SCIENTIFIC AND TECHNICAL JOURNAL
Namangan Institute of Engineering and Technology

«FOUNDATIONS OF NEUROMARKETING STRATEGY IN INDUSTRY»

Boltaeva Zinora | Senior teacher

Tashkent State University of Economics

https://doi.org/10.5281/zenodo.7952971

ISSN 2181-8622

Manufacturing technology problems

Scientific and Technical Journal Namangan Institute of Engineering and Technology

Volume 8
Issue 1
2023

Google Scholar

doi zenodo

SLIB.UZ
Scientific library of Uzbekistan

FOUNDATIONS OF NEUROMARKETING STRATEGY IN INDUSTRY

BOLTAEVA ZINORA

Senior teacher at Tashkent state university of economics

Abstract:

The purpose of the study examination for the theoretical foundations of such a relatively new branch of behavioral economics as neuromarketing. The paper discusses the main methods and tools of neuromarketing. In addition, the article provides a brief description of the possibilities of its application in modern realities.

The tasks of the research are research foundations of neuromarketing strategy in industry. As neuropsychology and cognitive sciences matured, a deeper understanding of higher brain functions emerged. The behavioral disciplines that emerged on the basis of neurophysiology and neuropsychology made it possible to analyze human reactions to advertising stimuli, determine the "correct" colors, track the effect on the subconscious of music and scents, analyze brain decision-making processes, determine benefits and risks. It is interesting to note that the name "neuroeconomics" has become a unifying name for the above-described areas of research.

The subject of the research is foundations of neuromarketing strategy in industry.

Research methods. Research using modern radiological techniques is actively developing today. Positron emission tomography (PET), single photon emission tomography (SPECT), functional nuclear magnetic resonance (fMRI), magnetoencephalography (MEG), transcranial magnetic stimulation (TMS), as non-invasive diagnostic methods, allow visualization of brain activity were used in the research paper.

The scientific novelty of the research is despite the controversy of scientists, many specialists began to increasingly turn their gaze towards neuromarketing. This is due to the fact that standard, well-studied and even reliable marketing approaches do not give the desired results in modern conditions.

Keywords: marketing, neuromarketing, neurolaboratory, neuromarketing methods, brain research, emotional involvement of the consumer, emotional stimulus.

Introduction. Neuromarketing is a set of activities that study the relationship of the human brain to marketing and advertising in particular. Research results make it possible to better predict the logic of the consumer, his reaction to stimuli by measuring processes in the brain.

The evolution of marketing concepts has almost always been influenced by psychological and neurophysiological thought. The beginning and middle of the twentieth century marked the beginning of the basic methods of neuroscience, the last ten years have been characterized by the active development of neuroimaging methods, which laid the foundations of neuromarketing tools.[5]

Literature review. The concept of neuromarketing, scientists believe, was developed by psychologists at Harvard University in the 1990s. However, the founders of this direction are traditionally considered the General Director of Retail branding A.G.Arndt Tryndl and the director of the store branding Retail branding Bart Oeyman.

The objective of this paper is to show the added value of using tools such as eyetracking, galvanic skin response, facial coding and others in the field of market research and user experience research. We will present 3 case studies in which these tools have been used successfully. We will give an overview of the background, the objectives, methods and results and how the neuro-tools provided additional insights into consumer behaviour, which would otherwise not have been possible. In this paper we will specifically show cases from packaging design, advertising research and user experience research thus only covering a small part of possible application areas.

A general neuromarketing technique was developed in the late 1990s by Harvard professor Jerry Zultman, who immediately patented it under the name ZMET (Zaltman Metaphor Elicitation Method). The essence of ZMET is to

recognize a person's subconsciousness using sets of specially selected pictures that cause a positive emotional response and activate hidden images-metaphors that stimulate a purchase. On the basis of the identified images, graphic collages are constructed, which are used as the basis for commercials. The data is then interpreted through interviews with a psychologist or by analyzing images of the brain. ZMET marketing technology quickly gained popularity among hundreds of large customer firms, among which Coca-Cola and Pepsi, Nestle, General Motors, Procter & Gamble, and others (more than two hundred large companies) can now be noted.[3]

Analysis and results. The scientific community has information about the direct use of magnetic resonance imaging equipment in neuromarketing research. He became a pioneer here at the turn of 2002 and 2003. an American scientific and commercial project called the Brighthouse Institute for the Science of Mind. The new MRI-based neuromarketing method he developed is similar to ZMET and also uses specially selected images. The only difference is that the reaction of the surveyed clients to the presented images is established not by the conversation of psychologists, but by direct scanning and analysis of the brain regions activated in this case. However, when studying the positive and negative reactions of the brain to certain images, neuromarketologists are absolutely not interested in the conscious reaction of a person. The reason for this is the stated goal of the study - to establish how effective advertising is in subconsciously stimulating the purchase of a particular product or in developing brand loyalty [2].

