
</tr>
<tr>
<td>Probing memory and emotions</td>
<td>Malhotra, et al; 2003 Cosí’c, D 2016</td>
<td>Neuroimaging can deeply explore brain activities to collect and measure sensory experience.</td>
</tr>
<tr>
<td>Intrinsic motivation</td>
<td>Koller et al; 201</td>
<td>Intrinsic motivation have the highest impact on the willingness to participate</td>
</tr>
<tr>
<td>Extrinsic motivation</td>
<td>Koller et al; 2011</td>
<td>Some participants may be motivated by monetary incitation to participate in Neuromarketing experiences.</td>
</tr>
<tr>
<td>Scientific Validity</td>
<td>Fisher et;al 2010</td>
<td>Academicians and professionnels should work together to ensure the scientific validity of neuroimaging research.</td>
</tr>
</tbody>
</table>

Source: Formulated by authors based on the litterature review
### TABLE 2 Main studies on Neuromarketing perception and attitude

<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Methodology</th>
<th>Theory</th>
<th>Variables &amp; factors</th>
<th>Results</th>
</tr>
</thead>
</table>
| Cooke et al (2007)      | - The neuroimaging research process from the participants’ perspective | Mixed method | Not mentioned                             | Experience of fMRI, Knowledge about techniques, attitudes towards fMRI | - The techniques are safe; the participants are excited to see how their brainwork.  
  - The experience is anxious and generate some bad emotions. |
| Senior et al (2007)     | - Mapping the mind for the modern market researcher                   |             |                                          |                                       | - The need of more improvement to the procedure.                                                                                       |
| Tolon, M., Özdoğan, F. B., & Eser, Z. (2008) | Testing cognitive dissonance theory: consumers’ attitudes and behaviors about neuromarketing | Quantitative study | Cognetive Dissonance Theory (Leon Festinger 1957) | Knowledge & awerness, NM éthique, NM participation and interest | The implication of the research is that consumers have positive attitude to neuromarketing. However, their behavior (being a participant in neuromarketing research) is not positive as much as their attitude. |
| Eser et al; 2011        | Perception of Marketing academics, neurologists, and marketing professionals about NM | Exploratory study, mixed method | Not mentioned                             | Knowledge & awareness, NM ethic, NM participation and interest | Neurologists and marketing professionals perceive neuromarketing more favorably than marketing academics, as neurologists are familiar with the application of neuroimaging techniques and marketing professionals tend to seek competitive advantages and adapt to changing conditions in their businesses. |
| Koller 2011 | **Consumer’s attitude**  
Towards applying fMRI in Marketing research | **Mixed method**  
Exchange theory, Technology acceptance theory | **Technology Anxiety**  
perceived Risk, Intrinsic Motivation, Extrinsic motivation, Attitude, Consent to participate | - The application of fMRI is not universally embraced by the respondents.  
- Ethical reservation.  
- The attitude towards the application of fMRI is ambivalent and slightly positive.  
- Need to reduce the risk perception by Briefing the participant about the experience.  
- The technique should be more ‘participant friendly’  
- Intrinsic motivation have the highest impact on the willingness to participate  
- Technology anxiety and extrinsic motivation are not relevant to the study |
<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Title</th>
<th>Methodology</th>
<th>Noted</th>
<th>Findings</th>
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<tbody>
<tr>
<td>Hamed et al; 2013</td>
<td>Attitude Measurement toward Neuromarketing in Sports</td>
<td>Descriptive survey</td>
<td>Not mentioned</td>
<td>Three sub-scales of interest and participation in neuromarketing, consciousness and cognition, and morality were studied and compared among these three groups. Compared to the other groups the neuroscientists had more favorable attitude toward the interest and participation in neuromarketing in sports. Masters of sports management had less consciousness and recognition about the neuromarketing in sports in comparison to the other groups, and professionals in marketing had more concurrence than the other groups about the fact that neuromarketing is a moral method and it is not a deceptive method.</td>
</tr>
<tr>
<td>Flores, et al; 2014</td>
<td>Is neuromarketing ethical. Consumers say yes. Consumers say No.</td>
<td>Quantitative study</td>
<td>Normative theory of ethic (Shaw 2008), (Hunt &amp; Vitell 1986) Ethical dilemma model</td>
