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ARTIFICIAL INTELLIGENCE IN LABOUR **RELATIONS: A THREAT TO HUMAN RIGHTS OR NEW OPPORTUNITIES?**

ABSTRACT

This article explores the possibility of using artificial intelligence in the field of labour relations. Modern technologies provide new opportunities, but at the same time, they give rise to a number of complex issues, solving new approaches to the realization of the right to work and proper social security by able-bodied citizens, which is important today, when Ukraine is defending its sovereignty and independence from military aggression by the Russian Federation. The use of machine learning algorithms and systems can lead to significant improvements related to the professional training of labour resources, management of production processes, labour protection and other aspects of labour relations.

We came to the conclusion that the modernization of labour law involves expanding the circle of participants in labour relations and revising the meaning of the term "employee". Thus, the presence or absence of access to technology will create new forms of inequality in the interaction between "employee-to-employee" and "worker-robot (AI)".

A proactive approach is proposed to mitigate the consequences of possible threats to the use of artificial intelligence in labour relations through an in-depth study of all possible threats arising in connection with the use of modern technologies. A proposal is made to take as a basis the international experience of using AI in the social structure of the state and adapt it to the life of the state, which, in turn, will contribute to the promotion of important theses on the quality and accessibility of data at the country level, and in cities in particular, promoting participation in data exchange schemes at the level of the private and public sectors.

The developed recommendations will improve the labour sphere and not put the employee in a disadvantageous position.

Keywords: artificial intelligence, technologies, labour relations, labour sphere, employee, protection of rights, state economy, adaptation of legislation

JEL Classification: K31, K38, L86

INTRODUCTION

With the introduction of the latest technologies, the world is undergoing significant changes in all sectors of society. Since the last century, there has been a debate among scientists regarding the practical application of artificial intelligence (AI). It is believed that the Fourth Industrial Revolution is currently underway in the world, and artificial intelligence, according to scientists, among all technologies, will have the strongest impact on humanity that we can feel right now. And first of all, this is due to the use of AI in all spheres of life people, including labour.

The use of digital technologies is becoming more and more common, spreading in manufacturing, services, agriculture, medicine, trade and other industries where hired labour is used [1, p. 18]. It is obvious that in the coming years, we will face fundamental changes in the legislative regulation of the sphere of labour, which are necessary in connection with the formation of a new environment that arises as a result of progress in technological development.

The rapid development of AI raises many questions and discussions, for example, regarding its legal status, capabilities, and ethical limitations. These aspects are extremely relevant to the world of work because people have justified fears about the potential threats associated with the introduction of AI. To date, a fairly large number of studies have been conducted that show how the field of labour relations can change with the use of AI, and, most importantly, how many jobs will be lost. It should be noted that all these indicators differ depending on the economic development of the state [2, p. 87].

It is quite clear that society must respond to the new challenges of today and use the most modern technologies for continuous development. However, all these technologies must first be deeply studied, it is necessary to analyze the impact on the employee's personality so that his rights and freedoms are not violated due to the use of AI in the field of work. Only with the deliberate introduction of AI in the field of labour relations, it will be possible to achieve real development.

LITERATURE REVIEW

Many scientists have been engaged in the study of the problem of using modern technologies in all spheres of public life.

Thus, S. Beskaravaynyi [4], revealing one of the contradictions in the understanding of "general artificial intelligence", drew attention to the directions of AI development, and also clarified the potential threats that it may carry.

A.S. Radionova [6] investigated the economic impact of AI, pointing out that with the Industrial Revolution, solutions to problems were proposed, including sustainability of economic growth, lack of qualified personnel, limited opportunities for human labour, creation of conditions for combating inequality, etc.

Lawyer K. Rakytyanska [16] reviewed international standards for AI regulation, noting that the potential benefits of AI for humanity and the economy are enormous, but accelerating AI capabilities also brings new challenges.

In his article, N. A. Azmuk [19] explored the transformation of the role of humans and AI in the field of work in the digital economy.

G. Mashliy, O. Mosiy, and M. Pelcher [24] in their work investigated the features of management in the period of development of artificial intelligence both in Ukraine and abroad. It was noted that the use of AI technology will inevitably lead to significant social and economic changes, including further optimization of management processes.

Scientist Logvinenko B. I. [25] investigated AI tools in managing the behaviour of economic agents in the digital space at enterprises, which, in turn, made it possible to form a clearer understanding of modern AI tools and explore the connections between subjects and objects of economic relations in the digital space.

M. Dorosh, I. Grek, and Y. Bugay [26] characterized the issue of automated recruitment using AI methods. O. Kolesnyk [30] points out that the use of AI can significantly facilitate and improve processes in the field of labour protection. D. Y. Golovko [31] investigated the role and impact of AI in the training of qualified personnel, taking into account the analysis of the labour market.

In his article, Pavlenko N.M. [32] believes that massive open online courses are a solution to the problem of constant search for diversification of methods and forms of personnel training. A. E. Shevchenko, S. V. Kudin, O. I. Kosilova [33] in their study analyzed certain issues of the influence of AI as information technology, as well as the current state of regulatory support for the problem in Ukraine.

O.V. Turuta, O.P. Turuta [39] in a scientific article analyze the development of AI and its impact on human rights, pointing out that the use of AI will lead to some shifts in the labour market both by creating and destroying jobs.

