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CONSUMER NEUROSCIENCE SOLUTIONS: TOWARDS INNOVATIONS, MARKETING EFFECTIVENESS AND CUSTOMER DRIVEN STRATEGIES

Elena HORSKÁ[1], E.S. MARGIANTI[2], Jakub BERČÍK[3], Jana GÁLOVÁ[4]
[1,3,4]Slovak University of Agriculture in Nitra, Slovakia
[2]Gunadarma University, Depok, Indonesia
E-mail: elena.horska@gmail.com

Summary: Consumer neuroscience is a phenomenon that has become an important tool of marketing management when defining customer driven strategies. It helps to uncover hidden customer reactions and identify relations between internal emotions and external consumer manifestation and buying behaviour. The paper clarifies the position of neuroscience in the system of academic research and education on the one hand, and commercial research on the other. The description of realized neuromarketing research provides space for identifying areas of implementation and development of neuromarketing approaches in the practice of academic and commercial research. Within the framework of innovative approaches we consider the possibility of using interdisciplinary relations and new technologies, including augmented reality for qualitatively higher level of consumer studies.

Keywords: Neuroscience, Emotions, Consumer behaviour, Innovations, Commercial research

1. Introduction

Consumer neuroscience is a phenomenon that has become an important tool of marketing management when defining customer driven strategies. It helps to uncover hidden customer reactions and identify relations between internal emotions and external consumer manifestation and buying behaviour. Detailed mapping of consumer behaviour and responses gains importance in recent years as a result of global economic problems and financial recession, when consumers reassess the volume and financial costs of their purchases more than ever. On the other hand, technological innovations affect the qualitative level of consumer surveys as well as the forms of marketing communication.

This paper is the result of primary and secondary research within the national research project VEGA 1/0874/14 "Use of Neuromarketing in Visual Food Merchandising" and international education project Erasmus + Strategic Partnership "Food Quality and Consumer Studies" Nr. 2014-1-SK01-KA203-000464. Also, this work was co-funded by the European Community under the Project No. 26220220180 "Building Research Centre Agrobiotech".

2. Methodology

The research paper is based on the study of current knowledge in the following areas:

- Neuroscience, neuroeconomics, neuromarketing;
- Sensory marketing and aroma marketing;
- Visual merchandising;
- Virtual and augmented reality.

The study results in defining the relations between different fields and the possibility of using interdisciplinary knowledge to increase the information value of consumer studies and their use for creating marketing strategies.

In the next part of the paper, we define possible relations between the academic and commercial research and design the structure of research activities in the field of marketing and consumer studies. In the conclusion, the paper presents several examples of primary data collected from neuromarketing research which can be used in academic and commercial practice.

3. Results and discussion

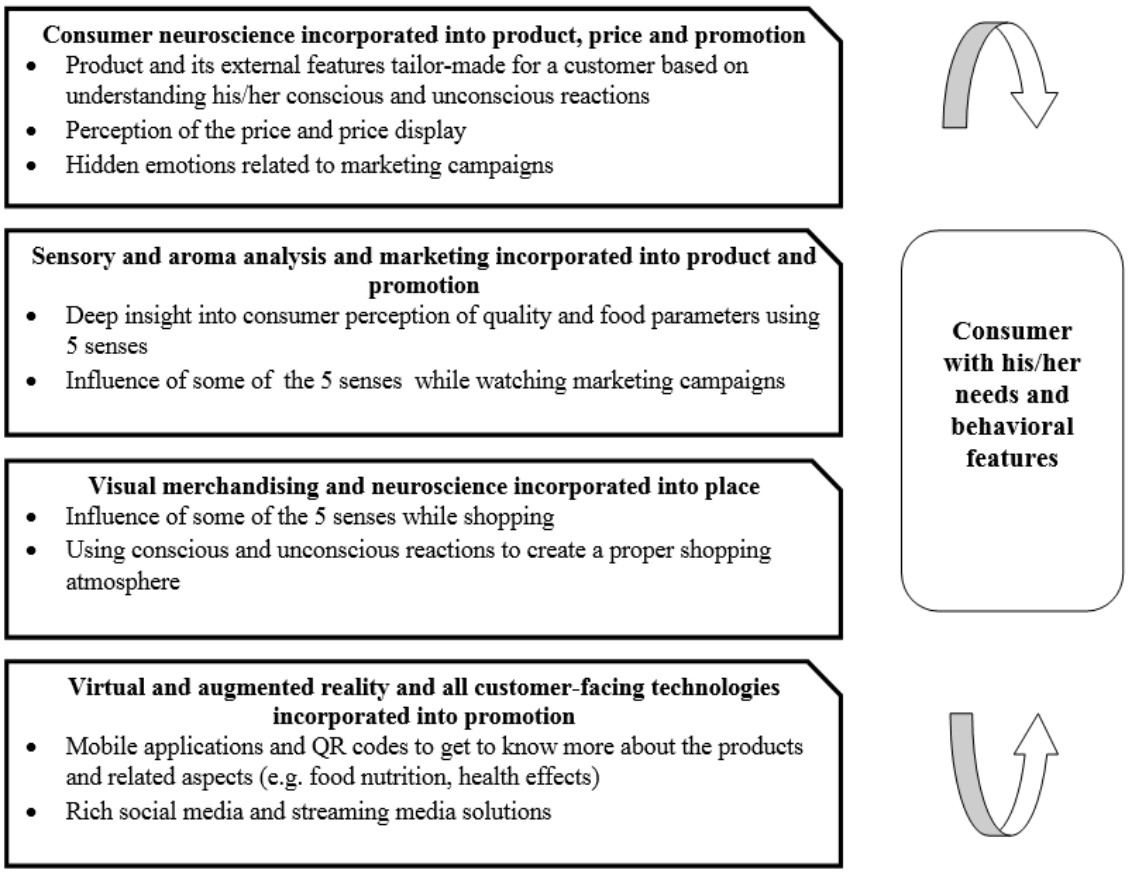
The combination of neuroscience, research and technologies reflects the current need for innovative solutions for any markets with respect to technical, technological and communications development (new methods for examining the customer – high-tech innovative solutions and analysis of measurement systems in the areas of brain, cognition, psychology and behaviour, augmented – virtual reality in the communication with the customer).

