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ARTIFICIAL INTELLIGENCE IN DIGITAL MARKETING

Development of a comprehensive approach to the integration of artificial intelligence (AI) into a company's marketing strategy in the digital environment is important to directly ensure the loyalty of customers and achieve an economically primed level of sales conversion period. In this article it was focused on the direct integration of digital marketing algorithms of artificial intelligence to optimize interaction between companies and target audiences. During the research, the use of fundamental scientific methods of analysis and synthesis was carried out to characterize the AI main algorithms that are used in digital marketing; empirical methods, graphical images, and system structural analysis. The AI role in digital marketing has been emphasized and the importance of using current algorithms to ensure effective communications between companies and vendors has been proved. A comprehensive analysis of the main digital marketing tools and the features of their use to ensure the competitive position of companies on the Internet was carried out. The scheme of obtaining information from users and optimizing the use of AI tools based on the applying of effective mathematical algorithms is given. The key trends in the development of the market for generative AI in the field of digital marketing have been identified. A subdivision of content created by generative AI has been presented. It has been determined that piece intelligence is a priority in the marketing strategies of companies in the digital environment, which allows companies to ensure personalization of the approach to each client.

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ШТУЧНИЙ ІНТЕЛЕКТ У ЦИФРОВОМУ МАРКЕТИНГУ

Розробка комплексного підходу щодо інтеграції штучного інтелекту (ШІ) у маркетингові стратегії компанії в цифровому середовищі є важливим напрямом забезпечення лояльності користувачів і досягнення економічно обґрунтованого рівня конверсії. Метою статті є обґрунтування напрямів інтеграції алгоритмів штучного інтелекту в цифровий маркетинг для оптимізації взаємодії між компаніями та цільовою аудиторією. Під час проведення дослідження застосовано загальнонаукові методи аналізу та синтезу для характеристики основних алгоритмів ШІ, що використовуються у цифровому маркетингу; емпіричні методи, графічне зображення та системно-структурний аналіз. Розглянуто роль ШІ у цифровому маркетингу й доведено доцільність застосування сучасних алгоритмів для забезпечення ефективних комунікацій між компаніями та користувачами. Проведено комплексний аналіз основних інструментів цифрового маркетингу та особливостей їх використання для забезпечення конкурентних позицій компанії в інтернеті. Наведено схему отримання інформації від користувачів та оптимізації застосування інструментів ШІ на основі використання ефективних математичних алгоритмів. Досліджено ключові тенденції розвитку ринку генеративного ШІ у сфері цифрового маркетингу. Представлено розподіл контенту, створеного генеративним ШІ. Визначено пріоритетні напрями використання ШІ у маркетингових стратегіях компанії у цифровому середовищі, які дозволяють забезпечити персоналізований підхід до кожного клієнта.



Keywords: digital marketing, artificial intelligence (AI), target audience, communications, loyalty.

Ключові слова: цифровий маркетинг, штучний інтелект (ШІ), цільова аудиторія, комунікації, лояльність.

JEL Classification: C45, D11, D21, M31.

Introduction

The development of information technologies leads to the active transformation of all types of economic activity at the national and global levels. The digitalization process stimulates companies in a highly competitive environment to introduce advanced technologies to secure high positions in the functioning markets. Focusing on the needs of modern users forces companies to implement complex marketing strategies in the digital environment. The main generations that use the Internet in everyday life are generations Y, Z, and Alpha, which requires brands to develop specific communication models. Comprehensive influence on the target audience thanks to the use of effective digital marketing tools allows companies to achieve the maximum level of loyalty. The intensive development of technologies stimulates the transformation of marketing strategies in the digital environment to meet the needs of users. Promoting relevant content through effective digital marketing tools allows brands to ensure a cost-effective conversion rate. Along with this, the functioning of companies on the Internet makes it possible to accumulate large volumes of heterogeneous information.

The growing popularity of artificial intelligence (AI) in today's environment allows companies to use big data to improve marketing campaigns in the digital environment. The presence of a large number of mathematical algorithms leads to the selection of optimal solutions in specific space-time conditions.

