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NECESSITY FOR NEUROBIOLOGICAL APPROACHES WITHIN MODERN BUSINESS EDUCATION

Recent breakthroughs in neurobiology or neuroscience are helping us to understand brain functions and this knowledge could be further used to shape and progress management, team-building, and innovation in business practice. Nowadays the tools for measuring physiological responses of the brain used in neuromarketing tend to be quite affordable and easy to use. Huge number of companies already offer neuromarketing service but neuromarketing curriculum is offered in just a few academic institutions. One of the still opened questions concerning studying neuromarketing as academic discipline is the final goal of neuromarketing approach in business: profit or sustainable development. In the last few years neuromarketing was used as an approach in initiatives whose aim is sustainability, solidarity and humanitarianism. This paper discuss reasons for involvement of such neurobiological approach within modern business education.

Keywords: neurobiology, neuroeconomics, business education, curriculum, brain

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НЕОБХОДИМОСТЬ НЕЙРОБИОЛОГИЧЕСКИХ ПОДХОДОВ В СОВРЕМЕННОМ БИЗНЕС-ОБРАЗОВАНИИ

Недавние прорывы в нейробиологии и нейробиологии помогают нам понять функции мозга, и эти знания могут быть в дальнейшем использованы для формирования и развития управления, создания команды и инноваций в деловой практике. В настоящее время инструменты для измерения физиологических реакций мозга, используемые в нейромаркетинге, как правило, вполне доступны и просты в использовании. Огромное количество компаний уже предлагают услуги нейромаркетинга, но учебные программы по нейромаркетингу предлагаются лишь в нескольких академических учреждениях. Одним из нерешенных вопросов, касающихся изучения нейромаркетинга как учебной дисциплины, является конечная цель нейромаркетингового подхода в бизнесе: прибыль или устойчивое развитие. В последние несколько лет нейромаркетинг использовался как подход в инициативах, цель которых – устойчивость, солидарность и гуманизм. В данной статье обсуждаются причины использования такого нейробиологического подхода в современном бизнес-образовании.

Ключевые слова: нейробиология, нейроэкономика, бизнес-образование, учебная программа, мозг

Introduction. Business in almost every industrial branch has been reshaped in the last few decades mainly by the new technological advances. On the other side, still many companies base their decisions and strategies to a classical approach through interviews and questionnaires, focus groups, commercials, etc. or in some cases on more advanced technological solutions as tracking of card swipes, GPS, or web. Nowadays there are even more accurate resources of business related information that could be obtained by implementation of the field of neurobiology.

Neurobiology or Neuroscience is basically the study of the nervous system. This multidisciplinary science combines knowledge, scientific methodologies and techniques from several areas as being: physiology, anatomy, psychology, molecular biology, computer science, cognitive science, etc. in

order to understand the properties and functioning of neurons, neuron circuits and generally nervous system [1]. Nervous system, and particularly its central part known as the brain, is a biological structure responsible for the formulation of our complete behaviour. This includes psychological processes as attention, motivation, memory, decision making, etc. Recent breakthroughs in neuroscience are helping us to understand these processes and this knowledge could be further used to shape and progress management, team-building, and innovation in business practice.

Without any doubts our thoughts and feelings, also as motivations and decisions are products of brain activity. This activity could be detected using plentiful of techniques developed in cognitive neuroscience under the common name «brain imaging» or «neuroimaging». Brain imaging directly or indirectly, and in most cases non-invasively, detect functional changes of an active brain as elevated blood flow, energy (glucose) or oxygen consumption, electrical and magnetic field variations. There are a variety of such techniques for instance, functional magnetic resonance imaging (fMRI), positron emission tomography (PET), magnetoencephalography, etc. Besides, some of the indirect electrophysiological techniques that track changes in the peripheral nervous system, muscles, sweating, eye movement, etc. might be also used to follow and someone's inner feelings and psychological status. These techniques include electromyography, electrooculography, electrodermal reaction (skin conductance response), facial coding. Neuromarketing measure neurophysiological signals to gain insight into customers' preferences, motivations, and decisions, which can help inform creative advertising, product development, pricing, and further marketing areas [1]. Nowadays the tools for measuring physiological responses of the brain used in neuromarketing tend to be quite affordable and easy to use.

Potential impacts of neurobiological approaches on business and management. Our brains form special neural circuits whose effects are special relations with people we love or hate. Therefore, spending some time with these people will have as final effect sense of gain or loss. The similar way consumers build emotional and social connection with different brands and as a result, they love or hate certain brands. Obviously, as consumers we establish personal connections to at least some of the products that we use (cars, smartphones, sportswear, food etc.). Experimental studies performed on people whose brains were scanned with functional magnetic resonance imaging technique showed that some people built emotional connections and empathy with their preferred brands and this might influence even their perception process [2]. It is obvious that neurobiology could be used to reveal how buyers actually think and pay attention to and what motivates them in their choices. The golden rule of economy that buyer make choice according to the value of the product he is paying seems to be just a partial truth since buyer establishes an emotional relation to the product. In a broader view the same knowledge might be a powerful tool to predict choice sets that shape consumer and investor decisions.

In addition, neuroscience can augment talent identification, progress team selection, monitor process of training, improve on boarding and cultural fit, enrich marketing and communication strategies, and enhance client relationships. Business management may develop leadership capabilities by understanding the decision-making process, as well as how neural constraints can lead to bad conclusions and how to overcome them. Cognitive enhancement and brain training might be used in order to improve efficiency, cultural fit, and overall job satisfaction [3].

