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ARTIFICIAL INTELLIGENCE IN THE CUSTOMER SUPPORT SERVICE AT ENTERPRISES: CHATBOT REVOLUTION

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Abstract. *The study highlights the relevance of the use of artificial intelligence technologies and chat-bots in modern enterprises. The current state of implementation of artificial intelligence technologies at enterprises is analyzed. Examples of the application of artificial intelligence technologies in the customer support service are given. The expediency of using chat-bots has been substantiated. Based on the analysis of current practices for the successful use of chat-bots in enterprises of various industries, the authors conclude that there is a significant potential for AI to transform the client service. The use of chat-bots allows enterprises not only to optimize their internal processes, but also to significantly improve the experience of consumers, which, in turn, helps to increase customer loyalty and increase profits. The article emphasizes the importance of adapting enterprises to the latest technological trends and offers recommendations on the effective implementation of chat-bots in the client support strategy. The obligatory methodical and content elements are allocated when creating a chatbot. The study identified a promising direction for creating chat-bots using artificial intelligence.*

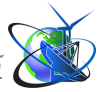
Keywords: *artificial intelligence, chatbot, informatization, efficiency, effectiveness.*

Introduction.

In the era of digitalization, artificial intelligence (AI) is becoming not just a technological novelty, but a necessary tool to increase the competitiveness of enterprises. One of the key applications of AI is customer support, where chat-bots play a revolutionary role.

Today, the topic of using AI in chat-bots is not new. The directions of using AI in modern conditions are investigated by A. Dubchak, J. Litvinenko, V. Demyanenko, Yu. Peruchok, A. Banartseova, A. Eliseeva, L. Malygin, A. Shevchenko, G. Androshchuk, A. Turchin and others.

The article is aimed at researching how artificial intelligence (AI) is transforming approaches to customer service in enterprises through the integration of chat-bots.

**The main text.**

Artificial intelligence is revolutionizing enterprise customer support by implementing automated and efficient solutions for customer interaction. Thanks to AI-based chat-bots, enterprises can process a large volume of requests simultaneously, providing instant responses continuously, which significantly improves service efficiency. Machine learning algorithms allow chat-bots to adapt and improve, constantly improving the quality of customer interaction and providing a personalized approach. Using AI to analyze large amounts of customer data helps companies gain a deeper understanding of their needs and preferences, which in turn contributes to the development of more effective service and communication strategies. As of 2023, artificial intelligence (AI) is actively integrated into the business processes of enterprises of various industries, significantly transforming their activities and creating new opportunities for growth and innovation [2-4].

In recent years, the use of AI in enterprises in 2023 is [1-7]:

1. Automation and optimization of processes. AI allows you to automate a number of routine and costly tasks, such as entering data, processing orders and responding to customer requests, freeing up employee time for more complex and creative tasks. Optimize logistics and supply chains that analyze large amounts of data for demand forecasting, inventory optimization, and delivery routes.

2. Improving the quality of customer service. AI improves customer interaction through the use of chat-bots capable of providing instant responses to customer requests, processing orders and providing personalized recommendations. AI-based analytics allows you to gain a deeper understanding of customer needs and behavior, providing an opportunity to create personalized marketing campaigns and offers.

3. Data analytics and decision making. AI is able to analyze huge amounts of data faster and more accurately than humans could, revealing trends, patterns, and anomalies. AI-based systems can provide recommendations to support decision-making at all levels of management, based on data analysis and outcome prediction.

4. Innovation and development of new products. AI promotes innovation by enabling faster testing and development of new products and services. Using AI in



design and engineering helps to create more efficient and cost-effective solutions.

5. Ethical and security challenges. As AI addiction grows, so does the importance of data protection and privacy. The use of AI poses ethical questions for business, in particular regarding automation of workplaces and transparency of algorithms.

Market Overview According to Grand View Research, the chat-bot market could reach \$1.25 billion in 2025. This forecast confirms the growing demand for automated solutions for interacting with customers.