If we consider the enrichment of basic approaches to examining the consumer and creating customer-driven strategies, we need to realize in which areas we can apply technological advances and in what direction. Lindstrom (2009) points out that today, thanks to advanced new tools and technologies that businesses have available and current research in the field of consumer behaviour, cognitive psychology and neuroscience, companies are aware of what affects customers much more than we can imagine. Scans of the human brain reveal the deepest subconscious fears, dreams, vulnerabilities and desires. The brain activity of the consumer speaks about the true intentions of his buying decision. The aim of linking the classical understanding of marketing, new technologies and interdisciplinary relations is primarily a targeted focus on influencing consumer behaviour, respectively, creating the need with a following strong desire to satisfy it. The various options are shown in Figure 1.

We took into account the four tools of marketing mix (namely product, price, place and promotion) with the aim of their most effective use and positioning (Nagyová, 2014). From the category of new technologies and interdisciplinary relations, we used sensory analysis, sensory marketing, aroma marketing, neuroscience, virtual and augmented reality and visual merchandising. We confronted our effort for a synergic effect by linking existing and new approaches with current trends and development in the field of marketing and marketing technologies, where we considered the following assumptions and predictions:

- Marketers must always look for new sources of differentiation. In the coming years, most companies expect to compete primarily in customer experience. There is a prediction that in 2016 customer experience will reach the highest level of marketing investment.
- New marketing technologies have to be designed and implemented as "all customer facing technologies" including e.g. artificial intelligence or virtual assistance for marketing purposes.
- New technologies and deep customer insights have to bring value for both companies and customers.
- In spite of globalization, marketing will shift to personalization and it will become more regionalized, localized or individualized. Even though economics of scale is a big asset, companies will decentralize their structures and will try to increase regional and local influence.
- Social media and virtual reality will request not only generally declared customer oriented approach but also "mobile friendly approach" and streaming media solutions.

Figure 1: Enrichment of marketing by consumer neuroscience, interdisciplinary relations and new technologies (applied on food marketing)



Source: Authors' own research and design, 2015

As written by Hill & Simon (2010), all human beings use three part brain: visual, emotional and rational. This gives the answer to differences between emotional versus verbal response of customers/respondents in many research action situations. Such limitations of traditional research can be overcome by using new research techniques from the field of neuromarketing and consumer neuroscience:

- *Facial Coding* measures how people feel. The human face registers a wide variety of emotional states. Facial expressions can be read at the level of observable changes (e.g. while eating, drinking, testing some food samples) and at the level of unobservable micro-muscle changes (positive or negative emotional responses).
- *Eye Tracking* measures what people see. It has wide variety of uses in neuromarketing as it provides valuable indications of interest, attention and attraction.
- *Electroencephalography (EEG)* accounts the most popular neuromarketing technology because of its relatively low costs and manageable equipment requirements (Genco, Pohlmann & Steidl, 2013). It can measure moment-to-moment changes and identify memory activation in real time.
- *Functional magnetic resonance imaging* is considered as the best standard method for neuroscientists, but at the same time as the least practical. In consumer neuroscience (the academic neighbouring discipline to neuromarketing), functional magnetic resonance imaging has been used to study branding, advertising, shopping and entertainment.

Another innovative element we can connect with marketing is sensory and aroma marketing. The basic idea is to introduce five senses (sight, smell, sound, taste, and touch) in relation of their use in designing marketing strategy. Marketers mostly appeal to sight and sound. At the

same time, 99 % of all brand communication focuses on sight and sound. However, in many cases, sound and smell are more effective than sight when branding a product or organisation. Also, visual images are more distinctive when matched with a second sense (Lindstrom, 2009). Sensory marketing, from the viewpoint of using five senses for creating better customer driven strategies, can enrich the interdisciplinarity in traditional marketing.
The topic of augmented reality has not yet been included in the syllabus of marketing or marketing communication at most of the universities. Augmented reality (AR) is a live direct or indirect view of a physical, real-world environment, elements of which are augmented (or supplemented) by computer-generated sensory input such as sound, video, graphics or GPS data, or simply saying additional information. By contrast, the virtual reality replaces the real world with a simulated one.

4. Conclusion and recommendation for further studies

University education represents the highest form of formal education. Universities have to prepare professionals for the job market and implement innovative solutions into practice. For this purpose, universities should have access to quality and modern curricula and methodologies, reflecting the development in the society, research and industry. Our recommendation for further studies is to provide facilities for academic and commercial research and training the students.

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