

HEATMAPS AS OPTIMIZATION OF MARKETING SOLUTIONS TO INCREASE THE INFORMATIVE CONTENT OF THE WEBSITE

Author(s): **Artemenko E.A.** ^a **Gavrilova T.V.** ^b

^a Student, Leonov Moscow Region University of Technology (UNITECH), Russia

kateelert7@gmail.com

^b Senior Lecturer, Leonov Moscow Region University of Technology (UNITECH), Russia

Abstract

This article deals with the basic concepts of this topic, illustrating the need for organizations to introduce heat maps as a means to optimize marketing decisions. The application of this resource in various areas of the organization's activities are studied in detail, as well as the options for using heat maps to study the desires and preferences of the consumer. The article also provides an analysis of correct and incorrect utilization of heat maps, and how their data should be interpreted to maximize website effectiveness.

Keywords: *neuromarketing, marketing, heat maps, consumer behavior.*

JEL:M31, M370, M300.

1. Literature review

In my research, I relied on some of the most popular articles on neuromarketing, which are listed and described below.

The article "Opportunities and limitations of using neuromarketing methods" (Nedelko A. Y., 2018) discusses data analysis methods by functional magnetic resonance imaging, electroencephalography, magnetoencephalography, electromyography, eye-tracking, as well as measuring cardiovascular data and skin-galvanic response, which scientists use to study how the brain reacts to any marketing actions. This article fully covers the methods used to study human behavior, which allows us to judge their effectiveness.

In her article titled "Neuromarketing tools: problems and prospects" (2018) Dershen V. describes the tools and methods of neuromarketing, and conducts a critical analysis of existing methods of data analysis. Thanks to this article we have a complete picture of the directions of application of neuromarketing, as well as the potential shortfalls of using these methods in research and commerce.

2. Problem definition.

Russian consumers have become more selective in their purchases as a result of the decline in

incomes in recent years. Consequently, in order to increase the effectiveness of their activities, advertisers have focused on creating ads that have the strongest effect on the consumer's motivation.

In the age of digital technology, all businesses are gradually moving online, which has an impact on advertising. To improve their competitiveness, advertisers are resorting to unconventional methods to make an impact on the consumer's purchasing habits, and this one of these techniques is the promotion of products using neuromarketing tools. A store's website has become very important, because digital storefronts account for 80% of sales.

3. Research

Marketing is an activity aimed at meeting market needs to make a profit.

Heat maps are a graphical representation of data where individual values in a table are displayed using color.

In the modern world, there is an accelerated digitalization of society, which has been further hastened by the coronavirus pandemic. Over the past 10 years, the number of online ads has increased. In any social network, one can observe increased activity from various firms and companies engaged in the sale of goods and

HEATMAPS AS OPTIMIZATION OF MARKETING SOLUTIONS TO INCREASE THE INFORMATIVE CONTENT OF THE WEBSITE

services, including state-owned companies. The success of sales depends on effective advertising, so managers pay close attention to their marketing department. Every day there are new technologies to aid in the development of advertising, and marketing methods also need to be modernized in order to remain competitive. One of these methods is heat maps.

The term “heatmap” was coined and registered as a trademark by software developer Cormac Kinney in 1991. He used the term to describe a 2D display that displays real-time financial market information. Over time, the scope of this technology has expanded. Today, heat maps are used for medical research, marketing, and sociological research, engineering, geography, and many other fields. Since a huge number of companies use Internet re-sources to attract customers, marketing teams have come up with a way to use heat maps to study people’s desires and needs based on their behavior interacting with websites.

There are several types of heat maps:

- mouse activity maps;
- click maps;
- scrolling maps.

Mouse activity maps are based on human eye movement tracking technology. This technology helps to analyze the behavior of users on the site, but conclusions based on cursor movements can be very questionable.

In 2010, a Google user experience study found that only 6% of people had a direct connection between cursor movements and eye movements; 19% of people had an indirect connection between cursor movements and eye movements; 10% of people hovered over a link and then continued to study other elements of the site.

A click map is a type of heat map that is based on data on clicks made (see Figure 1). The blue color indicates the zones that are least popular with

users, and the red color indicates the most popular ones. The white and yellow colors indicate the most frequent places where the site visitors clicked.

Cohen, Fink, Gadon, and Willits (2001) claim that values come from an individual’s personality, but these authors ignore the role of culture in shaping values. The assumption is that somehow each individual comes up with his or her set of values on their own. Values are actually created within a context of many overlapping cultures, including, family, regional, national, language. As children are socialized, they learn an implicit set of values that are held in common amongst members of particular groups. This “programming of the mind” does allow for some individual differences, but it also predetermines the value-sets of most people (Hofstede, 1997).

As a result of the importance of relationships in the organization as system, the role of values in predicting behavior is also pertinent to the management of diversity. Relationships between people from different cultural backgrounds will involve behavior which is motivated by underlying values. Since these underlying values are different amongst different cultures, the potential exists for misunderstanding. Therefore, management must oversee not only the implementation of diversity, but also ensure that relationships between members of different groups are based on cooperation and mutual understanding (Chen, Chen, and Meindl, 1998).