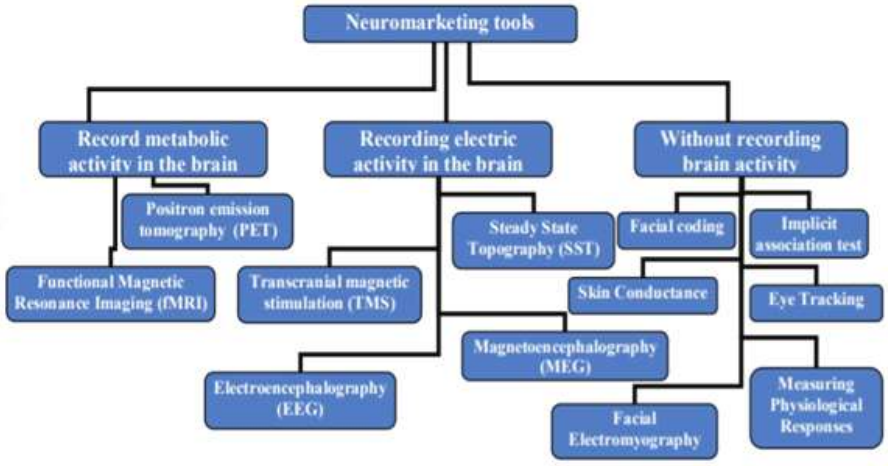

Fig.1. Classification of Neuromarketing Tools. Adapted from Bercea (2012).[6]

It should be noted that the most important advantage of neuromarketing over classic marketing is the ability to accurately identify which of the advertised products, brands or videos you just like, and which is really effective for making a decision. For example, in a neuromarketing study conducted by researchers in Australia, it was shown that a promotional video with rapidly changing episodes was not liked (as follows from subjective reports) of any of the participants in the experiment; moreover, the video was annoying. (Fig.1)

However, brain scans of the participants while watching advertising videos with different tempo of changing episodes revealed that it was the video with a fast pace that was remembered significantly better than static or low-dynamic videos. Subsequently, the product that was advertised in this “bad” video from the point of view of classic marketing was quickly recognized in the supermarket and bought more often.

As neuropsychology and cognitive sciences matured, a deeper understanding of higher brain functions emerged. The behavioral disciplines that emerged on the basis of neurophysiology and neuropsychology made it possible to analyze human reactions to advertising stimuli, determine the "correct" colors, track the effect on the subconscious of music and scents, analyze brain decision-making processes, determine benefits and risks. It is interesting to note that the name "neuroeconomics" has become a unifying name for the above-described areas of research.

Research using modern radiological techniques is actively developing today. Positron emission tomography (PET), single photon emission tomography (SPECT), functional nuclear magnetic resonance (fMRI), magnetoencephalography (MEG), transcranial magnetic stimulation (TMS), as non-invasive diagnostic methods, allow visualization of brain activity in real time. These techniques make it possible to objectively judge the brain activity associated with a person's response to a stimulus (for example, a commercial product). Neuroradiologists can now answer the questions about what emotions the buyer is experiencing, whether he made a positive decision to purchase, etc., quite objectively.[1]

To date, about a hundred results of full-fledged consumer behavior studies using neuroimaging methods have been published. Depending on the approach used, they can be conditionally divided into three groups:

1. Consideration of brands through the prism of consumer preferences. Creation of advertising and brand attributive architecture is especially effective in this direction. They include the following activities:

• research of consumer motivations;

• testing the concepts of advertising materials: as a complex of elements (illustration, slogan, main text, font, etc.), as a logical link, as a holistic image;

• peculiarities of perception of color aspects of advertising materials;

• identification of areas of consumer attention and areas of concentration of attention on objects of printed matter;

• creating or adjusting the brand image and studying the associations that consumers have with him and his personality - the distinctive features of the brand and more.

2. Representative assessment of possible alternatives of consumer preferences, through indicators of choice and making a purchase decision:

• determination of a set of properties of a product and its utility functions that affect consumer choice;

• identification of various indicators of the importance of product properties that are considered relevant to the consumer;

• establishing a set of beliefs (brand or product image) about the properties of the product and determining the degree of presence of each of them.