The AI use in digital marketing makes it possible to correctly divide the target audience into groups according to the chosen system of metrics and to form specific models of communications with the relevant groups of users. Thanks to the automation of specialized marketing processes, it is possible to optimize the interaction between companies and consumers on the Internet, choosing effective communication models and achieving a high level of loyalty.

Scientific studies are shown the significant potential of integrating artificial intelligence into digital marketing tools. At the same time, the greatest attention is paid to the influence of AI on the development of marketing strategies in the digital environment. The problem of integrating AI into digital marketing is highlighted in the works of the following scientists: Nalbant & Aydin (2023), Nirwana (2023), Kaperonis (2024), Gabay (2024), Bhardwaj (2021), Colleoni & Corsaro (2022), Bhattarai (2023), Tauheed et al. (2024), Makasarashvili & Giguashvili (2023). Scientific works pay considerable attention to highlighting directions for adapting AI algorithms to improve the implementation of digital marketing approaches. Along with this, there is a need for a comprehensive study of ways to strengthen relationships

between companies and users thanks to the use of modern digital marketing tools based on AI algorithms. To achieve optimal results, it is important to focus on choosing the best mathematical algorithms that will allow companies to establish long-term communications with their target audience.

The aim of the article is to substantiate the direction of integration of artificial intelligence technologies in digital marketing.

According to the aim, the hypothesis was formulated that artificial intelligence allows to significantly increase the effectiveness of the implementation of marketing strategies of companies in the digital environment. AI allows for the identification of hidden relationships in user behavior and facilitates the automation of communications with the target audience. The generation of big data in the digital environment allows training algorithms to implement personalized marketing strategies and create unique content for the needs of a specific consumer.

The presented research involves the use of the following scientific research methods, such as: analysis and synthesis to characterize the main artificial intelligence algorithms used in digital marketing; empirical methods, graphic representation, and system-structural analysis.

Despite the positive aspects of digital marketing strategy optimization thanks to the AI use, there are ethical problems regarding the violation of consumer privacy, technological limitations of the implementation of complex mathematical algorithms, and the high cost of processing large data of various forms of expression.

The main part of the article reveals the features of the implementation of digital marketing tools. An analysis of the dynamics of the actual and forecast values of Generative AI in Digital Marketing size for 2023–2033 is carried out, and the distribution of the use of generative AI by marketers to create specialized content by the use of communication channels is given. The main directions of AI using in digital marketing to ensure effective and long-term communications with the audience are considered. The expediency of further development of modeling for marketing has been proven.

1. Digital marketing and Artificial intelligence: basic concepts

The implementation of an effective marketing strategy by modern companies involves the use of a complex of advanced approaches in the offline and online environment. Digitalization leads to the gradual prevalence of interaction with the target audience on the Internet, as demographic processes encourage a change of generations and the growth of the share of innovation-oriented consumers. The intensive development of technologies and software leads to qualitative transformations of digital marketing and opportunities to ensure closer communications with the target audience. *Figure 1* shows today's digital marketing tools used by companies in a highly competitive environment.

