

# ІНСТИТУТ ПРОБЛЕМ ШТУЧНОГО ІНТЕЛЕКТУ МОН УКРАЇНИ І НАН УКРАЇНИ

МІЖНАРОДНА НАУКОВА КОНФЕРЕНЦІЯ

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## ARTIFICIAL INTELLIGENCE IN THE CONTEXT OF BUSINESS MANAGEMENT

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**Abstract.** The article defines the concept of "artificial intelligence" and shows the main reasons for the need to introduce artificial intelligence into the management system of a modern enterprise. The main advantages and problems of using artificial intelligence in the enterprise management system were determined.

#### Introduction

The strategy of any enterprise should be formed on the basis of effective management of the production process to obtain maximum profit. The use of artificial intelligence in this field allows the most effective, fast, high-quality management of all enterprise processes.

In everyday activities, there is a problem of improving enterprise management systems, which encourages information processing with the help of modern computer technologies. That is, we are talking about the implementation of artificial intelligence technologies in the field of production process organization.

#### Presenting main material

Artificial intelligence is a science and technology capable of reproducing the thought processes of the human brain and directing them to the creation and processing of various computer programs, as well as intelligent machines capable of completely replacing and simplifying human work [4].

The widespread use of elements of artificial intelligence will provide an opportunity to standardize the presentation and dissemination of information about modern innovative ideas

with the possibility of their further implementation depending on the specific requirements of the participants of the innovation project.

Most people do not even think about the important role that artificial intelligence plays in their everyday life. They see it as a distant future, but in fact, in our time, it is widely implemented in the developed countries of the world to organize the production process. Regarding the application of computer technologies in the field of enterprise management, it can be seen that with the help of expert management systems, managers of leading modern enterprises are able to predict both the events themselves and their results based on the received data. For example, to conduct a market analysis, obtain information on sales volumes, characteristics of demand and supply for a specific type of service or product, monitor currency exchange rate fluctuations, evaluate the effectiveness of implementing this or that measure in enterprise management, and analyze the economic situation of the organization and its structural divisions as a whole. These systems are widely used for control, organization and management of the enterprise's production process. Such computer management systems are necessary for effective regulation of financial and economic activity, as well as for rapid development of solutions and methods for eliminating negative situations.

The main task for man is the development and improvement of intelligent systems that would perform the functions assigned to it as clearly as possible and fully meet their purpose [3].

The main requirements for modern intelligent systems are as follows:

- high level of flexibility and ease of interaction between the system and the user;
- improvement and simplification of the program interface,
   bringing it closer to the natural level;

- increasing the level of autonomy of conducting operations;
- increasing visibility of the processed material through the use of multimedia tools;
- the possibility of synthesis, compatibility, synchronization and integration of various computer systems;
  - ensuring the functioning of the system in real time;
- the possibility of further updating and improving the intelligent system, supporting new modifications and saving a large amount of information.

Despite the wide range of advantages of artificial intelligence in the management of enterprises, there are also disadvantages in its implementation. Scientists have investigated that if artificial intelligence reaches an average level of development, at which it will already exceed human intelligence several times, then its activity will significantly affect the everyday life of every person. The well-known threats of the rapid progress of artificial intelligence in the production process and in all areas of human life are:

- partial, later and complete replacement of a person by a computer in production and other processes, which will cause mass unemployment;
- with the development of artificial intelligence, the conflict between natural and artificial intelligence will become increasingly acute;
- self-replication of computer intelligence introduces a certain risk that a person may lose control over the machine;
- with the full transition to management systems with the help of artificial intelligence, the risk of the possibility of system hacking by criminals increases;
- the possibility of technical failure in systems is always present [1].

Therefore, taking into account the indicated positive

features and shortcomings, it is necessary to understand that the introduction of artificial intelligence into the enterprise management system and other spheres of life is necessary to facilitate the work of a person, to increase the efficiency of his work, and not to completely replace it.

In Western developed countries, information systems using artificial intelligence are usually classified as "intelligent" systems. These systems represent a special category of modern information technologies that combine various methods, such as: neutron networks; genetic algorithms, fuzzy systems; expert systems; systems of dynamic structural modeling.

The general common property of the above-described intelligent systems is that they imitate processes similar to those occurring in nature. For example, the use of artificial neural networks, in the first approximation, simulate the properties that are inherent in the nervous circuits of the human body that connect biological neurons [2, p. 76].

#### **Conclusions**

The introduction of intelligent enterprise management systems and the development of new computer methods of organizing the production process is a necessary condition for the survival and rapid development of individual units, structures and the organization as a whole at the current level of competition in the conditions of the modern economy.

#### References

- 1. Goley Yu. Analysis of the use of artificial intelligence in business process management systems: advantages and disadvantages/ Yu. Goley // CIMS 2023, May 24. Access mode: https://fti.dp.ua/conf/2023/05247-0555/
- 2. Matsuka V. Trends and innovations of the future/V.Matsuka// Innovative entrepreneurship: state and prospects of development: coll materials of VIII All-Ukrainian. Science and practice Conf., March 31. 2023 /Ministry of Education and Science of Ukraine, Ministry of Finance of

Ukraine, Kyiv. National Econ. University named after V. Hetman [etc.]; [organizational committee: I. M. Repina (chairman) and others]. Kyiv: KNEU, 2023, pp. 75–77. Access mode:

https://ir.kneu.edu.ua/server/api/core/bitstreams/0 dead7dc-2291-4435-8 fe4-bd183572a04 f/content.

- 3. Makedon V., Mykhailenko O., Vazov R. Dominants and Features of Growth of the World Market of Robotics / V. Makedon, O. Mykhailenko, R. Vazov // European Journal of Management Issues. 2021, Vol. 29. No. 3. P. 133-141. Access mode: https://doi.org/10.15421/192113
- 4. Stanford: Fintech Maintains Position as Third Biggest AI Investment Focus Area Fintech Schweiz Digital Finance News FintechNewsCH. Fintech Schweiz Digital Finance News FintechNewsCH. Access mode: https://fintechnews.ch/aifintech/stanford-fintech-maintains-position-as-third-biggest-ai-investment-focus-rea/59671/