

UDK 339

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DATA SCIENCE APPLIED TO DIGITAL MARKETING

Representing trends in the digital environment and using complex marketing strategies to interact with the target audience through the use of the Internet is an integral part of modern business. Interaction with potential customers is carried out through the use of a large number of tools, which allows companies to achieve the maximum level of coverage. The digital environment allows companies to collect large data about different processes using various sources of information. An important tool for accumulating information is web analytics, which, thanks to various services, allows companies to constantly monitor the key metrics of the functioning of companies' web resources. To evaluate user behavior, it is advisable to use audience-generated content, which can be presented in text messages, photos, audio, and video. The obtained disparate information can be used as a valuable resource for optimizing the marketing strategies of companies in the digital environment and achieving long-term effects. Information processing is carried out both through the use of traditional statistical methods and Data science algorithms. Among the large number of methods, it is advisable to first pay attention to machine learning algorithms, which are characterized by power and allow to identification of hidden relationships in the studied phenomena. By the presented approaches, artificial intelligence functions, which has become widely distributed in digital marketing in modern conditions [1].

The presence of a significant number of algorithms in the field of Data science allows companies to test the effectiveness of various algorithm applications and find optimal solutions in specific conditions. The flexibility of mathematical algorithms and the constant growth of cloud computing power allow companies to constantly

improve data processing systems and find ways to optimize marketing strategies in the digital environment. Among the areas of use of Data science in digital marketing, it is necessary to pay attention to the following:

1. Analytics and forecasting. A comprehensive analysis of information from the company's web resources allows identifying trends in the development of various phenomena: the dynamics of the number of visitors, the conversion rate, the popularity of advertising messages, etc. Based on dynamic series, it is possible to make forecasts for future periods. The obtained results make it possible to adapt marketing strategies on the Internet to the identified trends, optimize income, and develop an effective communication policy with the target audience.

2. Personalized marketing. A comprehensive analysis of various information allows companies to identify a system of characteristics based on which consumer groups are formed. For each of the groups, the company can implement a specific marketing strategy. The development of artificial intelligence algorithms allows companies to gradually move to personalized interaction, providing a specific client with unique offers. The implementation of the approach of adapting the brand to the needs of each consumer allows to achieve a high level of loyalty of the target audience in the long term [2].

The development of artificial intelligence leads to more effective directions for the implementation of digital marketing strategies. First of all, companies should pay attention to the possibility of generating text, photo, and video content, which is created by the needs of the target audience.

References

1. Saura, J. R. (2021). Using data sciences in digital marketing: Framework, methods, and performance metrics. *Journal of Innovation & Knowledge*, 6(2), 92-102.
2. Rosário, A., Moniz, L. B., & Cruz, R. (2021). Data Science Applied to Marketing: A Literature Review. *J. Inf. Sci. Eng.*, 37(5), 1067-1081.