In the aspect of the above areas, one can cite a lot of research carried out by scientists at Stanford, Cambridge and other universities. Since microeconomic theory states that purchases are determined by a combination of consumer preference and price, these researchers investigated, using functional MRI, how consumers perceive the importance of these factors in purchasing decisions. It was proved that the choice associated with a conflict situation in the form of balancing between the desired object and its high price leads to the activation of the brain areas involved in the decision to purchase a product, and the corresponding conclusions were drawn.

3. Determination of the cognitive functions involved through attention and memorization of events in the process of consumption. As a rule, such studies are of a two-level nature:

• establishment of the consumer's “pyramid of values” (emotional, spiritual and cultural beliefs and values);

• testing the consumer's ability to retrieve previously offered product information.

Among many studies devoted to the third of the considered categories of neuromarketing research, M. Rothschild was one of the first to study how EEG activity will change in response to the visual presentation of advertising material. Analysis of EEG signals is no less a unique means of controlling higher-order neurocognitive processes than other, more expensive research methods.

The concept of neuromarketing boils down to the recognition of commercial applications, a better understanding of consumer behavior, the need to study consumer responses to marketing incentives using methods such as quantitative electroencephalography, functional magnetic resonance imaging, galvanic skin response, oculography, heart rate, respiration, body temperature measurements, and also studies of the reactions of the human brain to irritations of the human senses: sight, smell, hearing, touch and taste

A number of scientists distinguish three innovative concepts of modern marketing: neuromarketing, cognitive marketing, and sensory marketing.

However, most scientists believe that neuromarketing includes cognitive and sensory marketing. Some scientists consider neuromarketing to be nothing more than manipulation of customer behavior, and not at all a science.[4]

Despite the controversy of scientists, many specialists began to increasingly turn their gaze towards neuromarketing. This is due to the fact that standard, well-studied and even reliable marketing approaches do not give the desired results in modern conditions.

The point is that traditional marketing tools do not create the necessary, strong enough emotional irritants. Modern consumers have become more discerning, learned to adapt and more carefully select information coming from outside: from posters, banners, flyers, television and radio broadcasting.

Discussion of results. The ability of people to perceive stimuli from the environment, primarily at the level of neurophysiological signals, lies at the heart of the science of neuromarketing. On the basis of biophysical and biochemical processes, the human sense organs translate stimuli into the language of emotions at the subconscious level.

The main neuromarketing methods are:

Air tracking. The eye tracking method is used to observe the direction of a person's gaze, the size of his pupils, and the delay in gaze at a particular object. Based on this analysis, the color, font, and style of the brand are determined, product packaging is made, advertising materials are placed, videos, advertising posters and banners are shot.[9]

Study of heart rate, pulse and detection of increased sweating. To assess the emotional involvement and experiences of the client using a polygraph, a study of the heart rate, pulse is performed, and increased sweating is detected.[10]

Observing involuntary facial expressions. With the help of high-resolution video cameras, emotions and involuntary facial expressions of a person, including joy, surprise, irritation, interest, discontent, are recorded, which help analyze the respondent's reaction to video and contextual advertising and the design of a tourist product.[8]

Analysis of the brain reaction. Human brain scans are performed by two of the most advanced technologies: magnetic resonance imaging and a modern analog of the electroencephalogram, known as topographic mapping of the electrical activity of the brain. The analysis of the results obtained allows us to identify the most memorable types of tourist

advertising products. At the same time, one does not even need to ask what the subjects themselves remember.[7]

To date, based on neuromarketing research, the areas of the brain have been studied that are activated every time:

1) the person sees the products or brands that he prefers;

2) a situation of trust in the seller or the product arises;

3) you need to make a decision based on an assessment of the balance between the immediately received pleasure associated with the purchase of goods and at the same time received disappointment in connection with spending money;

4) pleasure or perception of beauty arises;

5) a person experiences altruistic feelings;

6) the negotiators' emotions prevail to the detriment of a cold mind, or, conversely, rational restraint remains, which suppresses emotions.

In summary, the main obstacle to the implementation of neuromarketing technologies in the development strategy of the organization is the need for significant financial investments.

Not every company can afford to purchase such expensive equipment, and especially to create its own laboratories.

But companies that do not have sufficient financial capacity for this kind of costs, ready to introduce innovative approaches to neuromarketing, may well use the services of research centers.

Conclusions. Neuromarketing is developing more actively abroad, and it is natural that large neurolabs are located in the countries of the West and Europe.

