ECONOMICS OF DEVELOPMENT

Journal homepage: https://ecdev.com.ua/

Vol. 23, No. 4 2024

UDC 339.138:004.8

Doi: 10.57111/econ/4.2024.60

Andriy Lyndyuk*

PhD in Economics, Associate Professor
Lviv National Environmental University
80381, 1 V. Velykyi Str., Dubliany, Ukraine
https://orcid.org/0000-0002-9940-8991

Ivanna Havrylyuk

PhD in Economics, Associate Professor
Lviv National Environmental University
80381, 1 V. Velykyi Str., Dubliany, Ukraine
https://orcid.org/0000-0002-9517-3021

Yurii Tomashevskii

PhD in Economics, Associate Professor
Lviv National Environmental University
80381, 1 V. Velykyi Str., Dubliany, Ukraine
https://orcid.org/0000-0003-4039-8271

Roman Khirivskyi

PhD in Economics, Associate Professor
Lviv National Environmental University
80381, 1 V. Velykyi Str., Dubliany, Ukraine
https://orcid.org/0000-0002-7299-429X

Maryana Kohut

PhD in Economics, Associate Professor
Lviv National Environmental University
80381, 1 V. Velykyi Str., Dubliany, Ukraine
https://orcid.org/0000-0001-8275-134X

The impact of artificial intelligence on marketing communications: New business opportunities and challenges

Abstract. The purpose of this study was to analyse the impact of the integration of artificial intelligence (AI) technologies on modern approaches to marketing communications, with an emphasis on identifying new opportunities for optimising business processes. A wide range of technologies have been explored to automate, optimise, and personalise marketing processes, enabling companies to interact more effectively with customers and improve the results of their marketing campaigns. Technologies such as machine learning and natural language processing have been examined, which contribute to the analysis of large amounts of data, the formation of forecasts and recommendations, and the automation

Article's History: Received: 19.07.2024; Revised: 29.10.2024; Accepted: 17.12.2024

Suggested Citation:
Lyndyuk, A., Havrylyuk, I., Tomashevskii, Yu., Khirivskyi, R., & Kohut, M. (2024). The impact of artificial intelligence on marketing communications: New business opportunities and challenges. *Economics of Development*, 23(4), 60-71. doi: 110.57111/econ/4.2024.60.

*Corresponding author

of content creation and advertising campaign management. In particular, AI allows personalising communication with customers, which increases the effectiveness of marketing campaigns and ensures maximum efficiency of advertising costs. The study provides examples of successful implementation of AI in the marketing strategies of companies such as Netflix, Amazon, Sephora, Coca-Cola, and Google Ads, which allowed them to substantially increase the level of customer loyalty, reduce the cost of storing goods and optimise advertising budgets. The main limitations and risks of using AI are analysed, such as the high cost of implementation, the possibility of algorithm bias, and data privacy issues. Rozetka has developed an AI marketing strategy that includes analysis of current processes, selection of tools and technologies, integration of AI into content personalisation and advertising campaign management, automation of advertising budget management, demand forecasting, and inventory management. Expected economic effects include increased conversions, reduced advertising costs, an increase in the average receipt, and increased company profitability. Thus, AI becomes a key tool for transforming marketing strategies, providing companies with competitive advantages and the ability to quickly respond to changes in consumer behaviour and market conditions

Keywords: automation; personalisation; forecasting; technological change; customer loyalty; marketing communications

INTRODUCTION

The rapid development of artificial intelligence (AI) technologies has dramatically changed many aspects of business, in particular, marketing communications. These changes are not only revolutionary but also inevitable, forcing companies to adapt to new market realities. AI offers tools that substantially improve the effectiveness of marketing campaigns by automating processes that previously required substantial resources. Therewith, the use of AI in marketing communications raises a number of challenges, such as ethics, data privacy, and dependence on new technologies, which makes research on this topic particularly relevant. The relevance of the subject is due to the growing competition in the field of marketing, where each company strives to stand out and attract a large audience. The use of AI in marketing communications can substantially improve the accuracy of targeted marketing by offering consumers personalised offers based on big data analysis. However, despite the substantial advantages, many companies face difficulties in integrating AI into their strategies. Thus, exploring new opportunities and challenges associated with the use of AI in marketing communications is essential to ensure business competitiveness. The problem of using AI in marketing communications includes several critical aspects. The issue of adapting businesses to new technologies requires substantial investment in personnel training and updating the technical infrastructure. It is important to consider the ethical aspects of the use of AI, in particular, in matters of data privacy, when personalised marketing campaigns can turn into a violation of consumer privacy. Companies face challenges in measuring the effectiveness of AI use, as traditional evaluation methods may not fully reflect the impact of new technologies.

General information about the use of AI in marketing communications covers several key areas. In particular, AI allows to automate data analysis processes, which provides a deeper understanding of consumer needs and behaviour. AI is also used to create and optimise content, which can substantially improve the effectiveness of campaigns in social networks and other digital platforms (Bilovodska *et al.*, 2024). In addition, AI helps improve customer service through chatbots and other automated communication systems. In marketing communications, there is a key problem – how to effectively use AI to optimise processes and improve the effectiveness of campaigns (Oklander *et al.*, 2024). This problem has already attracted the attention of many researchers, each of whom has examined different aspects of the impact of AI on marketing. A. Haleem *et al*. (2022), for example, emphasised that the use of AI algorithms can substantially improve the accuracy of ad campaign targeting by analysing large amounts of data and identifying consumer behavioural patterns. S.L. Wamba-Taguimdje *et al*. (2020) focused on how integrating AI into the content creation process helps generate relevant content faster and test it against different target audiences, which increases communication efficiency. K. Shakhovska *et al*. (2020), in turn, investigated the use of AI in analysing consumer sentiment through social networks, pointing to the ability to better understand customer needs and adapt strategies to these expectations. A study by P. Van Esch & J. Stewart Black (2021) focused on automating marketing processes, such as using chatbots and automated data processing systems, which can substantially improve customer interaction. R. Srinivasan & G. Sarial-Abi (2021) highlighted the possible negative consequences of imperfect machine learning models, which can lead to discriminatory strategies and damage the company's reputation.

G. Overgoor *et al*. (2019) drew attention to new opportunities for conducting A/B testing (split testing to identify the most effective version of the page and increase the conversion rate) in real time, which is made possible by AI, allowing for a quick adaptation of the marketing campaigns to market requirements. V.V. Vorobiova *et al*. (2023) investigated the impact of AI on improving the effectiveness of loyalty programmes, emphasising that algorithms can predict consumer behaviour and provide personalised offers, which increases customer retention. A. Maedche *et al*. (2019), in turn, reviewed the use of AI to create virtual agents that can interact with consumers at different stages of their purchases. M. Stone *et al*. (2020) examined how AI helps optimise the distribution of advertising budgets across different communication channels. A.F. Borges *et al*. (2021) emphasised that AI allows companies to automatically collect and analyse data about competitors, providing the ability to respond faster to market changes and adjust their strategies accordingly.