Besides being involved in emotions, our brain also plays important role in social relations. Business management relays on building social connections. On this line, neuroscience might help in fine-tuning of business communication and proofing that message gets across by. Eye contact, body language, and other important sources of nonverbal information could support verbal communication or give the wrong opposite impression. According to some neuroscience research two of the most effective approaches for linking with the audience, whether an individual or a group, are building eye contact and mirroring (subtly mimicking the gestures of the other person). Both of these approaches lead to synchronized brain

waves, which are linked to engagement, learning, and good rapport [3]. Such scientific investigations explain secrets of so-called team chemistry and why some ideas catch on and others fail.

At the end simple question arises. Should companies finance neuromarketing whether through brain scans or some other cheaper techniques? Several large companies opened neuromarketing units. These are NBC and TimeWarner, Microsoft, Google and Facebook and this list grows. Besides, several start-ups in Silicon Valley are working to make brain imaging less costly and more portable [4].

Neuromarketing curriculum in the modern business education. Neuromarketing activities are developed in the research companies and already offered as a service through many agencies. On the other hand, neuromarketing curriculum is offered in just a few academic institutions (see Table). This might be consequence of ongoing debate on the necessity and possibility to include neuromarketing as an academic discipline.

Most of the academic courses are offered as Master programs with 60–120 ECTS. These are mainly semi-classroom based programs that combine classroom teaching with practical work, and distance learning. The aim of the programs is to bring together diverse disciplines which have not been considered linked to date, such as advertising and information with neurobiology and biomedical science.

List of academic neuromarketing courses

University	Academic level and ECTS
Reading University, England	Bachelor, 180 ECTS
Lesley University, United States	Bachelor, 120 ECTS
University of Economics and Human Sciences in Warsaw, Poland	Bachelor, 180 ECT
Universitat Autònoma de Barcelona, Spain	Master, 60 ECTS
Universitat Politècnica de València, Spain	Master, 90 ECTS
Cardiff University, England	Master, 90 ECTS
IE Business School, Spain	Master, 60 ECTS
Radboud University, The Netherlands	Master, 120 ECTS
University of Sussex, England	Master, 60 ECTS
Leiden University, The Netherlands	Master, 60 ECTS
Maastricht University, The Netherlands	Master, 120 ECTS
Nanyang Technology University, Singapore	Master
King's College London, England	Master, 180 ECTS
City, University of London, England	Master, 60 ECTS
University of Groningen, The Netherlands	Master, 60 ECTS
Erasmus University Rotterdam, The Netherlands	Master, 60 ECTS
Uskudar University, Turkey	Master
ESCO – Escuela de Marketing y Comunicacion, Spain	Online Master, 60 ECTS
Universitat de Barcelona, Spain	Online Master, 60 ECTS
Universidad Nebrija, Spain	Online Master, 60 ECTS

There are several career opportunities suggested to the students interested in studying neuromarketing:

- strategic and operative marketing;
- advertising agencies;
- market research;
- political communication consulting;
- company management;
- teaching;
- branding;
- research in the field of mass consumption.

One of the still opened questions concerning studying neuromarketing as academic discipline is the final goal of neuromarketing approach in business. Is that exclusively increase of profit? Is there possibility to use neuromarketing in purpose of solidarity, sustainability and humanitarianism?

Neuromarketing as instrument for sustainability, solidarity and humanitarianism. For most of the people terms neuromarketing on one side and solidarity, sustainability and humanitarianism on the other side, stand on opposite side of our world. According to Salvador Vidal-Raméntol neuromarketing is a useful instrument for carrying out solidarity campaigns related to sustainability [5]. Together with his students Vidal-Raméntol performed a research to investigate how neuromarketing could impact the selective collection of plastic bottle caps for a humanitarian cause. The research was conducted in five teaching canters, while neuromarketing campaign was implemented in only one out of them. According to this author neuromarketing campaign resulted in spectacular improvement in the selective collection of caps. Vidal-Raméntol concluded that social purpose of helping the groups most in need can motivate action of separating the bottle cap.

Obviously, neuromarketing might be one of the tools in the process of neuroeducation implementation. Moreover, neuroeducation and neuromarketing could be realized even through social media. Digitalization is helping us to feel closer, to endure work and educational accomplishments, and to multiply virtuous behavior and solidarity actions. Stories that tell episodes of mutual support, solidarity, generosity are inspiring other people to perform similar actions and to think in the same direction. Even on the classical field of neuromarketing using the neuromarketing approach in social media should be preferentially matching company's purposes and consumer's benefits for sustainable business growth [6].

Pagan and colleagues suggested research projects in neuromarketing that apply eye tracking and EEG to assess aspects of sustainability in consumption [7]. They propose to marketing professionals to use this approach to learn about the brain and visual mechanisms that are associated to sustainable consumption and sustainable decision-making. Therefore, the final purpose according to them should be development of products and communication more effectively. Neuromarketing could become powerful environmental awareness tool used to design sustainable consumption thus providing optimal and harmonized development of the society.

Conclusion. Neuromarketing was relatively new discipline already implemented as a fine strategy for market analysis. The number of companies that opened centers for neuromarketing is constantly growing. Unfortunately, there are not as many universities that offer studying neuromarketing at academic level. Due to the constant requirement for increase in profit most of the people associate neuromarketing as a tool that huge companies use to track their consumers and sale them products that their often do not need. Luckily, in the last few years neuromarketing was used as an approach in initiatives whose aim is sustainability, solidarity and humanitarianism. These examples rise hope that neuromarketing could be offered to students as studying program for development of society based on these principles.

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