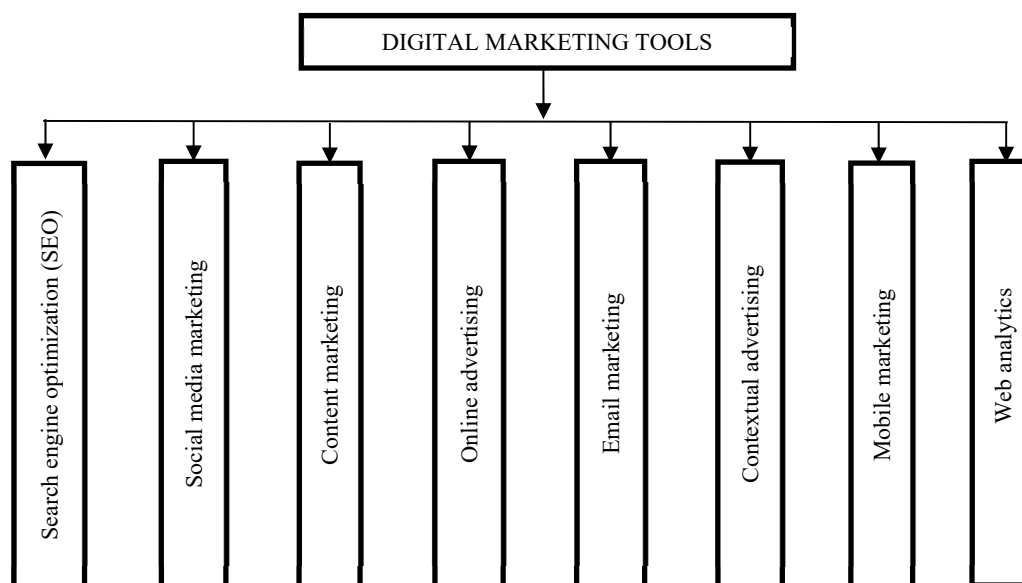


Figure 1. Modern digital marketing tools

Source: compiled by the author from (Silva, 2024, March 27).

Modern users are characterized by various models of behavior on the Internet, forming a demand for relevant resources and thematic content. A significant number of Y, Z, and Alpha generations use social media daily to communicate with other users and brands. Maximum coverage by the company of the target audience involves the use of relevant digital marketing tools, the list of which changes by the change in the influence of environmental factors. The social, economic and cultural characteristics of consumers in different countries of the world should be taken into account when carrying out activities by brands at the international level. Adjusting the marketing strategy in the digital environment is carried out based on complex information that companies receive from various sources, including web analytics services.

Here are the characteristics of modern digital marketing tools.

Search Engine Optimization (SEO) involves the implementation of a set of measures to increase the positions of companies' web resources in search engines. By the beginning of 2024, more than 90% of the market is occupied by Google, which requires the company to adapt to the requirements of the search algorithms of the presented service on the Internet. Organic traffic is an important element of interaction with the target audience, as about 50% of traffic to the web resources of companies is attracted as a result of the formation of user requests in search engines and the transition to resources according to the received links. The formation of the semantic core of the site and the updating of the keywords list with the permanent marking of the content posted on the resource helps ensure high positions in requests. Conducting an audit of web resources to identify the

optimality of its architecture, monitoring external and internal links, updating content and other measures are important for the effectiveness of SEO.

Social Media Marketing is a very effective digital marketing tool because it allows companies to interact permanently with the vast majority of the Y, Z, and Alpha generations. Ensuring a large number of followers and maintaining interest in the long term requires a company to develop and implement an effective marketing strategy in relevant social media. The presence of a large number of social media, among which YouTube, Facebook, Instagram, TikTok, and Snapchat are the most popular, involves the creation of specialized content by the specifics of a certain network: text materials, audio, photos, and videos. Attracting attention is ensured thanks to content that is in significant demand among the target audience, accordingly, there is a need to constantly study the interests of users. Maintaining interest is achieved through the formation of an effective content plan, which provides for the placement of publications according to the identified optimal time intervals.

Content Marketing stands out as a separate tool because, in today's digital environment, companies constantly generate large volumes of heterogeneous content to attract the attention of the target audience. The formation of digital noise leads to the loss of interest of many consumers in large volumes of diverse content, which requires brands to implement complex marketing strategies to attract new users. There is a need not only to create relevant content but also to implement effective communication models with the target audience. An important element of content marketing is also comprehensive research of the target audience interests and competitive intelligence, which allows companies to generate high-quality engaging content.

Online Advertising is used to promote companies on the Internet on various resources that act as convenient platforms for placing thematic advertising content. A characteristic feature of the digital environment is the possibility of integrating advertising in different formats in various resources and all content. The main types of online advertising are media advertising, spam, teaser advertising, and landing pages.

Contextual advertising is distinguished as a separate type of online advertising, as targeting is carried out according to the requests of the relevant users. The target audience's search for specific goods and services leads to the display of thematic advertising content. Keywords allow companies to select advertising for an individual consumer, stimulating the purchase of certain brands products.

Email Marketing is used to establish interaction with the target audience by sending emails. The presented digital marketing tool is characterized by a different level of popularity in the countries of the world, which is related to cultural characteristics and orientation to various resources on the Internet for communication. Thanks to the use of automated services, it is possible to set up

a mailing for certain groups of consumers at an established time with the use of personalized appeals and integrated thematic content.