The analysis of the papers of these authors highlights both the substantial potential of AI in the transformation of marketing communications and the challenges that companies face when implementing these technologies. Despite the substantial contribution of researchers to the

examination of the impact of AI on marketing communications, there are still several aspects that require more in-depth analysis. There is a limited amount of research analysing how small and medium-sized enterprises implement AI in their marketing strategies, given the limited resources and technical infrastructure. Insufficient research was focused on the impact of personalised marketing communications on long-term customer loyalty. It is particularly relevant to consider the possible negative consequences of automating interaction with consumers. The purpose of this study was to identify and analyse various aspects of the impact of AI on marketing communications in the digital economy. The objectives of the study were to assess the impact of AI integration in marketing on long-term customer loyalty and identify the risks of algorithm bias in marketing communications and develop ways to minimise them.

MATERIALS AND METHODS

A comprehensive methodological approach was used to examine the impact of AI on the transformation of modern marketing communications, which combines the analysis of practical cases and the development of strategic recommendations based on the data obtained. Modern AI technologies such as machine learning, natural language processing, and computer vision were analysed, as well as their applications in various aspects of marketing, including automation, optimisation, and process personalisation. This process allowed identifying the main directions of AI application in marketing and formulating the following critical hypotheses: AI improves the personalisation of marketing messages, increases the effectiveness of interaction with consumers through process automation, allows predicting user behaviour based on data analysis, optimises advertising budgets through more accurate targeting, promotes content creation based on natural language analysis, and increases the overall effectiveness of marketing campaigns through real-time data analysis.

For practical analysis, examples of successful implementation of AI in the marketing strategies of leading international companies were selected, such as Netflix, Amazon, Sephora, Coca-Cola, and Google Ads. Each example was reviewed in detail to identify specific approaches to AI integration and assess the economic effects achieved, such as increasing conversions and customer loyalty, and optimising advertising budgets. Comparing the results of AI implementation in different companies identified trends and effective practices. In particular, it was investigated how AI affects content personalisation, ad campaign management, demand forecasting, and customer service automation. Several key indicators were considered to evaluate the effectiveness of AI implementation, such as increased conversions, increased customer loyalty, reduced advertising costs, improved inventory management, and delivery times.

Based on theoretical analysis and the reviews of practical cases, a strategy for integrating AI into Rozetka's marketing processes was developed. The strategy includes several stages: analysis and planning, selection of tools and technologies, integration of AI into content personalisation and advertising campaign management, automation of advertising budget management, demand forecasting, inventory management, and performance monitoring. Each stage is accompanied by specific measures and expected economic effects that ensure a systematic approach to implementing AI and maximising its potential. Key performance indicators, such as conversion rate, return on investment, customer loyalty, and average receipt, were identified to evaluate the effectiveness of implementing AI in Rozetka's marketing processes.

In the process of developing an AI integration strategy, specific tools and platforms were selected that best meet the needs of Rozetka. Among them are Google Cloud AI for data analysis and creating personalised recommendations, Market Brew for optimising search rankings and predicting the impact of changes in search engine positions, and Emarsys for automating and personalising marketing campaigns. The choice of these tools was based on their effectiveness, scalability, and ability to integrate into the company's existing marketing processes. The examination of AI integration considered the ethical and social aspects of technology use.

RESULTS

AI is rapidly gaining a key role in changing modern approaches to marketing communications. The term covers a wide range of technologies that enable machines to perform tasks that previously required human involvement. In marketing, AI helps automate, improve efficiency, and personalise various processes, allowing companies to communicate more effectively with consumers and improve the effectiveness of their campaigns. These technologies include machine learning, natural language processing, computer imaging, etc. Through machine learning, AI can analyse large amounts of information, identify specific patterns, and provide predictions or recommendations. Natural language processing allows systems to understand text or speech like humans, which is particularly useful in the context of automated customer service or content generation (Chintalapati & Pandey, 2022).

In marketing, AI acts as a powerful tool to help brands reach their audiences more accurately. For example, using AI algorithms, user behaviour can be tracked in real time, their preferences can be analysed, and personalised recommendations or advertising messages can be provided, which substantially increases audience engagement. This increases the likelihood that the consumer will respond to the marketing message, as it will meet their expectations and needs. In addition, AI allows automating many routine marketing processes. This includes automatic content creation, managing advertising campaigns, processing customer requests using chatbots, and much more (Vlačić *et al.*, 2021; Butenko *et al.*, 2023). Such technologies not only save time and resources but also increase the overall effectiveness of marketing efforts, allowing specialists to focus on strategic tasks.

However, the essence of AI in marketing communications goes far beyond simple automation. An important aspect is the AI's ability to learn and adapt based on new data. This means that marketing campaigns can be not only accurate but also dynamic, constantly adapting to changes in consumer behaviour and market conditions. This gives the business a substantial competitive advantage, allowing it to quickly respond to changes and take advantage of new opportunities. Therewith, the use of AI in marketing communications raises a number of ethical and social issues.

For example, there is a risk that algorithms may be biased or use data in a way that violates consumer privacy. These aspects require careful analysis and consideration when developing and implementing AI-based strategies.

AI has become an important tool for transforming marketing strategies in business environment (Trusova *et al.*, 2022). Its capabilities allow companies to interact more effectively with customers, optimise resource usage, and improve the results of marketing campaigns. An important advantage of AI is its ability to analyse huge amounts of data and adapt to changes, making it an indispensable tool in modern marketing strategies (Eriksson *et al.*, 2020). Figure 1 shows in which areas AI is most used or tested for marketing automation.