AI opens up new horizons of opportunities for enterprises, improving efficiency, innovation and quality of service. However, the successful implementation of AI requires companies not only technological readiness, but also taking into account the ethical challenges and disadvantages associated with these technologies [3-5].

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Advantages of using chat-bots in enterprises [1-7]:

1. Automation of routine queries reduces the need for human resources.
2. Chat-bots are available 24/7, providing instant response to customer requests.
3. AI allows chat-bots to adapt communication taking into account the history of interaction with each client.

4. Chat-bots collect valuable information about customer behavior and needs. Despite the numerous advantages, there are challenges, including the difficulty of developing deeply integrated solutions and the risk of misinterpretation of customer requests. In addition, some customers may prefer to interact with live operators.

Here are the well-known successful projects for introducing chat-bots into the activities of enterprises [1-7]:

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1. Domino's Pizza uses a chat-bot to order pizza via Messenger, which simplifies the ordering process for customers.

2. Sephora offers a virtual assistant to help you choose cosmetics that increase customer satisfaction and increase sales.

3. Amazon uses AI algorithms to optimize its logistics operations. AI helps companies forecast product demand, optimize inventory, and automate the selection of the most efficient delivery routes. This not only reduces logistics costs, but also improves the customer experience through fast delivery.

4. Netflix uses machine learning algorithms to analyze the viewing habits of its users and provide personalized recommendations. This approach allows Netflix to increase customer satisfaction and increase the time they spend viewing content on the platform.

5. Improving diagnostics in medicine with IBM Watson. IBM Watson is used in healthcare to support physicians in the process of diagnosis and treatment selection. AI analyzes patient medical data, scientific research, and clinical cases to provide guidance on the most effective treatments.

6. Tesla uses robotic systems with AI elements in its factories to automate the assembly of cars. AI helps to optimize production processes, providing high accuracy and efficiency, which in turn reduces production costs and increases product quality.

7. Companies specializing in agricultural technology use AI to analyze data



from field sensors, satellite images and weather stations. This allows farmers to optimize the use of water, fertilizers and other resources, while increasing yields.

The future of artificial intelligence (AI) for 2025 can be predicted based on current trends and innovations in this area. It is expected that by 2025, the development of AI will reach new heights, affecting a wider range of industries and processes [1-4]:

1. Deepening integration with everyday life. AI will become even more integrated into everyday aspects of human life, from personalized shopping to self-regulating home systems. Smart home devices are expected to become even smarter, automating more homework and improving energy efficiency.

2. Breakthrough in medicine. AI will play a significant role in personalizing medical treatments, making diagnostics more accurate and accelerating the development of new drugs. Deep learning algorithms will help in the early detection of diseases, including cancer and heart disease.

3. Development of autonomous vehicles. By 2025, autonomous vehicle technology is expected to become even more advanced, with increased testing and possibly the start of a wider adoption of autonomous vehicles on the roads.

4. The rise of quantum computing. Quantum computing, which provides the power to solve complex problems faster than traditional computers, can enhance AI capabilities, especially in the areas of optimization, cryptography, and chemical reaction modeling.

5. Ethical and legal regulation. With the development of AI, there will be a need for a clearer ethical and legal framework for regulating the use and development of these technologies, in particular in matters of privacy, data security and responsibility for decisions made by machines.

6. Continuation of research in the field of AI. Scientific research in the field of AI will continue to expand, studying new models of learning, algorithms and the possibility of applying technologies, which can lead to new breakthroughs in machine learning.

By 2025, artificial intelligence will become even more embedded in society and



business, offering new opportunities for innovation and improving the quality of life. At the same time, this development will require companies, governments and individuals to take a responsible approach to the use and regulation of AI technologies.

Summary and conclusions.

The future of chat-bots promises even greater integration with various business processes, improvement of AI algorithms for a better understanding of human speech and emotions, as well as expansion of functionality to cover new applications.

AI chat-bots are revolutionizing approaches to customer support in enterprises, offering new opportunities to improve efficiency and customer satisfaction. However, the success of their implementation depends on the ability of the business to adapt to new technologies and take into account the needs of its audience.

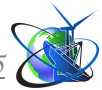
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