The experience of neuromarketing testing by the research center for Brand Management and Brand Technologies (RCB & B) is well known. He designed the style for the Fonty Fler flower chain, the BEC manufacturing and trading company and other trading companies. Nicholas Corot is Principal Curator of the RCB & B Research Center and Board Member of the Guild of Marketers.

Some global marketing experts believe that it is not necessary to conduct your own expensive neuromarketing research. In their opinion, it is enough to take advantage of foreign developments and ready-made results of neuromarketing research. This position fits well into the imitation strategy of diffusion of innovations.

References

1. Byrd K. Unconscious branding // Computerra. - 2006. - No. 46, p. 38-39.

2. Lindstrom M. Buyology: a fascinating journey into the brain of the modern consumer (translated from English. Falyuk E.). M .: Alpina Business Books, 2012 .-- 240 p.

3. Marketing: a large explanatory dictionary. - M .: Omega-L. Ed. A.P. Pankrukhina. 2010 .-- 256 p.

4. Lewis D. Neuromarketing in action. How to get into the brain of the buyer / per. from English: M .: Mann, Ivanov and Ferber, 2015 .-- 304 p.

5. https://link.springer.com/referenceworkentry/10.1007%2F978-94-007-6167-4_290-1

6. https://www.researchgate.net/figure/Classification-of-Neuromarketing-Tools-Adapted-from-Bercea-2012_fig1_335232446/

7. N. Lee et al. What is 'neuromarketing'? A discussion and agenda for future research International Journal of Psychophysiology (2007)

8. V. Sebastian. Neuromarketing and evaluation of cognitive and emotional responses of consumers to marketing stimuli. Procedia-Social and Behavioural Sciences (2014)

9. Murphy ER., Illes J., Reiner PB. Neuroethics of neuromarketing J Consumer Behaviour., 7 (2008), pp. 293-302

10. Reutskaja E., Nagel R., Camerer C.F., Rangel A. Search dynamics in consumer choice under time pressure: An eye-tracking study. American Economic Review, 101 (2) (2011), pp. 900-926.

ISSUES OF REGIONAL DEVELOPMENT OF SMALL BUSINESS

RASHIDOV RAHMATULLO

Head of Department, Namangan institute of engineering and technology
E-mail: r.rashidov84@mail.ru, phone.: (+99893) 498-96-84

Abstract:

Objective. Entrepreneurial activity is of particular importance for the development of the national economy. This article provides detailed information on the characteristics of entrepreneurial activity in the context of the transition to the innovative economy.

Methods. The research methods were statistical, comparative analysis, induction and deduction methods.

Results. The changes that have occurred in the economy in recent years require the development of a new, more complex stage of economic transformation, in which the center of gravity shifts to solving the problem caused by the technical-economic paradigm and systemic long-term changes. Term challenges that reflect global trends and domestic development barriers. In such conditions, small business plays an important role, which affects the socio-economic level of the country's economy in many ways. In the article, spatial mechanisms of small business development, factors, opinions of foreign scientists, existing problems are listed based on statistical analysis, and as effective solutions to these problems, recommendations on the development and implementation of issues of regional location of business entities are presented.

Conclusion. Boundary conditions for the successful operation of entrepreneurship in the innovative economy are revealed by taking into account the scale effect of firms of different sizes that arise as a result of profitability growth and operate as a systemic view. Qualitative and quantitative characteristics of a firm of a certain scale in the innovative economy act as self-developing value-economic, organizational-institutional and production-technological education.

Keywords: innovation, entrepreneurship, spatial development, spatial balance, evolutionary development.

Introduction. There is a need to develop a conceptual approach to form realistic ideas about the spatial development of small business, which allows for a satisfactory description of the production of knowledge, innovation and their reproduction within endogenous models. When micro-entities are directly aggregated into ideal market-type macrosystems, it allows to overcome the limitations of traditional analysis based on a simplified understanding of economic reality. The limitations of traditional analysis do not allow to properly take into account the spatial diversity of economic development, the specificity of interregional relations, as well as significant differences in socio-economic conditions for economic development. Taking into account the spatial dimension is of particular importance for our country due to the differences in the conditions for running a small business in the regions.

The study of the laws of evolution of the spatial mechanisms of small business development and the factors affecting them is important from the point of view of the development of economics. The increase in the density of filling the territories with farms and the involvement of new lands in the farm rotation led to an increase in the land deficit. This process is historical in nature, it was greatly accelerated due to the quadrupling of the world's population and the increase in the rate of economic development. The reduction of free spatial

CONTENTS