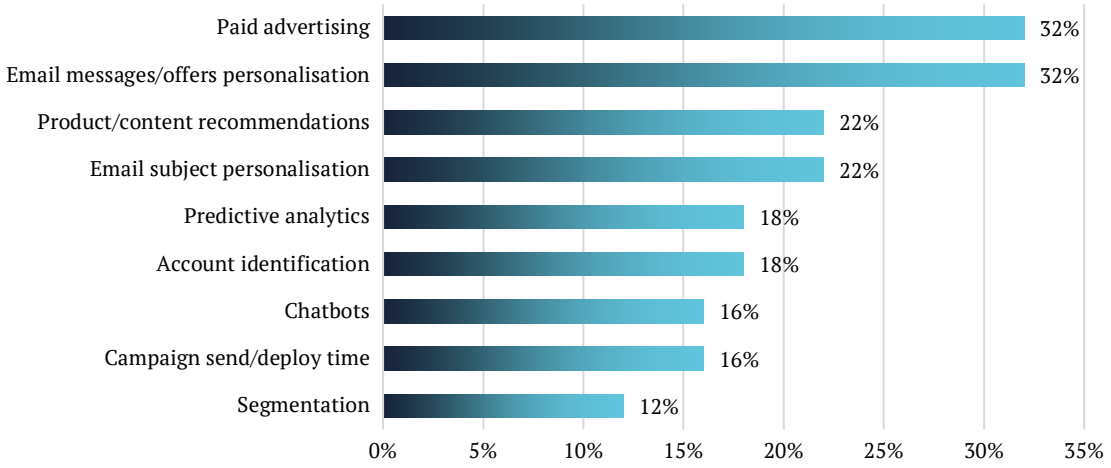

Figure 1. Areas where AI is tested or used for marketing automation
Source: compiled by the authors based on The state of marketing automation (2022)

The figure shows that the largest share of AI use in marketing communications is accounted for by the personalisation of electronic messages and offers and paid advertising. Personalisation of electronic messages can substantially increase the effectiveness of marketing campaigns, as individually adapted offers better meet the interests of users, which encourages increased sales and customer loyalty. Paid advertising optimised with AI ensures maximum efficiency of advertising costs, which allows companies to get high results at a lower cost. Next in value are product or content recommendations and personalisation of the email subject. Recommendation systems using AI allow users to offer products or services that best suit their interests, which increases the likelihood of purchases. Personalising the subject of an email also substantially improves email opening rates, as adapted headers make emails more attractive to recipients.

AI-based predictive analytics provides companies with important insights to make decisions by predicting customer behaviour and market trends, which helps them better plan their marketing strategies. Account identification provides increased security and accuracy in personalising services, but this is not yet widely used in marketing. Chatbots are used to automate customer service, enabling the provision of information and resolving issues in real time, reducing customer support costs. Segmentation, while important for accurate campaign targeting, is currently used on a smaller scale, which may be due to the complexity and need for specialised knowledge to implement it.

One of the main areas of use of AI in marketing is the personalisation of content and communications. AI allows analysing data about consumer behaviour, preferences, purchase history, demographics, and other parameters to create individually tailored offers (Hermann, 2022a). For example, the Netflix platform uses AI to analyse user views and provide personalised recommendations for movies and TV shows, which increases the probability of renewing a subscription by 75% and increases customer loyalty (Annual reports & proxies, n.d.). This personalisation not only improves the customer experience but also increases companies' revenue by about 20%, as customers are more likely to shop when they receive offers that match their interests.

Another important area of AI application is demanding forecasting and inventory management. AI helps businesses predict demand for goods and services, allowing them to manage inventory more efficiently and reduce costs. For example, Amazon uses machine learning algorithms to analyse historical sales data and determine future trends (Annual reports..., n.d.). This helps the company reduce the delivery time of goods by 40% and the level of product shortages – by 30%. Due to such technologies, companies can reduce the cost of storing goods by 15% and ensure timely delivery of products to consumers, which contributes to increasing customer satisfaction.

AI is also actively used to automate customer service. AI-based chatbots and virtual assistants are able to respond to customer requests, provide information or solve problems without human intervention. For example, Sephora's chatbots help customers find the right cosmetics by giving recommendations based on an analysis of previous purchases and preferences (DE&I annual report, 2024). Due to the use of chatbots, the level of customer satisfaction increased by 50%, and the response time to requests was reduced by 70%. AI also plays an important role in analysing social media sentiment (Carles & Vila, 2024). With natural language processing, AI algorithms can analyse the tone of comments, reviews, and other text data to determine the overall attitude to a brand or product. For

example, Coca-Cola uses AI-based social media analytics to monitor responses to ad campaigns and adjust strategies in a timely manner (Annual reports, n.d.). This approach allows companies to be more sensitive to changes in public opinion and quickly adapt to new conditions.

Another area of AI application is the smart management of advertising campaigns. AI is able to automate ad campaign management processes, optimising budget allocation and audience selection. AI-based systems can analyse the effectiveness of ads concurrently, determine the best platforms for placing them, and set up targeting to achieve maximum return on investment. Google Ads, for example, uses machine learning algorithms to automatically optimise bids and select keywords, which helps advertisers achieve better results at a lower price. This allows companies to maximise the return on their marketing costs while minimising the risk of overspending. Table 1 shows examples of the use of AI in marketing strategies.

Table 1. Examples of the use of AI in marketing strategies by different companies and their effects

Company	Use case	Effect
Netflix	Personalisation of movie and TV series recommendations based on view analysis	Increasing the probability of subscription renewal by 75%, customer loyalty – by 60%, revenue – by 20%
Amazon	Demand forecasting and inventory management optimisation using machine learning	Reduction of delivery time by 40%, product shortages – by 30%, and storage costs – by 15%
Sephora	Using chatbots to automate customer service	Increased customer satisfaction by 50%, reduced response time to inquiries by 70%
Coca-Cola	Social media sentiment analysis using natural language processing to monitor responses to advertising campaigns	Increasing the effectiveness of advertising campaigns by 35%, the positive perception of the brand – by 20%
Google Ads	Automatic optimisation of bids and selection of keywords for advertising campaigns	Return on investment increase by 50%, cost price reduction by 30%

Source: compiled by the authors

AI plays a vital role in transforming approaches to managing advertising budgets, offering new opportunities to optimise costs and improve the effectiveness of advertising campaigns. By utilising the power of machine learning algorithms and the processing of large volumes of data, companies can perform accurate and operational market analysis, which allows for more informed decisions about the allocation of resources. One of the key ways AI is impacting the management of advertising budgets is through its ability to analyse vast amounts of data in real time. Modern AI-based tools can instantly evaluate the effectiveness of advertising campaigns, determining which channels and strategies bring the highest return on investment (Peyravi *et al.*, 2020). In addition, AI allows for more precise and personalised targeting. Instead of spending money on ads that are shown to a wide audience with low conversion rates, AI helps identify specific groups of consumers who are most likely to make a purchase. AI also plays an important role in ad spend forecasting. By analysing historical data and considering external factors such as seasonality, the economic situation or changes in consumer behaviour, AI can predict future advertising campaign costs with high accuracy.

