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The Use of Artificial Intelligence in Human Resources Processes as Part of Sustainable Development: Political and Organizational Aspects

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ABSTRACT

The article characterizes and defines the directions of artificial intelligence technology use in modern organizations and discusses those categories that will remain promising in the future. It highlights the main advantages and risks that currently exist with respect to the use of artificial intelligence and its development in Human Resources processes (HR processes). It was concluded that the main areas of use of artificial intelligence technology in modern organizations and categories that will continue to be promising in the future are defined: automation and optimization of processes; generating insights for decision making. It was emphasized that, in order to prevent the emergence of threats to humanity, in the process of developing artificial intelligence, specialists must establish certain restrictions and its developers must prioritize the issue of protection of user data and ensure control of its use.

KEYWORDS: Human Resources, Artificial Intelligence, innovation, management processes, business management, data security.

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El uso de la Inteligencia Artificial en los procesos de Recursos Humanos como parte del desarrollo sostenible: Aspectos políticos y organizacionales

RESUMEN

El artículo caracteriza y define las direcciones del uso de la tecnología de inteligencia artificial en las organizaciones modernas y debate aquellas categorías que seguirán siendo prometedoras en el futuro. Se destacan las principales ventajas y riesgos que existen en la actualidad respecto al uso de la inteligencia artificial y su desarrollo en los procesos de Recursos Humanos (Procesos RH). Se concluyó que se definen las principales áreas de uso de la tecnología de inteligencia artificial en las organizaciones modernas y categorías que seguirán siendo promisorias en el futuro: automatización y optimización de procesos; generar insights para la toma de decisiones. Se enfatizó que, para prevenir la aparición de amenazas para la humanidad, en el proceso de desarrollo de la inteligencia artificial, los especialistas deben establecer ciertas restricciones y sus desarrolladores deben priorizar el tema de la protección de los datos de los usuarios y garantizar el control de su uso.

PALABRAS CLAVE: Recursos Humanos, Inteligencia Artificial, innovación, procesos de gestión, gestión empresarial, seguridad de datos.

Introduction

With each decade, the number of challenges and problems in business management increases in direct proportion to the rate of economic progress of the world economy. The market type of economy, characteristic of almost all developed countries of the world today, in which the influence of the state on the activities of business entities is minimal, mostly prevented the establishment of control and regulation of their activities. In these circumstances, the use of artificial intelligence in business process management is an important component of enterprise development (Lyon & Bogodistov, 2021, p. 218-231; Makedon & Mykhailenko, 2021, p. 133-141).

The emergence of artificial intelligence has changed the usual activities of companies. In the field of Human Resources (hereinafter – HR), artificial intelligence has long become a very popular technology, so today the main task of HR leaders is the competent combination of human and software resources (Artificial Intelligence: Threats and Opportunities, 2023). According to Gartner, the business value derived from the implementation of artificial

intelligence has reached 1.2 trillion. dollars worldwide in 2018 and will grow to 3.9 trillion. dollars until the end of 2022 (Kryvenko, 2019).

In the new 21st century, promising problems of the development of personnel management are of particular importance for the countries of the world, in which there are large-scale and deep processes of overcoming financial, economic and managerial crises in the conditions of increased globalization, robotization and the application of the latest developments of breakthrough technologies. One of the most promising in application is artificial intelligence technology, capable of making revolutionary changes in enterprise management processes.

The most striking implementation of artificial intelligence is observed in high-tech industries related to the use of computer technologies. In these industries, the planning of production activities and the formation of the sphere of service provision is carried out taking into account the needs of consumers and the trends of automation and robotization. The rapid development of technologies indicates that in the near future significant changes will affect the functioning of almost all spheres of human activity. Indeed, the implementation of elements of artificial intelligence is becoming increasingly popular among managers and business owners, despite the high cost, complexity of implementation and risks in use. Experts assess the degree of impact of artificial intelligence and other innovative technologies on the economy more than, say, the impact of political risks or climate change.

The economic effect of the introduction of artificial intelligence technologies is manifested primarily in the growth of profits. This is due to the increase in the productivity of production of products and the provision of services as a result of the robotization of the main business processes, as well as the growth of demand for goods and services due to the use of special analytical programs. It should be emphasized the importance of management activities in the field of application of artificial intelligence in organizations, the need to form sufficient awareness of managers regarding its practical use and awareness of the consequences of the decisions made.

The development of the most modern artificial intelligence technologies, which have an undeniable potential for use both in global world development and in business, is a scientific and applied problem characterized by significant complexity and ambiguity. On the one hand,

the introduction of artificial intelligence will contribute to the solution of current economic, social and environmental problems in the conditions of the digital transformation of the economy, and on the other hand, it entails a significant amount of uncertainty, discussions and ambiguous issues that need to be resolved today. Accordingly, the deep interdisciplinary nature of this problem, the high level of its significance in modern conditions and the need for a solution as soon as possible through the joint efforts of scientists from various fields of knowledge, primarily computer and economic science, increase the level of relevance of management aspects of the use of artificial intelligence as part of sustainable development.