Mobile marketing is used by companies due to the significant popularity among modern users of smartphones and tablets. Members of Generations Y, Z, and Alpha spend a significant amount of time every day for work, study, and leisure thanks to mobile devices. The implementation of complex marketing strategies on mobile devices involves the use of web resources adaptive versions for the screen sizes of the corresponding gadgets and specialized applications. Cameras integrated into mobile devices are used to scan QR codes, which allow convenient and quick access to web resources of brands or individual products.

Web analytics allows monitoring various activities of the company in the digital environment, as well as evaluating user behavior and conducting competitive analysis. Thanks to the use of specialized services, it is possible to collect complex information on an ongoing basis. The web analytics flexibility involves the selection of the necessary system of metrics and its adjustment in accordance with existing needs. The company can use Google Analytics to evaluate the marketing strategy for its web resources. Evaluation of competitors' resources is carried out thanks to various products available on the market, among which it is advisable to pay attention first of all to Adobe Analytics, Ahrefs, Kissmetrics, HubSpot and SimilarWeb. Monitoring the digital environment allows companies to assess the current situation, identifying potential risks and opportunities for effective development.

Formation of the company's information environment based on relevant digital marketing tools allows companies to accumulate big data and store it in cloud services. The availability of heterogeneous information and its exponential growth in modern conditions has led to the popularization of Data science approaches. The information processing market is actively developing thanks to scientific research and the accumulation of significant practical experience in various fields. Modern mathematical algorithms integrated into specialized products and implemented on the basis of powerful servers allow to optimize the process of processing heterogeneous large data sets and to form effective management solutions in the field of digital marketing. In the conditions of digitization, artificial intelligence is gaining significant popularity, which leads to qualitative transformations of marketing strategies and the formation of communication innovative models with the target audience. Artificial intelligence involves the use of such algorithms as Machine learning, Deep learning, Natural language processing, Sampling algorithms, Genetic algorithms, Optimization algorithms, etc. *Figure 2* shows a conceptual scheme for collecting information about users in the process of using digital marketing tools and choosing optimal artificial intelligence algorithms for forming personalized communications with customers.

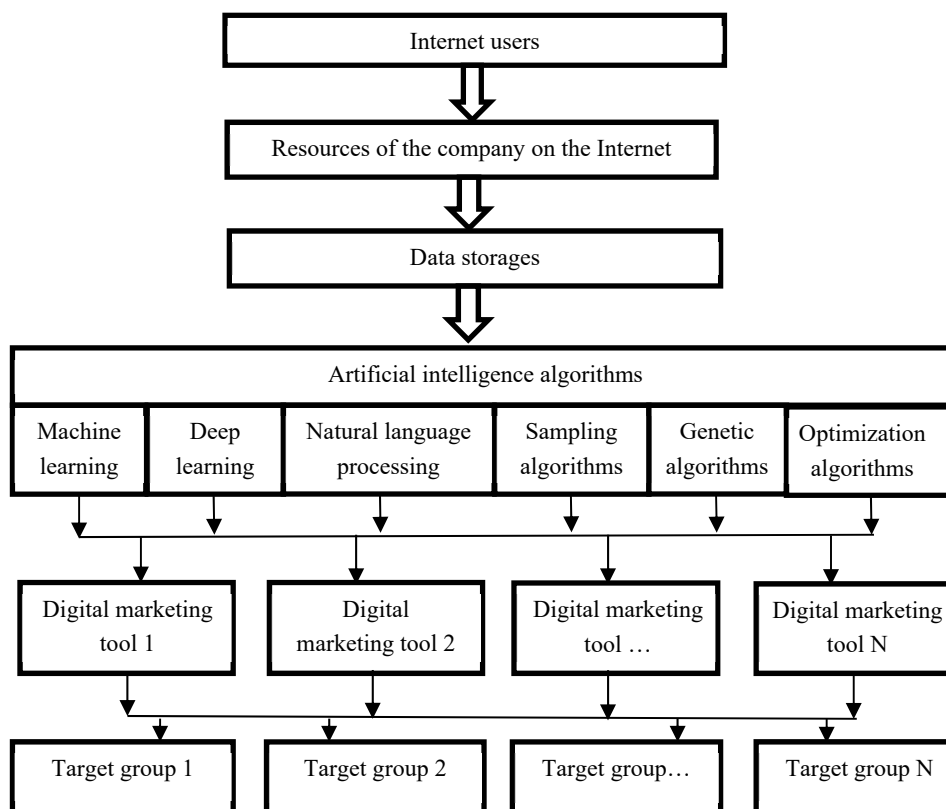


Figure 2. AI-based digital marketing tools for company communication with target groups

Source: compiled by the author from (Baluja, 2024, February 7).