Despite the substantial benefits of using AI in marketing, there are certain limitations that should be considered. One of the key limitations is the high cost of implementing AI technologies. Integrating AI into marketing processes requires substantial investment in technology and skilled personnel. For a small business, this can be an overwhelming task, limiting the availability of these technologies to a wide range of companies. The high cost of implementation can also hold back the development of companies that already use AI but need to expand its capabilities (Shaw *et al.*, 2019). In addition, there is a risk of AI algorithms being biased. Algorithms can be biased if they were trained on incorrect or incomplete data. This may lead to discrimination or false conclusions. For example, ad campaigns using AI for targeting can exclude certain groups of consumers if the algorithm deems them less profitable. Such bias can have negative consequences for the brand if customers perceive that they are being discriminated against.

Data privacy is also an important issue. The use of AI to analyse personal data raises questions about privacy and data protection. Failure to comply with relevant regulations may result in loss of customer confidence and legal sanctions. In the context of growing attention to the protection of personal data, companies need to carefully monitor the use of AI and comply with all necessary standards and regulations (Murdoch, 2021). Data dependency is another limitation of using AI in marketing. The effectiveness of AI systems directly depends on the quality and quantity of data they use. Insufficient or poor-quality data can lead to wrong decisions and ineffective marketing strategies. Therefore, companies need to ensure access to quality data and constantly update it so that AI systems can work as efficiently as possible.

Small businesses with limited resources often face the challenge of limited budgets for marketing campaigns (Lewinski *et al.*, 2016). In such conditions, choosing the right tools becomes vital to expanding advertising opportunities. Due to the development of AI, even small businesses can gain access to powerful tools that were previously only available to large corporations. For example, using Google Cloud AI allows such companies to quickly integrate AI into their marketing strategies. This service provides convenient and secure access to a pre-trained AI model and the ability to customise model to work with images, speech, dialogues, and structured data. With this tool, even inexperienced marketers can easily get started with AI, using it to automate processes, analyse data, and improve customer interactions. For small businesses, this is extremely important because they can save time and resources while receiving high efficiency from the use of advanced technologies.

Large companies looking to gain a competitive edge are turning to search engine optimisation-based AI tools to optimise their digital strategies. One such tool, Market Brew, helps search engine optimisation teams better understand how the search engine landscape is changing. This tool allows not only to analyse the current positions in the search results but also to predict changes that may occur in the future. Using new forecasting services, Market Brew provides for testing website changes in a conditional model, allowing for the understanding of how these changes will affect real-world ranking results. This is especially important for large companies that strive to always stay one step ahead of their competitors. They can predict in advance the impact of their actions on search results and thus adjust their strategies according to the expected changes.

Another important tool used by both large companies and small businesses is Emarsys. This platform provides a single omnichannel solution that allows for large-scale personalisation of marketing campaigns. Emarsys helps brands not only improve the efficiency of their interaction with customers but also substantially increase sales due to an individual approach to each customer. Using data from various channels, the platform creates targeted campaigns that meet the needs and expectations of specific customers. This increases the level of customer satisfaction and increases brand loyalty, which, in turn, leads to an increase in company revenues.

The use of AI in marketing communications raises a number of ethical and social issues that are becoming increasingly relevant. While AI provides marketers with powerful tools to improve the effectiveness and accuracy of ad campaigns, its adoption also raises concerns about privacy, transparency, equality of access, and societal impact (Kurmanov, 2023). Many consumers may feel uneasy about their personal data being used without their consent or even their knowledge. This raises the question of the ethical responsibility of companies regarding the collection, storage, and use of personal data, as well as the need to ensure transparency in this process (Hermann, 2022b). Another important ethical aspect is the possibility of discrimination and bias in AI algorithms. If algorithms were trained on data containing discriminatory patterns, they may reproduce or even reinforce these biases in their work.

The social aspects of the use of AI also include the availability of technology and its impact on jobs. The use of AI in marketing may require highly skilled professionals, creating barriers for smaller companies or developing countries where access to such resources is limited. This can lead to increased digital inequality between different regions and economies (Mikalef *et al*., 2022). In addition, the automation of marketing processes through AI could lead to job cuts in traditional marketing sectors, raising concerns about the social consequences for workers who may lose their jobs due to technological change.

Another important social aspect is the impact of AI on consumer behaviour. AI algorithms are capable of analysing and predicting the wants and needs of consumers, which can influence their decisions and even manipulate choices. This raises questions about the ethics of such practices, as manipulative marketing can undermine consumer autonomy and lead to overconsumption, which in turn can have negative social and environmental consequences (Ehsan *et al*., 2021). With the growing role of AI in marketing communications, it is important to develop ethical standards and regulations that will ensure the responsible use of technology. Companies must adhere to the principles of transparency, providing consumers with clear information about how their data is used and giving them the ability to control this process. In addition, it is important to ensure that AI algorithms are designed with the principles of equality and non-discrimination in mind and consider the social implications of implementing these technologies.

Integrating AI into marketing processes is critical for companies seeking to maintain a competitive advantage and improve the efficiency of their operations. A strategy was developed for the implementation of AI in the marketing of the Ukrainian company Rozetka (Table 2). For this company, one of the largest online retailers in Ukraine, the introduction of AI is a strategic step that will allow increasing the level of personalisation, optimising advertising budgets, improving inventory management, and ensuring a high level of customer service.

Table 2. Strategy for implementing AI in the marketing of the Rozetka company

Stage	Description	Expected economic effect
Analysis and planning	Detailed analysis of current marketing processes, identification of opportunities for AI integration	Optimisation of resources, reduction of AI implementation costs, improvement of planning efficiency
Selection of tools and technologies	Choice of tools such as Google Cloud AI, Market Brew, Emarsys for integration into marketing processes	Increasing forecasting accuracy, improving personalisation, reducing customer service costs
Integration of AI in marketing	Implementation of AI in the personalisation of content, management of advertising campaigns, and forecasting of demand	Increase conversion by 15-20%, customer loyalty, and the average check by 10-15% while reducing advertising costs by 20%
Automation of advertising management	Optimising the distribution of the advertising budget, adjusting bids based on the analysis of the effectiveness of ads	Maximising return on investment, reducing advertising costs, increasing conversion rates
Demand forecasting and inventory management	Use of AI to forecast demand for goods, optimisation of logistics processes	Reduction of delivery time, prevention of shortage or surplus of goods, reduction of storage costs, increase of customer satisfaction

Table 2. Continued

Stage	Description	Expected economic effect
Performance monitoring	Constant analysis of key performance indicators, making corrections in processes, scaling up successful initiatives	Increasing the efficiency of operations, cost efficiency, and revenues by 10-15% due to attracting new customers

Source: compiled by the authors

The first stage of the strategy is analysis and planning, which includes a detailed analysis of Rozetka's current marketing processes and the identification of opportunities for AI integration. It is important to determine which of the existing processes can be automated or improved with AI. In particular, attention should be paid to personalisation of content and communications, management of advertising campaigns, and demand forecasting. The next step is to select the appropriate AI tools and technologies that will be integrated into marketing processes. For example, Google Cloud AI can be used to analyse data and create personalised recommendations, Market Brew – to optimise search rankings and predict the impact of changes in search engine positions, and Emarsys – to automate and personalise marketing campaigns.