<td>Ethical judgement of NM, Purchase intentions, Word of mouth intentions, Switching propensity (tedency) This study found that the use of NM by for-profit organizations was received to be unethical while forgoing the use of NM was considered anethical act. However, for NPOs the decision to use NM was considered ethical and, though still considered ethical, the decision to forgo the use of NM was considered comparatively less ethical for NPOs relative to for-profit organizations.</td>
</tr>
<tr>
<td>Egrie, J. &amp; Bietsch, S.; 2014</td>
<td>Marketing research ethics: How consumers feel about neuromarketing. (Acte de Conférence)</td>
<td>Quantitative study</td>
<td>Not mentioned</td>
<td>Knoweldge &amp; awerness, NM ethic The data collected reiterates the consumer’s concern about privacy of information, as well as permission-based marketing. Some-what comfortable with marketers collecting information, and the some-what ethical behavior when describing the ethics of marketers explains why marketing researchers often struggle to collect information on consumers. While most of those surveyed where not familiar with Neuromarketing, the highest percentage found it interesting and would like to hear more.</td>
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<tr>
<td>Author(s)</td>
<td>Title</td>
<td>Methodology</td>
<td>Discussed Features</td>
<td>Findings</td>
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<tr>
<td>Elitza Bakardjieva &amp; Allan J. Kimmel 2016</td>
<td>Neuromarketing Research Practices: Attitudes, Ethics, and Behavioral Intentions</td>
<td>Quantitative study</td>
<td>Knowledge &amp; awareness, NM éthique, NM participation and interest, science perception, attitudes towards science, Ethical ideology,</td>
<td>The findings point to neuromarketing research knowledge, attitudes towards science, attitudes towards technology, and ethical ideology as important factors linked to neuromarketing research attitudes, perceptions of the ethicality of neuromarketing research, and willingness to participate in neuromarketing studies.</td>
</tr>
</tbody>
</table>
| Pop et al; 2016           | Ethical Responsibility of Neuromarketing Companies in Harnessing the Market Research – A Global Exploratory Approach | Exploratory study Qualitative study | Neuromarketing ethical features | - There are significant differences between the relevance of ethical objections coming from clients and those coming from research subjects.  
- The companies performing neuromarketing studies believe that they do not cause important negative moods to research subjects.  
- The companies that are part of the study don’t believe it is important to employ ethic specialists for the research design.  
- The attitude of neuromarketing companies towards ethical issues concerning the participants’ protection varies, remaining however an important concern for everybody. |
<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Methodology</th>
<th>Notes</th>
<th>Summary</th>
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</thead>
<tbody>
<tr>
<td>Ugur Bakir, Muge Elden, Erdem Gecit (2017)</td>
<td>Neuromarketing from the Perspective of Advertising Professionals</td>
<td>Interpretative phenomenology analysis (IPA), Qualitative study</td>
<td>Not mentioned</td>
<td>The results from this study indicate that advertising professionals are aware of neuroscience, but opinions on the use of neuroscience in marketing and advertising differ mostly based on the department they work in at the agency.</td>
</tr>
<tr>
<td>David Hensel, Ana Iorga, Lisa Wolter and Judith Znanewitz (2017)</td>
<td>Conducting neuromarketing studies ethically-practitioner perspectives</td>
<td>An exploratory, qualitative study. 10 NM experts</td>
<td>Grounded theory</td>
<td>Complete the code of ethics with 7 new requirements into the 1st protocol proposed by Murphy and Hensel (2016)</td>
</tr>
<tr>
<td>Mihai Monica (2019)</td>
<td>A study of banking marketers’ perception regarding the use of neuromarketing techniques in banking services</td>
<td>Quantitative study</td>
<td>Not mentioned</td>
<td>Results regarding NM perception: There is an openness to this relatively new method of research that can successfully contribute to the development of banking marketing not only for the service providers, but in particular to consumers’ qualitative benefit.</td>
</tr>
<tr>
<td>Kurtoglu, A. L., Ferman, A.M., (2020).</td>
<td>Exploratory research among fashion business leaders and neuromarketing company executives on the perception of applied neuromarketing</td>
<td>Qualitative study</td>
<td>Knowledge about neuromarketing, Willingness to make use of neuromarketing research, Willingness to conduct neuromarketing, Ethical concerns.</td>
<td>The findings show that there are discrepancies and similarities between the usage of applied neuromarketing in the globe and Turkey. In-depth interview findings show that the perceptions of Turkish fashion executives about neuromarketing differ from previous literature and different priorities exist to apply neuromarketing in fashion.</td>
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</table>