By interacting with various resources on the Internet, users act as a source of information for specialized online data collection services. Companies get the opportunity to collect information about the activity of the target audience on their web resources and accumulate data on servers. The received data is processed thanks to various algorithms of AI and optimal models are selected, which involve the use of appropriate digital marketing tools. The flexibility and effectiveness of using artificial intelligence are explained by the constant training of algorithms based on growing data and the constant search for optimal solutions. Companies get the opportunity to interact with unique groups of consumers using specialized digital marketing tools. Adaptation to the needs of specific consumers significantly increases the effectiveness of marketing communications.

2. AI-based digital marketing: research and trends

Increasing the effectiveness of artificial intelligence technologies leads to an increase in the number of companies that actively use the presented technologies to optimize marketing strategies. Several types of artificial intelligence are used in real business systems and allow them

to achieve effective results in the long term. In digital marketing, generative AI, which allows the creation of new content and objects with human perception-oriented characteristics, has become widely used. *Figure 3* presents the actual and forecast values of generative AI in Digital Marketing size for 2023–2033.

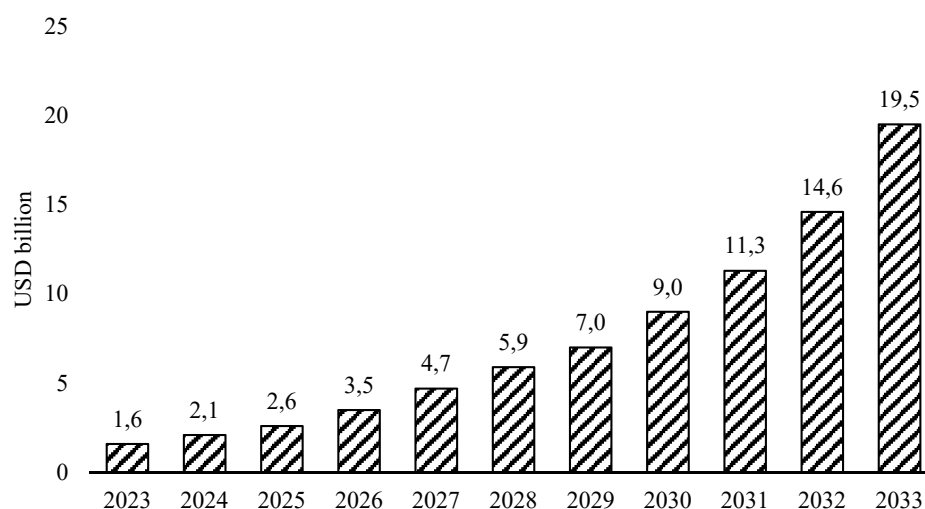


Figure 3. Generative AI in Digital Marketing size, 2023–2033

Source: (MarketResearch, 2024, April).

The market for generative artificial intelligence in digital marketing is expected to grow from USD 1.6 billion in 2023 to USD 19.5 billion in 2033, according to research. During the analyzed period, annual growth in the introduction of advanced approaches in the field of artificial intelligence is expected to be 29.2%.

The leading position among the countries of the world in the use of artificial intelligence in the field of marketing is occupied by the USA, which is explained by the significant development of the economic system. In conditions of significant competition, American companies are actively using advanced technologies, which allows them to implement effective marketing strategies in the digital environment. The struggle for paying customers, among whom a significant share are innovation-oriented users, stimulates the introduction of innovative technologies. Tech giants in the field of digital technologies are constantly producing cutting-edge solutions that are in high demand. First of all, it is necessary to pay attention to the companies located in the USA, OpenAI, Google, Microsoft, Boston Dynamics, and others are considered leaders in the development of artificial intelligence. The Massachusetts Institute of Technology, the Institute for Ethics and Emerging Technologies, the University of California (Berkeley), Stanford University, and others deal with the scientific and applied problems of the development and implementation of mathematical algorithms.