The integration of AI into marketing processes includes several key areas. To begin with, personalisation of content and communications is necessary. The company must configure AI algorithms to analyse data about user behaviour and provide personalised recommendations to do this. Such personalisation is expected to increase conversion by 15-20% and increase customer loyalty. For example, users who regularly purchase electronics will receive personalised offers for accessories or related products that match their previous purchases. This can increase the average order check by 10-15%. The next step is to automate the management of advertising campaigns, which will allow optimising the allocation of the advertising budget and increase the effectiveness of each ad. For example, AI algorithms can analyse the effectiveness of ad campaigns in real time and automatically adjust bids to ensure maximum return on investment, resulting in a reduction in ad spend of around 20% while maintaining or even increasing conversion rates. The next important area is demand forecasting and inventory management. Using AI to forecast demand will allow the company to better plan purchases and avoid shortages or overstocks. For example, based on the analysis of previous years and current trends, AI can predict increased demand for certain categories of goods during the holiday period, which will allow preparing in advance and avoiding losses due to a lack of goods.

After the integration of AI, the company must ensure constant monitoring of the effectiveness of the new processes. This includes regular analysis of key performance indicators such as conversion, return on investment, customer retention time, etc. For example, if the personalisation of the content does not produce the expected results, it is necessary to make adjustments to the algorithms or to expand the data set used for analysis. Depending on the monitoring results, the company can optimise processes and scale the use of AI to new areas. For example, if the automation of advertising campaigns is successful, the company can expand this approach to all advertising platforms, including social networks and email marketing. This can lead to a 10-15% increase in revenue by attracting new customers and improving cost efficiency. Integrating AI into Rozetka's marketing processes has substantial potential to improve operational efficiency and increase revenue. However, this process requires careful planning, selection of appropriate tools and constant monitoring of results. Given the scale of the company's operations and the amount of data it processes daily, the introduction of AI will allow Rozetka to remain competitive and meet the growing needs of customers for high-quality service.

DISCUSSION

The use of AI in marketing communications is becoming an increasingly important factor in the transformation of modern business strategies. The results show that AI not only facilitates the automation and optimisation of processes but also provides deep personalisation of communications, which increases the effectiveness of marketing campaigns and interactions with customers. One of the key aspects is the ability of AI to analyse huge amounts of data and make predictions based on the patterns determined (Prymostka & Kysil, 2023). This enables companies to quickly respond to changes in consumer behaviour and market conditions, which is a substantial competitive advantage. For example, personalised emails created with AI have substantially higher open and engagement rates, increasing the chances of conversion and building customer loyalty. C.G.M. Arce *et al*. (2024) investigated how AI affects the management of advertising budgets in small and medium-sized businesses. They came to the conclusion that the introduction of AI allowed substantially increasing the efficiency of the use of advertising resources. In addition, K. Abrokwah-Larbi & Y. Awuku-Larbi (2024) focused on how AI helps optimise staff costs by automating routine tasks and freeing up time for more strategic actions. They noted that by automating processes such as ad campaign management, data analysis and reporting, companies were able to reduce labour costs and increase team productivity. Compared to the results of this study, the authors' papers confirm an increase in efficiency, but the current data show a higher level of this efficiency (by 10-15%). This may be explained by the fact that the study used different AI algorithms or a different sample.

H.A. Lari *et al*. (2022) investigated the impact of AI on the effectiveness of advertising campaigns in the field of e-commerce. They established that the introduction of AI in advertising campaigns allowed a 30% increase in efficiency due to the personalisation of ads and the automation of the ad-buying process. Importantly, AI has substantially reduced customer acquisition costs and improved conversion rates. The results are consistent with current research on improving the effectiveness of advertising campaigns through the use of AI. However, the authors focused on e-commerce, whereas this study covers a wider

range of industries, including traditional businesses, and also includes implications for managing advertising budgets, which was not mentioned in this paper.

However, along with the advantages, the results indicate a number of challenges and limitations associated with the implementation of AI in marketing processes. The high cost of implementing AI technologies, the need for investments in technological infrastructure, and attracting qualified specialists can become barriers for small and medium-sized enterprises (Zelisko *et al.*, 2024). In addition, the risk of biasing algorithms that may be trained on incomplete or incorrect data raises ethical issues and may lead to discrimination against certain groups of consumers. N. Soni *et al.* (2019) investigated the impact of AI on the management of advertising budgets in small businesses. They concluded that the implementation of AI allowed for substantial improvements in targeting accuracy, but the impact on the overall budget remained minimal due to the limited resources of small businesses. The current study confirms that small businesses are indeed limited in their ability to widely adopt AI, but even partial use of AI can lead to some positive results, especially in the context of cost reduction.

K. Nair & R. Gupta (2021) focused on studying the impact of AI on the creative campaigns of large brands. Their investigation showed that the use of AI greatly simplifies and automates the process of creating promotional materials, which has led to a reduction in creative content costs. This study also confirmed the effectiveness of AI in the creation of advertising content, but it examined its role in personalising content to further reduce costs, which was not considered by the author. Ethical and social aspects of the use of AI are another important subject of discussion. Using consumers' personal data without their knowledge or consent can raise concerns among users, highlighting the need for transparency in data collection and use. In addition, the automation of marketing processes may lead to job cuts in traditional marketing sectors, creating social challenges for workers who may lose their jobs due to technological change (Makedon *et al.*, 2022). L. Ouchchy *et al.* (2020) in their study also emphasised the ethical aspects of using AI in advertising, highlighting the risks of discrimination and privacy violations. They noted that insufficient control over algorithms can lead to unequal distribution of budgets based on biased data. The current results also indicate possible ethical issues, but they focused more on the economic aspects of using AI, while the author focused on the ethical challenges. This indicates the need to combine these approaches in future research.

Dependence on data quality is also a substantial limitation in the use of AI. The effectiveness of AI systems directly depends on the quality and quantity of data they use. Cases of wrong decisions due to poor data quality can lead to ineffective marketing strategies (Savytska *et al.*, 2024). This highlights the importance of ensuring access to quality data and regularly updating it. A study by P. Boozary (2024) investigated the impact of data quality on the use of AI and the adaptation of advertising strategies. The author established that AI can substantially improve the effectiveness of advertising campaigns by adapting strategies according to changes in consumer behaviour, resulting in increased efficiency, but the quality of the data must be considered. T. Davenport *et al.* (2020) also emphasised the importance of integrating AI with other technologies to achieve maximum results, noting that the use of AI alone without such integration may limit the potential for efficiency gains. The authors' results are consistent with the findings of this study about the importance of using real-time to adapt advertising strategies.