*Source: Formulated by authors based on the review and analysis of 12 recent scientific research (Scopus, Google scholar)*
II. Materials and Methods:

I. Focus group

Due to the novelty of the topic, and the limited knowledge that consumers have on the subject under the study, a qualitative approach based on focus groups was used for the study. This methodology is particularly appropriate in marketing and consumer studies where nothing or little is known about a topic. Focus group discussions provide a more natural environment where respondents share ideas as in real-life situations, making it possible to examine consumers’ perceptions, thoughts, feelings, and beliefs. Therefore, the aim of the focus groups for this study was to generate insights into the diversity of consumers’ attitudes, opinions, and perceptions towards Neuromarketing applications.

II. Focus group recruiting qualifications:

One focus group was conducted in Morocco in July 2021. Due to recent COVID-19 developments, face-to-face focus groups were replaced with online focus groups undertaken throughout the online platform Zoom, adapting the methodology to the new study design. A sample of 16 participants (see Table 2). The discussion session lasted around 2 hours with a 10-min break. Focus group interviews were audio and video recorded.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Male</th>
<th>Female</th>
<th>18-24</th>
<th>25-36</th>
<th>Over 36</th>
<th>Bachelor’s degree</th>
<th>Master’s degree</th>
<th>Doctorate</th>
<th>Students</th>
<th>Entrepreneurs</th>
<th>Managers</th>
<th>Housewives</th>
<th>Academicians</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Sex</td>
<td>7</td>
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<td>5</td>
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<td>Age</td>
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<td>Marketing experience</td>
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</table>
III. Focus group structure:

A semi-structured protocol with open ended and follow up questions was used to encourage spontaneous answers from participants. The discussion was organized into five main sections and different sub-sections (Table 3).

Table 4. Focus group structure.

<table>
<thead>
<tr>
<th>Sections</th>
<th>Questions (sub-sections)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Introduction</td>
<td>Introduction of moderator, assistant moderator, and participants. Elucidation of the discussion topic and ground rules. Engagement (ice-braker) question</td>
</tr>
<tr>
<td>2: Neuromarketing knowledge</td>
<td>Exploratory questions (What do you know about Neuromarketing)</td>
</tr>
<tr>
<td>3: Attitudes</td>
<td>Provision of information: Images of different neuromarketing perception</td>
</tr>
<tr>
<td></td>
<td>Exploratory questions: Attitudes and perceptions towards Neuromarketing</td>
</tr>
<tr>
<td>4: Neuromarketing controversy</td>
<td>Provision of information: Companies using NM techniques</td>
</tr>
<tr>
<td></td>
<td>Exploratory questions: Reactions and opinions towards Neuromarketing ethicality</td>
</tr>
<tr>
<td>5: Willingness to participate in NM experiences</td>
<td>Exploratory questions: Willingness to participate</td>
</tr>
<tr>
<td></td>
<td>And the reason behind</td>
</tr>
<tr>
<td>6: Factors impacting Neuromarketing use</td>
<td>Exploratory questions: The factors impacting the adoption of Neuromarketing</td>
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<td></td>
<td>Exit questions: Asking for questions and thank participants</td>
</tr>
</tbody>
</table>

IV. Analytic approach

Video tape from the focus groups were transcribed. These transcriptions were read through numerous times by the researcher (moderator) to become even more familiar with and sensitive to the content. The transcripts were reviewed with the above objectives in mind. In addition, the review process was helpful for making sure the questions are clear and understandable, and for identifying key terms used by participants when talking about Neuromarketing.