1. Methodology of the study

The theoretical and methodological basis and information base of the conducted research are the objective management systems at the enterprise and the functioning systems of personnel management, domestic and foreign research in the field of management development in the conditions of the introduction of artificial intelligence and the development of the latest technologies in the field of business, the functioning of the intellectualization of enterprise management systems and its structural and functional content.

In this article, a number of general scientific and special methods are used, namely: the use of the logical-semantic method and the method of going from the abstract to the concrete gave an opportunity to deepen the conceptual apparatus, to determine the essence and features of information technologies, in particular, artificial intelligence; the application of system-structural and system-functional methods made it possible to study the dynamics of the development of information technologies and systems; experimental-theoretical level methods, namely analysis and synthesis, historical and logical methods helped to identify and study certain reliable facts related to the introduction and use of artificial intelligence in HR processes as part of sustainable development, to accumulate them and carry out theoretical elaboration.

2. Analysis of recent research

Many scientific works of modern scientists are devoted to the problem of improving the

personnel management system with the help of artificial intelligence systems and other types of the latest technologies. At the same time, in the conditions of constant technological changes and taking into account the fact that in recent years artificial intelligence has gained significant distribution in various spheres of human activity, including business process management, the mechanisms of introducing advanced technologies into production activities require improvement, methodological and practical development.

The purpose of the work is to analyze the use of artificial intelligence in HR processes and to clarify its impact on management efficiency and determine its potential for achieving important scientific and practical tasks. The modern market type of economy, which is characteristic of most developed countries, assumes minimal influence of the state on the activities of business entities. Such a situation does not always contribute to establishing control and regulation of their activities. It is in such conditions that the use of artificial intelligence becomes an important component of the development of enterprises.

The main tasks of a scientific article are:

- determine the role of artificial intelligence in HR processes and identify its advantages based on examples of successful implementation of artificial intelligence in the field of business process management;
- outline potential disadvantages and limitations of using artificial intelligence in HR processes;
- assess the impact of artificial intelligence on the effectiveness of business process management, in particular on increasing productivity, reducing costs and improving the quality of decision-making;
- find out the potential of artificial intelligence to achieve important scientific and practical tasks in the field of business process management.

3. Results and discussion

In today's conditions, artificial intelligence has become an integral part of the modern world and has significant potential for application in management systems in HR processes. It is able to analyze large volumes of data, identify complex dependencies, make predictions and

make decisions based on objective algorithms. One of the advantages of using artificial intelligence is the automation of routine and repetitive tasks of business process management. This allows you to free human resources from monotonous work and direct them to solving complex tasks that require creative thinking and a strategic approach.

One of the most important questions that concerns every HR: "Can technology, in particular artificial intelligence, replace the role of the HR service in the company?". According to separate studies, 62.55% of respondents are convinced that automation and digitalization will not be able to replace HR specialists in the company, 23.91% of respondents are convinced of the opposite (Danylevich et al., 2020, pp. 152–153).

Considering the nature of the development and improvement of artificial intelligence technologies, it can be stated that the volume of investments from the private sector is increasing every year. If we take into account the world events of 2022, such as the war on the territory of Ukraine and recessionary trends against the background of increased inflation in the EU countries and the changing political situation, we can conclude that artificial intelligence is one of the most promising areas of development and investment, as well as one of the central innovations in business process management.

Artificial intelligence and robotics open up new opportunities for HR. The software can now recognize faces and figure out gender, hear voices and determine moods, decode video interviews to detect education levels, lies and cognitive abilities. Analytics tools perform intelligent candidate selection, identify possible career growth options for employees, and tell managers what leadership skills they need to develop. And the potential possibilities do not end there: artificial intelligence is used to create so-called chatbots that can interact with candidates, evaluate video interviews and understand the emotional state after conducting surveys.

Artificial intelligence in the company is important for many reasons, the main of which are: the ability to analyze personnel data (resume analysis, evaluation of work efficiency); analysis of the need for specialists; performing routine tasks (for example, managing requests using bots); selection of candidates for vacancies and formation of personnel; conducting cognitive calculations (without additional research, artificial intelligence is able to calculate based on

given parameters which of the employees can effectively manage, and who is going to leave in the near future).