Looking ahead, AI technologies continue to evolve, and over time many of the current limitations may be overcome. For example, implementing ethical standards and regulating the use of AI can reduce the risks associated with algorithmic bias and the protection of personal data (Gashi *et al.*, 2024). A decrease in the cost of technologies can also be expected, which will make them more accessible to a wider range of enterprises. M.A. Al Khaldy *et al.* (2023) analysed the impact of AI on return on investment in advertising campaigns. They determined that using AI can increase return on investment by 25-35%, especially in highly competitive industries. G. Shanmugam *et al.* (2023), in turn, noted that a substantial increase in efficiency is observed when AI is used to analyse and adjust campaigns in real time. In particular, the automation of processes based on data allows better adaptation of advertising strategies to changes in consumer behaviour, which leads to more efficient use of advertising budgets. The results of this study support the authors' conclusions regarding the increase in return on investment due to the implementation of AI. However, this effect can be even greater if AI is integrated with other marketing technologies, such as automated data analysis and behavioural analytics.

In general, the implementation of AI in marketing communications brings substantial benefits, such as increased efficiency, automation of processes, and personalisation of communications. However, there are also certain challenges that require a careful approach, including ethical issues, cost of implementation, and dependence on data quality. Companies need to consider these aspects and actively work to overcome them while ensuring ethical standards and increasing consumer trust to successfully use AI in marketing.

CONCLUSIONS

The study confirmed that AI is becoming an increasingly influential factor in the transformation of modern marketing communications. AI encompasses a wide range of technologies that enable machines to perform tasks that traditionally require human intelligence. In the context of marketing communications, AI provides the ability to automate, optimise and personalise many processes, allowing companies to interact more effectively with customers and improve the results of their advertising campaigns. In particular, machine learning allows AI-based systems to analyse large volumes of data and make predictions or recommendations based on detected patterns. Natural language processing allows machines to understand and interact with text or language the way humans do, which is especially valuable for automated customer service or content generation. These technologies create opportunities to automate routine marketing processes, such as content creation, management of advertising campaigns, processing of customer inquiries using chatbots, etc.

An important advantage of AI is its ability to self-learn and adapt based on new data. This allows marketing

campaigns to remain dynamic and respond in time to changes in consumer behaviour and market conditions, which provides companies with a substantial competitive advantage. The study also identified that AI is actively used to manage advertising budgets, which allows for more efficient allocation of resources and maximum return on investment. An important part of the research is also the consideration of the ethical and social issues of using AI. The use of AI can raise questions about data privacy, algorithm bias, and the impact on jobs. It is necessary to develop ethical standards and regulations that will ensure the responsible use of technologies and reduce possible negative consequences. It was determined that AI substantially optimises the planning, distribution, and analysis of the effectiveness of advertising campaigns. Examples of companies such as Netflix, Amazon, Sephora, Coca-Cola, and Google Ads have demonstrated the successful use of AI to improve the effectiveness of marketing strategies and personalise the user experience.

As part of the study, a strategy for introducing AI into the marketing processes of the Rozetka company was also developed. It involves the use of machine learning algorithms to analyse user behaviour and predict their needs. This strategy includes the integration of modern technologies to automate the management of advertising campaigns, which will allow the company to allocate advertising budgets more efficiently and increase return on investment. By implementing AI, Rozetka will be able to reduce advertising costs and increase targeting accuracy and customer satisfaction through personalised offers. Successful implementation of AI can provide substantial economic benefits and improve customer service, but requires careful planning, selection of appropriate tools and continuous monitoring of results. A limitation of the study is the insufficient number of companies examined and possible differences in market conditions that may affect the results of AI implementation. Further research could focus on analysing a wider range of companies and investigating the impact of AI on different marketing industries in different economic contexts.

ACKNOWLEDGEMENTS

None.

CONFLICT OF INTEREST

None.

REFERENCES

[1] Abrokwah-Larbi, K., & Awuku-Larbi, Y. (2024). The impact of artificial intelligence in marketing on the performance of business organizations: Evidence from SMEs in an emerging economy. *Journal of Entrepreneurship in Emerging Economies*, 16(4), 1090-1117. doi: 10.1108/JEEE-07-2022-0207.

[2] Al Khaldy, M.A., Al-Obaydi, B.A., & Al Shari, A.J. (2023). The impact of predictive analytics and AI on digital marketing strategy and ROI. In S.G. Yaseen (Ed.), *Cutting-edge business technologies in the big data era* (pp. 367-379). Cham: Springer. doi: 10.1007/978-3-031-42455-7_31.

[3] Annual reports & proxies. (n.d.). Retrieved from https://ir.netflix.net/financials/annual-reports-and-proxies/default.aspx.

[4] Annual reports, proxies and shareholder letters. (n.d.). Retrieved from https://ir.aboutamazon.com/annual-reports-proxies-and-shareholder-letters/default.aspx.

[5] Annual reports. (n.d.). Retrieved from https://investor.cokeconsolidated.com/financial-information/annual-reports.

[6] Arce, C.G.M., Valderrama, D.A., Barragán, G.A.V., & Santillán, J.K.A. (2024). Optimizing business performance: Marketing strategies for small and medium businesses using artificial intelligence tools. *Migration Letters*, 21(1), 193-201. doi: 10.59670/ml.v21iS1.6008.

[7] Bilovodska, O., Kravchuk, T., Ponomarenko, I., Bliumska-Danko, K., & Kononenko, A. (2024). Artificial intelligence for marketing product strategy in the online education market. *Economics of Development*, 23(3), 18-31. doi: 10.57111/econ/3.2024.18.

[8] Boozary, P. (2024). The impact of marketing automation on consumer buying behavior in the digital space via artificial intelligence. *Power System Technology*, 48(1), 1008-1021.

[9] Borges, A.F., Laurindo, F.J., Spínola, M.M., Gonçalves, R.F., & Mattos, C.A. (2021). The strategic use of artificial intelligence in the digital era: Systematic literature review and future research directions. *International Journal of Information Management*, 57, article number 102225. doi: 10.1016/j.ijinfomgt.2020.102225.

[10] Butenko, N., Mykhaylovych, O., Bincheva, P., Lyndyuk, A., & Luchnikova, T. (2023). The role of internet marketing in the strategy of forming entrepreneurial activity. *Economic Affairs*, 68(1), 73-82. doi: 10.46852/0424-2513.1s.2023.9.