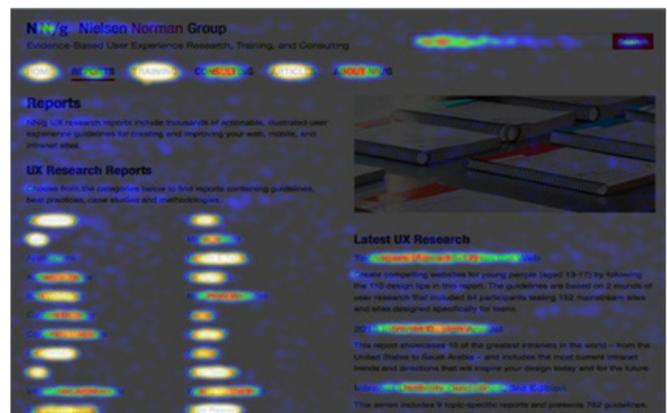


Figure 1 - Heat map.

HEATMAPS AS OPTIMIZATION OF MARKETING SOLUTIONS TO INCREASE THE INFORMATIVE CONTENT OF THE WEBSITE

The click map can justify the need for optimization, as well as reveal which elements are not working as intended. For example, the large image on the page, which, as the map shows, is clicked on by many people.

Scrolling maps are heat maps that show how much users are scrolling through a webpage. This metric is interesting because one can use it to see at which stage visitors lose interest in exploring a page. Scrolling maps help us to adjust the design to assure important information is reaching as many users as possible, as well as guiding developers as to whether the page is of appropriate length. Other observations can be gleaned from this data as well, especially by taking careful notice of design choices at the point in which a user has stopped scrolling. Perhaps it is because the colors on the landing page are too different from one another, causing users to think that the blocks are unrelated.

The main reasons for using heat maps in marketing:

- obtaining information on the use of Internet resources (tracking traffic and the number of clicks on links will help optimize the site and make it more successful);
- testing the resources (using the heat map, you can choose the best option for placing site links and main site information);
- content marketing (the heat map allows one to find out if the content is being engaged with, and provides feedback as to the optimal placement of links).

Despite the above advantages of this technology, there are also significant disadvantages. Change to: Despite the inherent advantages of this technology, it can lead to some incorrect assumptions if it is utilized improperly.

The sample for conducting research should be at least 2-3 thousand daily users, a smaller number will lead to incorrect indicators. When examining the click map, one needs to consider the human factor, taking into account that a person can view something on the site without hovering the cursor over this element. In addition, a person can

unintentionally hover the cursor over an element that they are not actually paying attention to.

If a marketer uses heat maps, they must be able to interpret the data they receive. In general, these maps are universally useful, but if one does not analyze the data properly, they may rush to an incorrect conclusion. To reduce risk, one should take into account several sessions with the highest number of visitors per day.

Depending on the problem, the methods of solving it can be varied. Most common situations:

- Problem: users don't scroll the page far enough. Solution: move the most important information to the top of the page or leave a link at the top of the page which allows a user to immediately scroll to the appropriate section of the website.
- Problem: the user clicks on the most ordinary images or icons. Solution: select the most popular images among site visitors and insert links to similar content in them.
- Problem: users click on the wrong resources that the marketer expects. Solution: try to redistribute important information to the links that you want the user to click on.

In the modern world, the importance of online advertising has increased due to the digitalization of society. To remain competitive and attract more consumers, many organizations, for-profit and nonprofit, have shifted their strategy to make more resources available online. At the moment, the amount of sales from online stores is approaching the amount of sales from traditional storefronts. Because of this, many managers have begun to attract Internet marketers to increase sales efficiency. Marketers, in turn, utilize neuromarketing techniques to modernize the websites of sellers using various methods, including heat maps, to analyze the behavior of users. The analysis of heat maps will be effective only in the case of a large number of site visitors. Based on the collected data, marketers change the design of the site, redistribute important

information, reduce or increase the site content, with the end goal of making the web resource more focused on the needs of the buyer.

4. Results

I believe using heat maps for decision-making in marketing is underestimated. By analyzing data from such maps, sellers more efficiently hone in on the needs of the consumer, which will increase sales, as well as indicate the weaknesses of the web resources and reveal ways in which to improve the efficiency and effectiveness of online storefronts. When choosing this method of analysis, to improve the quality of research results, it is recommended to base the results on a sample of 2,000 respondents, in our case 2,000 website visitors

References

Heat maps: meaning and application [Electronic resource]. URL: <https://vc.ru/design/223623-teplovye-karty-zachem-nuzhny-v-mobilnyh-prilozheniyah-i-primery-ispolzovaniya>(Date of request: 05.05.2021)

Heat maps [Electronic resource]. URL:<https://lpgenerator.ru/blog/2016/01/11/shkola-internet-marketinga-dlya-chego-nuzhny-teplovye-karty/> (Date of request: 05.05.2021)

Nedelko Anastasia Yuryevna. Opportunities and limitations of using neuromarketing methods / / Managerial Sciences. 2018. No. 4. URL: <https://cyberleninka.ru/article/n/vozmozhnosti-i-ogranicheniya-ispolzovaniya-metodov-neuromarketinga> (Date of request: 05.05.2021).

Dershen Victoria. Tools of neuromarketing: problems and prospects / / Nauka i innovatsii. 2018. No. 184. URL: <https://cyberleninka.ru/article/n/instrumenty-neuromarketinga-problemy-i-perspektivy> (Date of request: 05.05.2021).

Sugina Yu. E. Neuromarketing on the modern world market / / Chronoeconomics. 2020. No. 4 (25). URL: <https://cyberleninka.ru/article/n/neuromarketing-na-sovremennom-mirovom-rynke> (Date of request: 05.05.2021).