With the help of neural networks, it is possible to significantly simplify the analysis of the labor market. But there are circumstances that prevent the implementation of the latest technologies due to the high cost. In the scientific literature, the prevailing opinion is that the use of artificial intelligence and a virtual environment for the implementation of personnel management processes is not a mass phenomenon, but a rapid increase in the scale of their transfer to the digital environment is possible in the future (Kravchuk et al., 2021). At the same time, there are risks related to the use of artificial intelligence, and therefore, as G. Androschuk rightly noted, this issue requires control by governments so that artificial intelligence is used exclusively within an ethical framework (Androschuk, 2021, p. 58).

In our opinion, the spread of the use of artificial intelligence in HR management opens up new opportunities and advantages for companies: 1) savings in the search for qualified personnel and prevention of losses of intellectual capital as a result of probable losses of qualified specialists. For example, the automation of training processes allows you to preserve the knowledge and technologies accumulated in the company, ensuring their loss as a result of the turnover of specialists who possess this knowledge; 2) reducing the time spent by HR department personnel on administrative tasks (appointment and control of training courses, salary calculation, initial selection of candidates, checking their competences, etc.), and, accordingly, significant savings in the company's labor costs; 3) increasing confidentiality, which is required of people who, in the performance of HR functions, get access to personal data; 4) reduction of bias in personnel decision-making; 5) increasing the accuracy in the performance of HR functions by reducing the number and frequency of human errors in the administration, selection process, training, calculation of rewards, etc.

In addition, the benefits of artificial intelligence are that it can automatically perform data processing tasks, process monitoring, demand forecasting, work schedule optimization, and much more. The use of programs with the application of artificial intelligence reduces costs, improves the quality of decision-making and promotes innovative development. Artificial

intelligence is a powerful tool for achieving success in business process management, given its capabilities and limitations.

Currently, in many companies, the initial selection of resumes takes place automatically, video interviews and Skype interviews have long and firmly entered the practice of HR specialists. The automation of daily ongoing work on personnel accounting makes it possible to create an information base and interface, without which it is impossible to keep track of working hours, calculation of wages, bonuses and allowances. At the same time, the set of functions of the personnel management service is gradually changing: new ones are being added, some are becoming obsolete due to their automation or loss of relevance. However, the efficiency and speed of execution of almost every process can be increased thanks to automation and the use of the latest information technologies.

The introduction of algorithms by major cloud providers in the field of human resource management encourages organizations to store accurate data and scrutinize such tools for objectivity. At the same time, it is undeniable that artificial intelligence tools need human supervision. Behind the scenes of the main technology companies, there is a huge number of people who constantly monitor, train and improve their algorithms, so it will be necessary for the company to find a specialist who will monitor and configure artificial intelligence systems at the enterprise.

Recruiting chatbot vendors are expanding their use of natural language processing technology. The most difficult task is not so much deciphering human language as teaching the software to ask the right questions and give the right answers without alienating potential candidates. The need for human participation refutes the assumption that artificial intelligence can automate everything. With the growing need to develop, implement and verify solutions based on artificial intelligence, human skills are becoming more important than ever. Now that the focus of attention is shifting from automation to job redesign, it is critical to understand the unique capabilities that machines and people create in the process of performing various tasks.

Despite numerous advantages, the use of artificial intelligence in business process management systems is also accompanied by certain disadvantages and limitations. One of the

disadvantages is the need for a large amount of qualitative and representative data for the effective functioning of artificial intelligence systems. Missing or poor quality data can lead to unreliable results and incorrect decisions. Also, there is a problem of implementation and integration of artificial intelligence with existing business process management systems. This often requires significant costs for replacing or upgrading existing infrastructure and training staff (Goley & Drik, 2023).

Also, the use of artificial intelligence in HR management imposes new obligations on companies, which transforms the nature of the performance of specific people management functions. In order to get the maximum amount of benefits from advanced technologies, HR competencies must be clearly defined, correlated with business requirements, differentiated by functions, roles and levels, updated at correctly chosen time intervals, and applied to the performance of any HR management functions (Bey & Sereda, 2019, p. 95-96).

A promising direction in personnel management is the creation of innovative platforms based on web technologies that allow creating an interactive communication environment between the company's employees, which, in turn, will increase their involvement in the organization's activities. The implementation of this technology in practice will allow the collection, processing and analysis of various innovative ideas and suggestions of employees, followed by the application of the most valuable and promising of them in the company's activities. The formation of a single corporate system, which allows generating and collecting all the valuable ideas of employees, can significantly increase the innovative activity of the organization, which in turn will provide it with increased efficiency and competitiveness. However, it should be noted that the use of this technology is advisable only at enterprises that have sufficient means to carry out innovative or rationalizing activities. And if not, then the costs of creating a corporate portal will not bring the expected effect.

Many companies pay a lot of attention to HR branding on their Internet sites, presenting joint advertising of their products and workplaces. This is caused by the desire to attract the best professionals, to retain our own qualified staff, to increase the productivity of the staff, to ensure an innovative breakthrough in business. Pages of corporate sites are created taking into account the interests of potential employees and indicate the benefits of company employees:

flexible schedule for working mothers, features of the social package and compensation systems, etc.