[11] Carles, A.O., & Vila, N.A. (2024). Photo analysis of the hashtag #solotravel and its gender implications. *Journal of Tourism Analysis*, 31(1), 69-108. doi: 10.53596/gekkdw50.

[12] Chintalapati, S., & Pandey, S.K. (2022). Artificial intelligence in marketing: A systematic literature review. *International Journal of Market Research*, 64(1), 38-68. doi: 10.1177/14707853211018428.

[13] Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. *Journal of the Academy of Marketing Science*, 48, 24-42. doi: 10.1007/s11747-019-00696-0.

[14] DE&I annual report. (2024). Retrieved from https://newsroom.sephora.com/racial-bias-in-retail-study/.

[15] Ehsan, U., Liao, Q.V., Muller, M., Riedl, M.O., & Weisz, J.D. (2021). Expanding explainability: Towards social transparency in AI systems. In Y. Kitamura, A. Quigley, K. Isbister, T. Igarashi, P. Bjørn & S. Drucker (Eds.), *Proceedings of the 2021 CHI conference on human factors in computing systems* (article number 82). New York: Association for Computing Machinery. doi: 10.1145/3411764.3445188.

[16] Eriksson, T., Bigi, A., & Bonera, M. (2020). Think with me, or think for me? On the future role of artificial intelligence in marketing strategy formulation. *TQM Journal*, 32(4), 795-814. doi: 10.1108/TQM-12-2019-0303.
[17] Gashi, S., Imaralieva, T., Abdykadyrov, S., Lailieva, E., & Babayev, F. (2024). Research on the impact of artificial intelligence on financial security in the context of modern technological challenges. *Revista Interdisciplinar de Ciencia Aplicada*, 8(13), 1-9. doi: 10.18226/25253824.v8.n13.08.
[18] Haleem, A., Javaid, M., Qadri, M.A., Singh, R.P., & Suman, R. (2022). Artificial intelligence (AI) applications for marketing: A literature-based study. *International Journal of Intelligent Networks*, 3, 119-132. doi: 10.1016/j.ijin.2022.08.005.
[19] Hermann, E. (2022a). Artificial intelligence and mass personalization of communication content – an ethical and literacy perspective. *New Media & Society*, 24(5), 1258-1277. doi: 10.1177/14614448211022702.
[20] Hermann, E. (2022b). Leveraging artificial intelligence in marketing for social good – an ethical perspective. *Journal of Business Ethics*, 179(1), 43-61. doi: 10.1007/s10551-021-04843-y.
[21] Kurmanov, S. (2023). Various production planning models for manufacturing execution systems. *Scientific Horizons*, 26(1), 111-120. doi: 10.48077/scihor.26(1).2023.111-120.
[22] Lari, H.A., Vaishnava, K., & Manu, K.S. (2022). Artificial intelligence in e-commerce: Applications, implications and challenges. *Asian Journal of Management*, 13(3), 235-244. doi: 10.52711/2321-5763.2022.00041.
[23] Lewinski, P., Tan, E.S., Fransen, M.L., Czarna, K., & Butler, C. (2016). Hindering facial mimicry in ad viewing: Effects on consumers' emotions, attitudes and purchase intentions. In P. Verlegh, H. Voorveld & M. Eisend (Eds.), *Advances in advertising research (Vol. 6)*. (pp. 281-288). Wiesbaden: Springer. doi: 10.1007/978-3-658-10558-7_22.
[24] Maedche, A., Legner, C., Benlian, A., Berger, B., Gimpel, H., Hess, T., Hinz, O., Morana, S., & Söllner, M. (2019). AI-based digital assistants: Opportunities, threats, and research perspectives. *Business & Information Systems Engineering*, 61, 535-544. doi: 10.1007/s12599-019-00600-8.
[25] Makedon, V., Krasnikova, N., Krupskyi, O.P., & Stasiuk, Y. (2022). Arrangement of digital leadership strategy by corporate structures: A review. *Ikonomicheski Izsledvania*, 31(8), 19-40.
[26] Mikalef, P., Conboy, K., Lundström, J.E., & Popovič, A. (2022). Thinking responsibly about responsible AI and "the dark side" of AI. *European Journal of Information Systems*, 31(3), 257-268. doi: 10.1080/0960085X.2022.2026621.
[27] Murdoch, B. (2021). Privacy and artificial intelligence: Challenges for protecting health information in a new era. *BMC Medical Ethics*, 22, article number 122. doi: 10.1186/s12910-021-00687-3.
[28] Nair, K., & Gupta, R. (2021). Application of AI technology in modern digital marketing environment. *World Journal of Entrepreneurship, Management and Sustainable Development*, 17(3), 318-328. doi: 10.1108/WJEMSD-08-2020-0099.
[29] Oklander, M., Yashkina, O., Petryshchenko, N., Karandin, O., & Yevdokimova, O. (2024). Economic aspects of Industry 4.0 marketing technologies implementation in the agricultural sector of Ukraine. *Ekonomika APK*, 31(4), 55-66. doi: 10.32317/ekon.apk/4.2024.55.
[30] Ouchchy, L., Coin, A., & Dubljević, V. (2020). AI in the headlines: The portrayal of the ethical issues of artificial intelligence in the media. *AI & Society*, 35, 927-936. doi: 10.1007/s00146-020-00965-5.
[31] Overgoor, G., Chica, M., Rand, W., & Weishampel, A. (2019). Letting the computers take over: Using AI to solve marketing problems. *California Management Review*, 61(4), 156-185. doi: 10.1177/0008125619859318.
[32] Peyravi, B., Nekrošienė, J., & Lobanova, L. (2020). Revolutionised technologies for marketing: Theoretical review with focus on artificial intelligence. *Business: Theory and Practice*, 21(2), 827-834. doi: 10.3846/btp.2020.12313.
[33] Prymostka, L., & Kysil, T. (2023). Intelligent information systems of the banking sector: General characteristics and information environment. *Scientific Bulletin of Mukachevo State University. Series "Economics"*, 10(4), 43-53. doi: 10.52566/msu-econ4.2023.43.
[34] Savytska, N., Shtal, T., Piddubna, L., Penkina, N., & Priadko, O. (2024). Analytical tools for evaluating customer experience in the context of marketing management of service companies. *Scientific Bulletin of Mukachevo State University. Series "Economics"*, 11(3), 112-124. doi: 10.52566/msu-econ3.2024.112.
[35] Shakhovska, K., Shakhovska, N., & Veselý, P. (2020). The sentiment analysis model of services providers' feedback. *Electronics*, 9(11), article number 1922. doi: 10.3390/electronics9111922.
[36] Shanmugam, G., Rajendran, D., Thanarajan, T., Murugaraj, S.S., & Rajendran, S. (2023). Artificial intelligence as a catalyst in digital marketing: Enhancing profitability and market potential. *Ingénierie des Systèmes d'Information*, 28(6), 1627-1636. doi: 10.18280/isi.280620.
[37] Shaw, J., Rudzicz, F., Jamieson, T., & Goldfarb, A. (2019). Artificial intelligence and the implementation challenge. *Journal of Medical Internet Research*, 21(7), article number e13659. doi: 10.2196/13659.
[38] Soni, N., Sharma, E.K., Singh, N., & Kapoor, A. (2019). Impact of artificial intelligence on businesses: From research, innovation, market deployment to future shifts in business models. *ArXiv*. doi: 10.48550/arXiv.1905.02092.
[39] Srinivasan, R., & Sarial-Abi, G. (2021). When algorithms fail: Consumers' responses to brand harm crises caused by algorithm errors. *Journal of Marketing*, 85(5), 74-91. doi: 10.1177/0022242921997082.
[40] Stone, M., Aravopoulou, E., Ekinci, Y., Evans, G., Hobbs, M., Labib, A., Laughlin, P., Machtynger, J., & Machtynger, L. (2020). Artificial intelligence (AI) in strategic marketing decision-making: A research agenda. *The Bottom Line*, 33(2), 183-200. doi: 10.1108/BL-03-2020-0022.