Interaction with a wide audience on the Internet involves the use of various digital marketing tools, the list of which is selected by the features of the company’s functioning in specific spatial and temporal conditions. The integration of AI into marketing technologies allows companies to implement qualitative transformations and increase the effectiveness of communications with the target audience. A survey of marketers in the field of B2B and B2C in different countries of the world made it possible to identify the features of the use of AI in the field of marketing in 2024. *Figure 4* shows the distribution of marketers’ use of generative AI to create specialized content following the use of communication channels on the Internet.

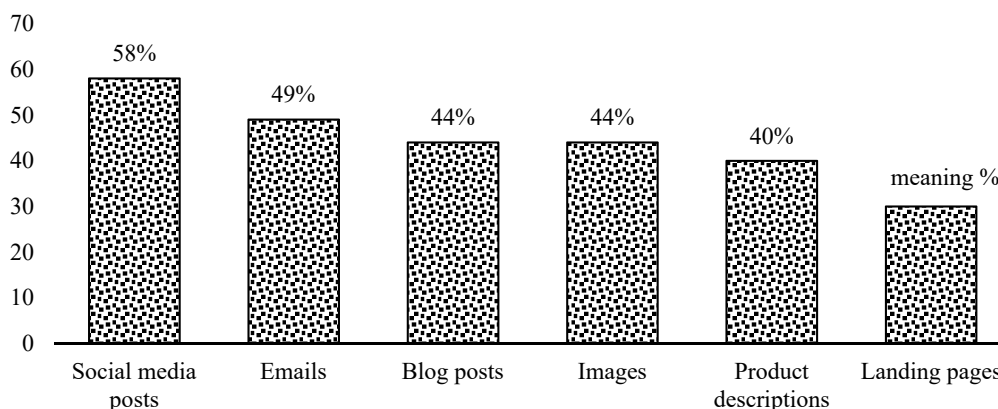


Figure 4. Distribution of marketers’ use of generative artificial intelligence to create specialized content, 2024

Source: (Iskiev, 2024, September 1).

Social media is the most widespread digital marketing tool precisely because of the possibility of communications based on the exchange of thematic content. Posts in thematic communities act as an incentive to engage a large audience and discuss topical issues. The topics of discussions in social media based on textual content, which is generated by artificial intelligence, are very diverse. The popularity among certain email users allows for the integration of specialized services based on generative AI. The visual orientation of the majority of modern users leads to the active development of algorithms for creating photo and video content that adapts to the needs of consumer groups.

Improving the quality of services based on the formation of a high level of trust and loyalty of the target audience is possible thanks to the use of artificial intelligence powerful algorithms. The creation of various types of content at the current level of mathematical algorithm development is carried out in a short time. Generative AI is used to create text, audio, photo, and video content, which is then placed on the company’s web resources. The dynamism of the digital environment requires the company to constantly update information to maintain the interest of visitors. Accordingly, content

marketing specialists on the Internet are in high demand among various companies.

Generative AI significantly expands the capabilities of specialists in the field of marketing, optimizing time for the creation of thematic content. 45% of surveyed respondents indicated that they use AI to find interesting ideas and inspiration in thematic areas. Combining mathematical algorithms with human creativity allows brands to create unique content that will allow companies to stand out among a large number of competitors in the relevant market.

As an outline, the results of generative AI are used by 31% of specialists in the field of digital marketing. The presented approach is advisable to use for creating text content since the obtained materials can be expanded by the characteristics of the target audience and the characteristics of specific products. Marketers, according to professional skills, process and supplement the generated text, achieving a high level of uniqueness and attractiveness, which is appreciated by representatives of generations Y, Z, and Alpha.