Investments in cloud solutions in the field of personnel management are growing exponentially: some companies are already reviewing their decision in favor of cloud technologies, others are still at the stage of studying existing options, but it is quite likely that they will choose the "cloud" as a result. And it will be clearly the right decision, given the global changes taking place in markets, business models, jobs and skill requirements, at a pace at which traditional HR systems and existing operating models cannot keep up. However, some businesses cannot afford to invest in the development of specialized systems for personnel management, despite the benefits of these investments in the long term. It is worth mentioning the reasons for the high cost of developing software products, the main of which is the high cost of labor of IT specialists.

From the above, we can conclude that the efficiency and competitiveness of an enterprise largely depend on how effectively it organizes work with personnel, starting from the moment of its selection and ending with development. Today, there is a huge number of both traditional and innovative HR management technologies, the correct combination and use of which can significantly increase the effectiveness of the company's activities. At the same time, the choice of innovative technologies depends on many factors, the main of which are the size of the enterprise, its financial condition, general level of development, specificity and purpose of functioning (Mohylina et al., 2022). The HR service of a modern company must focus on employees and their development, using modern digital tools for management, training and motivation. Proper IT implementation allows you to increase your competitive advantage and minimize the risk of human error.

Currently, the issue of ensuring privacy and data security is quite acute, in particular, when working with artificial intelligence. Developers must define limits to the secure level of information that users can access. So, for example, when a certain request for information is sent, it should be understood that personal data is used for analysis, and usually the individual cannot control how it will be used in the future. In particular, the policy of OpenAI, the developer of the popular ChatGPT, states that its employees can use our data for research and

training. That is why you should be careful when giving access to personal data, because a person never knows how safe it is to store the information provided, and who can use it. Despite the convenience and availability of automated and fast generated data, the reliability of the information obtained should be constantly checked (Artificial Intelligence: Threats and Opportunities, 2023).

Currently, it is quite difficult to predict potential economic and social threats. The greatest ethical challenges for humanity may arise when these technologies are given the opportunity to make independent decisions on which other people's lives depend. In addition, there are fears that artificial intelligence will, over time and given more and more opportunities, pass a certain stage of self-awareness and become a full-fledged independent personality. Forecasts for such developments are not optimistic, and therefore, in the process of developing artificial intelligence, experts must set certain limits in order to prevent the emergence of serious threats to humanity.

In the future, there will also be a high demand for organizations to be able to upload their data, including corporate documents, to ChatGPT in order to quickly get the analytics they need. However, in order to make this process secure, artificial intelligence must ensure the confidentiality of information. For this and many other reasons, developers of artificial intelligence must prioritize the issue of protecting user data and ensuring control over its use. This is, in particular, important, taking into account the fact that currently the level of interest in technologies is growing massively among users who do not fully understand how to correctly and rationally adjust to them.

Conclusions

The prospect of using artificial intelligence technologies in the personnel management system today and in the future is obvious. In the conditions of further digitalization of society, their innovative nature is capable of providing sustainable competitive advantages both to individual companies and at the national level. Internet technologies in the field of HR, considered in this study, aimed at reducing the influence of the human factor, allow to increase the quality, productivity, competence and dedication of each individual employee. Thanks to

their advantages, they help to increase the productivity of employees and simplify the work of HR specialists.

The involvement of artificial intelligence tools at all stages of the employee's life cycle at the enterprise is a guaranteed opportunity from the moment of his involvement in the work to analyze the efficiency of the economic agent as a specialist, objectively evaluate his work and form a salary, provide an opportunity for personal growth and help in solving current problems.

In the conditions of the active use of artificial intelligence in the field of business process management, in order to maintain competitiveness, companies need to ensure the correct hiring process, staff motivation and retention of employees at the workplace for a long time without reducing productivity. A timely response to employee requests and an understanding of what drives them (desire for career growth, increasing the comfort level of the workplace, etc.) will enable company management to strengthen their positions and maintain high popularity even in times of crisis.

The main areas of use of artificial intelligence technology in modern organizations and the categories that will remain promising in the future are determined: automation and optimization of processes (in particular, with the aim of reducing security risks); creation of insights for decision-making (processing and analysis of Big Data streams from various stakeholders); imitation of human interaction (chat-bots, virtual assistants that are able to reproduce real human behavior).

The biggest ethical, economic and social challenges may arise when the latest technologies, in particular artificial intelligence, will be given the opportunity to make independent vital decisions. In order to prevent the emergence of serious threats to humanity, specialists must establish certain limitations in the process of developing artificial intelligence. Artificial intelligence developers must prioritize the protection of user data and control over its use.

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