[41] The state of marketing automation. (2022). Retrieved from https://ascend2.com/wp-content/uploads/2022/02/The-State-of-Marketing-Automation-2022-220226.pdf.
[42] Trusova, N., Vasyl'yeva, O., Kolokolchykova, I., Konovalenko, A., & Herasymenko, I. (2022). Marketing support of corporate social responsibility of agri-food enterprises. *Scientific Horizons*, 25(7), 101-114. doi: 10.48077/scihor.25(7).2022.101-114.
[43] Van Esch, P., & Stewart Black, J. (2021). Artificial intelligence (AI): Revolutionizing digital marketing. *Australasian Marketing Journal*, 29(3), 199-203. doi: 10.1177/18393349211037684.
[44] Vlačić, B., Corbo, L., Silva, S.C., & Dabić, M. (2021). The evolving role of artificial intelligence in marketing: A review and research agenda. *Journal of Business Research*, 128, 187-203. doi: 10.1016/j.jbusres.2021.01.055.
[45] Vorobiova, V.V., Krupskyi, O.P., & Stasiuk, Y.M. (2023). The role of digital technologies in modern trade: A study of global trends and prospects for Ukraine. *Economic Journal Odessa Polytechnic University*, 24(2), 44-55. doi: 10.15276/EJ.02.2023.5.
[46] Wamba-Taguimdje, S.L., Wamba, S.F., Kamdjoug, J.R., & Wanko, C.E. (2020). Influence of artificial intelligence (AI) on firm performance: The business value of AI-based transformation projects. *Business Process Management Journal*, 26(7), 1893-1924. doi: 10.1108/BPMJ-10-2019-0411.
[47] Zelisko, N., Raiter, N., Markovych, N., Matskiv, H., & Vasylyna, O. (2024). Improving business processes in the agricultural sector considering economic security, digitalization, risks, and artificial intelligence. *Ekonomika APK*, 31(3), 10-21. doi: 10.32317/2221-1055.2024030.10.

Андрій Линдюк
Кандидат економічних наук, доцент
Львівський національний університет природокористування
80381, вул. В. Великого, 1, м. Дубляни, Україна
https://orcid.org/0000-0002-9940-8991
Іванна Гаврилюк
Кандидат економічних наук, доцент
Львівський національний університет природокористування
80381, вул. В. Великого, 1, м. Дубляни, Україна
https://orcid.org/0000-0002-9517-3021
Юрій Томашевський
Кандидат економічних наук, доцент
Львівський національний університет природокористування
80381, вул. В. Великого, 1, м. Дубляни, Україна
https://orcid.org/0000-0003-4039-8271
Роман Хірівський
Кандидат економічних наук, доцент
Львівський національний університет природокористування
80381, вул. В. Великого, 1, м. Дубляни, Україна
https://orcid.org/0000-0002-7299-429X
Мар'яна Когут
Кандидат економічних наук, доцент
Львівський національний університет природокористування
80381, вул. В. Великого, 1, м. Дубляни, Україна
https://orcid.org/0000-0001-8275-134X

Вплив штучного інтелекту на маркетингові комунікації: нові можливості та виклики для бізнесу

Анотація. Метою цього дослідження було проаналізувати вплив інтеграції технологій штучного інтелекту (ШІ) на сучасні підходи до маркетингових комунікацій з акцентом на виявленні нових можливостей для оптимізації бізнес-процесів. Досліджено широкий спектр технологій для автоматизації, оптимізації та персоналізації маркетингових процесів, що дозволяє компаніям більш ефективно взаємодіяти з клієнтами та покращувати результати своїх маркетингових кампаній. Розглянуто такі технології, як машинне навчання та обробка природної мови, які сприяють аналізу великих обсягів даних, формуванню прогнозів та рекомендацій, автоматизації створення контенту та управління рекламними кампаніями. Зокрема, ШІ дозволяє персоналізувати комунікацію

з клієнтами, що підвищує результативність маркетингових кампаній та забезпечує максимальну ефективність рекламних витрат. У дослідженні наведено приклади успішного впровадження ШІ в маркетингові стратегії таких компаній, як Netflix, Amazon, Sephora, Coca-Cola, Google Ads, що дозволило їм суттєво підвищити рівень лояльності клієнтів, знизити витрати на зберігання товарів та оптимізувати рекламні бюджети. Проаналізовано основні обмеження та ризики використання штучного інтелекту, такі як висока вартість впровадження, можливість упередженості алгоритмів та питання конфіденційності даних. Rozetka розробила маркетингову стратегію ШІ, яка включає аналіз поточних процесів, вибір інструментів і технологій, інтеграцію ШІ в персоналізацію контенту та управління рекламними кампаніями, автоматизацію управління рекламним бюджетом, прогнозування попиту та управління запасами. Очікувані економічні ефекти включають підвищення конверсії, зниження витрат на рекламу, збільшення середнього чека та підвищення прибутковості компанії. Таким чином, ШІ стає ключовим інструментом трансформації маркетингових стратегій, надаючи компаніям конкурентні переваги та можливість швидко реагувати на зміни в поведінці споживачів і ринкової кон'юнктури

Ключові слова: автоматизація; персоналізація; прогнозування; технологічні зміни; лояльність клієнтів; маркетингові комунікації