Only 6% of surveyed marketers completely entrust the task of creating content to generative AI. The process of intensive interaction with users in the digital environment stimulates the rapid creation of textual content and placing it on the company's web resources. The presented approach allows interaction with a significant number of users in conditions of limited financial, human, and time resources. However, in many cases, using only generated text reduces the level of trust of the target audience in the company.

At this stage of technology development, it is not possible to replace marketers with solutions in the AI field. In future, the development of Strong AI will be intensified, which will use complex mathematical models that will imitate elements of human creativity. In the existing realities, marketers mainly use AI as an assistant that optimizes time spent on routine tasks. It is necessary to be aware of the limitations of modern AI and to take into account the identified technical characteristics when developing and implementing a digital marketing strategy.

3. Artificial intelligence applied to digital marketing

The evolution of technology leads to the appearance on the market of new products in the field of digital marketing. AI refers to one of the important directions that allows qualitatively transformed communications between companies and users in the digital environment. Specialists in the field of data analysis are constantly working on improving artificial intelligence methods and searching for more powerful mathematical algorithms. Let's consider the main directions of using AI algorithms in digital marketing.

Analysis of big data. Complex information that companies have the opportunity to receive on the Internet acts as a valuable resource when conducting AI-based predictive analytics. The implementation of machine learning algorithms makes it possible to identify existing trends and calculate

predictive values of key marketing phenomena. Supply and demand research is used to forecast users' needs for products and form specialized marketing campaigns in the digital environment to stimulate the interests of the target audience for relevant goods and services.

Historical data is used to determine the future effectiveness of various digital marketing tools. Thanks to artificial intelligence, the optimization scenarios of marketing communications are modeled, which will ensure a high level of target audience loyalty. The use of effective digital marketing tools is explained by the expediency of spending limited resources.

Digitalization processes lead to evolution in various spheres of human activity, accordingly, AI algorithms can allow companies to identify promising directions for the development of marketing strategies in the digital environment. Predictive analytics allows companies to ensure flexibility and quick adaptability to changes in the influence of external factors, which contributes to obtaining competitive advantages over other participants in the market. The development of cloud computing makes it possible to implement AI algorithms online and offer multivariate predictive models.

Personalization of content. Classification refers to one of the important tasks of AI and involves assigning units from the studied population to the appropriate group based on the information used. Popular methods used in solving classification problems include clustering, logistic regression, neural networks, decision trees, etc. Determining the implicit relationships between the used metrics allows companies to form specific customer groups and implement unique communication models. For selected groups of consumers, it is advisable to use specialized content, which will contribute to the formation of long-term loyal relations. Modern algorithms of AI make it possible to effectively influence individual consumers and form the idea of a personalized approach. Providing information to users about relevant products contributes to a significant increase in sales of goods and services.

Content generation. There are products on the market based on artificial intelligence that allow companies to generate diverse content. The leader is the OpenAI company, which created the ChatGPT and Dall-E products. High competition in the AI market has led to the emergence of such products as Copilot (Microsoft), Gemini (Google), Bedrock (Amazon), Llama 3 (Meta), etc. Relevant content plays an important role in the implementation of digital marketing strategies. Accordingly, companies regularly use thematic content that is interesting to the target audience and allows them to constantly maintain the interest of consumers in the respective brands. First of all, there is a need to post content with a certain frequency in social media, since the communication process involves ensuring interaction continuously. Today's users are visual, which requires companies to create high-quality photos and videos and then post them on brands' social media pages. Text generated by AI can be used as scripts for advertisements, stories of communication with the target audience, and answers to questions.

Customer support. Modern users demand a high level of service based on the achievements of scientific and technical progress. The pre-sale, sale, and post-sale periods involve the provision of informational support by companies to users. Thanks to the use of AI, it is possible to identify the characteristics of a specific client to choose a specific model of interaction and provide conclusions. For communications, chatbots are used, which form answers to questions based on effective mathematical algorithms. Modern chatbots based on artificial intelligence not only work by generating text responses but also know how to interact with the audience thanks to the reproduction of the human voice. The services allow companies to generate male and female voices, which are chosen for communication according to the characteristics of a specific client.