Morgan (1988) described two basic approaches for analyzing focus group data:

1) a strictly qualitative or ethnographic summary.

2) systematic coding via content analysis.

The two approaches can complement each other, strengthening the analysis. The present analysis is largely ethnographic, relying on many participant quotes to illustrate and to support key themes. However, systematic tallying of key topics is also used to help identify and develop important themes. For example, it is helpful to know how many people in each group are willing to participate in neuromarketing experiences. This type of analysis provides insights about what is important to respondents and provides a way to gauge intensity of opinion.

To begin, the group discussion transcript was analyzed. After several reviews of each answer, key topic responses were tallied, themes were identified and developed, and supporting quotes were identified. Then, preliminary findings for each were identified.
V. Results

Following the focus group sub-sections, results are serially presented as such: (1) Neuromarketing knowledge and awareness; (2) attitudes and perceptions towards Neuromarketing; (3) reactions and opinions towards the Neuromarketing controversy; (4) willingness to participate in Neuromarketing experiences; (5) factors influencing Neuromarketing adoption.

1. Neuromarketing knowledge and awareness

For most of the participants, the term Neuromarketing (10 responses) was familiar they identified it easily, some of them stated that Neuromarketing is an application of Neuroscience into the advertising industry, and other see it as new marketing tendency that use neuroscience techniques. However, for some of them, Neuromarketing was identified as a new term that combine artificial intelligence social media (2 responses).

At that point, the moderator provided a clear definition to put consumers into the picture and to begin the debate. Once participants were informed about the concept, they began to interact easily during the session.

2. Attitudes and perceptions towards Neuromarketing

When shown a combination of images, most participants (15 responses) considered Neuromarketing as a manipulative technique. The second attribute frequently mentioned was an intrusive method (6 responses), while some participants (4 responses) declared they considered it as manipulative way that allow companies to better understand consumers behavior to better satisfy their clients.

2 participants considered it as a cutting-edge technology, an innovative technique that complements traditional research with information that cannot be obtained through other old-fashioned techniques. Only if the disciplined respected an ethical protocol.

When asked about the advantages of Neuromarketing, better understanding consumers behaviors and motivations was the first contribution they mentioned. The second most important advantage was facilitating the act of purchasing to consumers by studying their psychology and emotions.

It is also noteworthy to highlight that although consumers addressed the fact that Neuromarketing would help understand consumers behaviors, some other concerns/mentions cropped up during the sessions such as: “The techniques should be ethical”, “These techniques should not be used for some type of products and services such as alcohol, Tabaco, drugs...”, and “The purpose should be to understand not influence the consumers will”.
3. Reactions and opinions towards the companies using Neuromarketing

All participants showed positive reactions towards the companies using Neuromarketing techniques such as (Macdonald’s). Participants mentioned that they were not chocked by this information, in contrary 9 participants find it intelligent and fascinating that companies are using innovative way to better understand consumers and serve them effectively. Even though 3 participants showed a negative attitude towards companies using Neuromarketing techniques and declared that it should be controlled by law to protect consumers from over-consuming products and services.

4. Willingness to participate in Neuromarketing experiences

Most participants revealed they were not willing to participate in a Neuromarketing experience (16 responses), they compared themselves to a laboratory mice. However, 6 participants required knowing the purpose and the procedure before making any final choice. And 5 others felt anxious and afraid about the idea of getting exposed to rays just for marketing purposes. Only 2 participants showed more willingness to participate in case of a monetary incitation.

5. Factors influencing Neuromarketing adoption.

Factors that might encourage/discourage the adoption of Neuromarketing techniques were mainly cultural factors (7 responses), personnel factors, awareness, knowledge, emotions (7 responses), organizational factors, the size of the company (6 responses), Legislative factors, absence of a law governing the discipline (2 responses) and technological factors, the cost of the technology (4 responses), and economic factors such as return on investment (1 responses).

