

THE ROLE OF ARTIFICIAL INTELLIGENCE IN THE DEVELOPMENT OF MARKETING

<https://doi.org/10.5281/zenodo.17970079>

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Annotation: *This article provides a comprehensive analysis of the distinctive role of artificial intelligence (AI) in modern, rapidly developing marketing. AI's latest technologies—processing and editing large volumes of data (big data), predicting seller and buyer behavior, establishing automated customer communication to significantly improve sales figures, creating personalized advertising through AI technologies, and promoting company brands—are discussed. The article covers personalized advertising, automated marketing processes such as AI-based chatbots, analytical models, and predictive analytics enabled by AI technologies. It also offers general conclusions about AI's future directions in marketing, its role in determining market segmentation, and its influence on innovations in real-time marketing.*

Keywords: *AI technologies, sales indicators, automated communication, personalized advertising, marketing chatbots, predictive analytics, market segmentation, real-time marketing.*

Today, in an era of rapid global development, artificial intelligence (AI) technologies are asserting a deep presence in almost every field. It is fair to say that AI has become one of the optimal solutions for the digitally transformed economy and social development because these technologies not only reduce individual human movements but also enable many economic processes to be performed faster, more efficiently, and with higher quality. Marketing is one of the areas significantly affected by digital intelligence,

In the current digital age, one of the major strategic priorities for both developed and developing companies is collecting large databases about user behavior, purchases, sales, and profit indicators. By compiling and analyzing this data, companies can use AI algorithms to develop tailored marketing strategies for each customer. For example, AI can determine when a customer is active, what products interest them, and which advertisements they respond to, and then direct them to appropriate, targeted ads. This, in turn, helps companies anticipate market trends. AI technologies can forecast which products will see increased demand and which will phase out of circulation with precise indicators. Predictive analytics powered by intelligent systems provides advance information about price and demand fluctuations. According to influential entrepreneurs like Elon Musk, future business competition will depend on how effectively companies use AI. Those who correctly predict customer needs through AI will prevail. Consequently, AI

helps businesses allocate advertising budgets properly, automatically stop ineffective ads, and create conditions to achieve competitive advantage.

In a digital ecosystem-integrated economy, understanding and analyzing market mechanisms remains one of the most urgent issues. In particular, monitoring relationships between sellers and buyers has important implications for marketing principles. AI systems play a crucial role in forecasting such dynamics. By collecting empirical and statistical datasets, automated intelligent technologies help organizations understand which products customers are interested in, how quickly they view products, pricing strategies, and which promotions elicit quicker responses. This information supports the formulation of optimal sales tactics. Maintaining competitiveness in the market requires more than providing quality products and personalized advertisements. Promoting a brand and forming the visual identifiers and image of a company in consumers' minds are essential for increasing trust and loyalty toward a product. AI systems help create and popularize brand visuals on social networks. As a result, companies strengthen offline sales relationships and enhance visual communication with online customers. They announce the latest promotions via digital content creators, accept offers and complaints in a virtual mode, and glean basic information from users' interests, comments, and positive or negative reviews about how to best promote the brand.

AI-based chatbots and analytical models are revolutionary technology-driven solutions for business organizations and companies. AI chatbots are innovative programs powered by intelligent technologies that create a conversational environment akin to human natural speech. Chatbots primarily understand user and customer requests, respond automatically, and, if necessary, rapidly route users to other services or specialists. Their functions include:

1. **Customer support:** Analyzing incoming customer requests carefully and providing the most appropriate assistance.
2. **Sales and marketing support:** Providing 24/7 interactive communication, supplying consumers with up-to-date information from databases, significantly increasing customer satisfaction, and enhancing brand loyalty.
3. **Service personalization:** After interacting with a customer, AI chatbots quickly analyze the customer's purchase history, preferences, and behavior in certain directions, then respond to meet those needs.
4. **Fast message transactions:** Improving communication during online sales processes and noticeably reducing human resources and manual intervention.

Analytical models are algorithmic systems based on mathematical, statistical, or information technologies designed to analyze large datasets and forecast future market segmentation. They allow businesses to develop proactive strategies. Their main tasks include:

1. Conducting extensive analyses of data repositories.
2. Studying and predicting market segmentation.

3. Responding to consumer demands.
4. Providing optimal marketing plans.

From the information above, we can easily understand AI's level of influence on marketing. The Following table presents the main objective facts about the importance of AI technologies in marketing and the digital economy now compared to years earlier:

Table-1

The importance of AI technologies in marketing and the digitized economy now and years ago.

Basis	Before(15-20 years ago)	Now(2020-2025)
AI theory	AI scientific consulting centers and limited opportunities for effective development of the technology.	Powerful computer technologies, Big data managers,(AI experts) and algorithms.
The scope of application	In scientific research, academic theories and concepts.	Business, medicine, education, transport, marketing.
Framework of database analysis	The scope of the data is small, the speed of storage processing and access is significantly lower.	Perform fast gammas on large databases.
Labor indicator	The focus is mainly on scientific theory,lack of resource and skills to apply it in practice.	Quick decisions,greatly reducing human resource, cost and forecasts.
Promotion level	A period in which knowledge and understanding of AI is not formed or is deveoping gradually.	Significant increase in value of online services,fast chatbots, training and advertising.

In the current stage of AI in marketing, artificial intelligence has become a strategically significant factor, enabling companies to increase their competitiveness, deepen customer relationships, and optimize business processes. The entry of AI technologies into marketing has replaced many traditional approaches with data-driven decision-making, real-time segmentation, personalized offers, and automated communication strategies. On the one hand, this process significantly increases the effectiveness of marketing campaigns; on the other hand, it creates the ability to predict consumer behavior accurately. AI-based analytics, machine learning, and natural language processing algorithms allow companies to deeply analyze large volumes of data, anticipate customer needs, and respond quickly to market changes. As a result, marketing strategies are becoming more adaptive, dynamic, and individualized. Especially in e-commerce, digital advertising, customer service, and CRM systems, the application of AI technologies is elevating business models to a qualitatively new stage.

At the same time, although AI enhances efficiency and innovation in marketing, it raises important ethical and governance issues such as data privacy, algorithmic fairness, and maintaining consumer trust. Therefore, companies must harmonize technological adoption with institutional and ethical approaches. Overall, AI is increasingly one of the primary drivers of marketing development. In the future, AI-based marketing will not only be an integral part of corporate strategy but will also serve as a central factor for innovative growth across the economy.

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