Sentiment analysis. Evaluating the sentiments of the target audience is an important area of research into the effectiveness of the company's marketing strategy in the digital environment. Basic statistics about visiting a company's web resources and buying its products on the Internet are not enough to ensure the effectiveness of a marketing strategy in the long term. Evaluating user sentiment makes it possible to identify effective models of interaction and product promotion in the digital environment. Along with the classic approach, which involves the use of analysis of likes and reactions, it is advisable to use AI. Sentiment analysis refers to the important directions of evaluating user reactions based on the implementation of mathematical algorithms. The source of information for researching the reaction of the target audience to the company and its products in social media is text comments, emoticons, and pictures. The first approach involved the identification of positive, neutral, and negative attitudes of users towards the activity of companies on the Internet. At this stage of development, artificial intelligence algorithms allow companies to distinguish various emotions.

Conclusions

Interaction between companies and users in the digital environment involves the use of innovative technologies. AI refers to important technologies in the field of marketing, that allow to increase the efficiency of interaction between companies and users in the digital environment. The presence of a large number of AI algorithms allows for flexibility in the processing of big data and the selection of optimal models for specific digital marketing strategies.

The results of the research have confirmed the feasibility of integrating AI algorithms into the marketing strategies of Ukrainian companies. The process of optimizing the marketing strategy involves the following stages: data collection on the Internet; information processing and its storage on specialized servers; testing AI algorithms and selecting the optimal ones; integration of effective mathematical models into digital marketing tools; periodic training of AI algorithms and decisions on choosing the most effective ones by the needs of the company. Reorientation to AI-based digital

marketing tools will allow domestic companies to increase the effectiveness of the communication process with the target audience on the Internet at the national and international levels.

Further research will be focused on web scraping and the use of the obtained data for the implementation of neural networks in digital marketing to more accurately identify user groups and increase the level of communication process efficiency.

REFERENCE

- Baluja, H. (2024, February 7). *The Complete Guide to AI Algorithms*. <https://blog.hubspot.com/marketing/ai-algorithms>
- Bhardwaj, K. (2021). *AI for Data Driven Digital Marketing* [Doctoral dissertation, Delhi Tehnological University].
- Bhattarai, A. (2023). Exploring Customer Engagement through Generative AI Innovative Strategies in Digital Marketing Campaigns. *Quarterly Journal of Emerging Technologies and Innovations*, 8(12), 1–9.
- Colleoni, E., & Corsaro, D. (2022). Critical issues in artificial intelligence algorithms and their implications for digital marketing. In *The Routledge handbook of digital consumption* (pp. 166–177). Routledge.
- Gabay, J. J. (2024). *Practical Digital Marketing and AI Psychology: How to Gain Online Consumer Trust and Sales Using Technologies and Psychology*. Routledge.
- Iskiev, M. (2024, September 1). *The 2024 State of Marketing & Trends Report*. <https://blog.hubspot.com/marketing/hubspot-blog-marketing-industry-trends-report>
- Kaperonis, S. (2024). How Artificial Intelligence (AI) is Transforming the User Experience in Digital Marketing. In *The Use of Artificial Intelligence in Digital Marketing: Competitive Strategies and Tactics* (pp. 117–141). IGI Global.
- Makasarashvili, T., & Giguashvili, G. (2023). The Opportunities of Using Artificial Intelligence in Digital Marketing. *Grail of Science*, (31), 53–58.
- MarketResearch (April, 2024). *Generative AI in Digital Marketing*. <https://marketresearch.biz/report/generative-ai-in-digital-marketing/>
- Nalbant, K. G., & Aydin, S. (2023). Development and transformation in digital marketing and branding with artificial intelligence and digital technologies dynamics in the Metaverse universe. *Journal of Metaverse*, 3(1), 9–18.
- Nirwana, A. (2023). Implementation of artificial intelligence in digital marketing development: A thematic review and practical exploration. *Jurnal Manajemen Bisnis. Akuntansi dan Keuangan*, 2(1), 85–112.
- Silva, K. (2024, March 27). *10 Effective Digital Marketing Channels & How to Use Them*. <https://www.semrush.com/blog/digital-marketing-channels>
- Tauheed, J., Shabbir, A., & Pervez, M. S. (2024). *Exploring the Role of Artificial Intelligence in Digital Marketing Strategies*.

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