VI. Discussion

The purpose of the present exploratory research was to examine the attitude of consumer’s to neuromarketing. The implication of the research is that consumers do have positives attitude toneuromarketing, they weren’t chocked that some companies are using Neuromarketing techniques to influence their purchase habits (example MacDonald’s).

Nevertheless the application of fMRI in marketing is not generally well embraced by the respondents. There are, e.g., some ethical reservations.

However, their behavior (willingness to participate in neuromarketing research) is not as positive as their attitude, justifying their decision that they don’t want to be considered as a laboratory mice. This situation may be related to the generally low level of knowledge about neuromarketing research applications. For example, beliefs or misconceptions about the side effects of fMRI machines, such as radiation or claustrophobia, may explain the prevailing attitudes and behavioral dissonance. More knowledge about applications may reduce the difference between attitude and behavior. This possibility is supported by some participants answers stating that in order to encourage participants to get involved in neuromarketing
experiences, more awareness should be drawn on the subject, by educating the general public about the benefits, the procedure, the advantages of the concept. Two of the participants mentioned financial incitation, and the advantage of discovering how their minds work.

Based on participants opinions we collected many factors influencing Neuromarketing adoption and use, the results could be used on future research to create a scheme of a Multi-level Framework of Technology Acceptance and Use of Neuromarketing techniques Venkatesh et al. (2010).

Finally, the future of neuromarketing studies depend not only on marketing academics, neurologists, and marketing professionals, but also consumers as participants. This important or even vital role of consumers in neuromarketing studies should not be neglected. Consumers should be given adequate information about neuromarketing applications in order to convince them to participate in neuromarketing studies.
VII. Conclusion

Significant advances in neuroscience in the last couple of decades are finally bringing us closer to a place we have never been before inside the human mind. Research is able to measure brain movement and emotions to see how brain works. Conventional marketing tools have proven to be limited when testing human subjects and have frequently been criticized for their inability to assess consumers’ motivations. Although neuromarketing is gaining popularity among professionals and academicians and consumers, there are still reservations when it comes to the function of neuromarketing and its limitations.

The present study covers both exploratory questions to gain first descriptive insight into how consumers feel about the topic in general and an effort to reveal (causal) relations between explanatory psychological phenomena and the willingness to participate in NM experiences.

It provides preliminary evidence regarding factors affecting adoption and intentions to participate in Neuromarketing experiences.

The study found that consumers have positive attitudes towards Neuromarketing even if they considered it a manipulative technique. Consumer acceptance appears to be driven by mainly the purpose of marketing in general which is to influence consumers.

However, the consumers declared not willing to participate in Neuromarketing experiences. Awareness and knowledge were an important factor when considering a potential participation. Therefore, whether consumers are willing to participate still they needs to be aware about Neuromarketing procedure.

Although negative emotions may negatively influence consumer acceptance and intentions to participate in Neuromarketing, the lack of awareness about the product and the limited knowledge about its benefits appear to be stronger barriers.

With this in mind, our study suggests that educating and informing consumers about the benefits of Neuromarketing may increase intentions to participate in neuromarketing experiences.

The study also suggests the importance of an ethical code, a guide of principles designed to help professionals conduct experiences honestly and with integrity to make sure, to only use non-invasive measuring tools, to fully inform participants on the purpose of the research, to preserve the participants data.

Despite its exploratory nature, this study contributes to the limited literature on Neuromarketing perception. Given the emerging area of research, this study may contribute and pave the way for further qualitative and quantitative studies on the topic on academicians and professional’s perception.
VIII. Bibliography:


Bakir and al, (2017), ‘Neuromarketing from the Perspective of Advertising Professionals: A Battle between Creatives and Strategic Planners’ Neuromarketing from the Perspective of Advertising Professionals, DOI: 10.4018/978-1-5225-1793-1.ch076 Copyright


Leon Festinger 1957, 'A Theory of Cognitive Dissonance'