The monograph edited by Y. V. Simutina, and M. M. Shumylo [46] examines the theoretical aspects related to the transformation of labour relations and working conditions in the context of the progress of information technology. Attention is paid to the issues of ensuring equality of rights and opportunities for employees and the effectiveness of labour legislation in the era of digitalization is evaluated.

Y. Stepankovska [58] notes that with the development of technology, the labour market changes significantly, so it is important for each person to update their knowledge in time, properly structure information and apply it in practice.

O. Pyshchulina [60] in her report explored the main determinants and foundations of the development of the digital economy in Ukraine, as well as Ukraine's readiness for the introduction and use of digital technologies. She analyzed the potential risks and threats of digitalization in Ukraine and the world.

AIMS AND OBJECTIVES

The goal is to investigate the use of artificial intelligence (AI) in the regulation of relations in the field of labour. To determine the need for the use of modern technologies to protect the rights, freedoms and legitimate interests in labour relations. Analyze the use of machine learning algorithms and systems to draw conclusions and recommendations aimed at improving health and safety in the process of using AI.

The task is to study by analyzing national and foreign legislation in the field of labour relations regulation to determine the priorities for the use of AI and find out the conditions and legal grounds for its use. Interpret as well as assess both threats and opportunities for AI implementation in the manufacturing sector and the labour relations management process. Suggest possible directions for the development of the world of work using AI technologies.

METHODS

This article uses general scientific and special methods of cognition: dialectical method (used to compare opposite scientific positions), formal-logical method (to identify certain features of the use of artificial intelligence in the labour field of law), method of analysis and synthesis (to identify individual threats associated with the use of artificial intelligence in labour relations), logical generalization (for generalization, in the process of studying a large number of the number of sources, various scientific positions and the formulation of the conclusion of the study).

RESULTS

Section I. The phenomenon of subjectivity of artificial intelligence and its impact on the development of relations in the field of work

The Fourth Industrial Revolution is taking place in the world, so modern technologies are constantly expanding the scope of their application, enriching the potential of the country's economy and solving a large number of new problems. Back in 2017, the global consulting firm PwC estimated the economic impact of AI as a likely increase in global GDP by a total of USD 15.7 trillion by 2030, which, in turn, will be ensured by increased productivity due to the automation of production processes (including the use of robots and autonomous vehicles) and automated job expansion, as well as due to the growth of consumer demand for AI products [3, p. 4]. From this study alone, it is evident that the impact of AI on society is significant.

Let's consider the phenomenon of AI subjectivity. The general meaning of the subjectivity of AI is that it must outplay a person, and only then it will be possible to say that a "general AI" has been created. R. Kurzweil, a well-known American inventor and futurologist, sees the source of AI as "Moore's Law", according to which the unlimited growth of computing capabilities of computers will lead humanity to a "technological singularity". At the same time, other concepts are beginning to come to the fore, where AI is already considered as a subject, however, with a number of limitations [4, p. 21].

It should be noted that there is a persistent contradiction in the understanding of AI in society, namely, the not-always conscious separation of its two roles – a tool and a subject. The initial problem of such comprehension of AI can be considered an instrumental approach to understanding technology in general. It is quite clear that new programs are created in order to get purely instrumental qualities from AI. The subject, on the contrary, is a principle that acts and cognizes, and what kind of subject a person should be within the framework of classical philosophy. According to this criterion, it can be noted that "general AI" is a subject that is so autonomous that it produces its own goals of activity and can potentially contradict a human [4, p. 22].

For a more complete definition of the concept of "artificial intelligence", let's refer to the European Parliament's Resolution 2015/2103 (INL) "Civil Law Rules on Robotics" [5], the main purpose of which was to define the role of AI and regulate relations related to high technologies. The resolution defines artificial intelligence as a "smart robot" with a few characteristics, such as being inanimate in the biological sense, learning on its own through experience or interaction, acquiring autonomy through sensors and/or exchanging data with its environment (interconnection), having some degree of physical support, and adapting the behaviour model to the environment.

The resolution provision to establish a special legal status for robots has generated a great deal of discussion. It states that the most advanced autonomous robots should be treated as electronic persons with certain rights and obligations, such as paying for any harm they may cause and applying electronic identity to situations in which the robots make intelligent decisions on their own or interact with other people in other ways. [6, p. 12].

In this case, we agree with the opinion of A.S. Radionova that the possibility of implementing the status of an electronic person for perfect, fully autonomous intelligent robots or AIs that have consciousness and subjective experiences and can perform complex intellectual tasks, make decisions, subject to the mandatory availability of a switch and insurance in case of harm and the creation of a pan-European system of their registration by individual numbers is equivalent to appearing in economic science Along with households, enterprises and the state, a new quasi-subject of economic relations, which will influence the rethinking and clarification of the category of "economic relations", which refers to relations between people regarding the production, distribution, exchange and consumption of goods, because an electronic person will join these relationships [6, p. 13].

Section II. National and international approaches to the regulation of issues related to the use of artificial intelligence on the subject of labour

A rigorous and effective ethical framework for the development, design, production, use, and modification of robots; the creation of research ethics committees when considering robotics protocols and licenses; the updating and supplementing of effective and modern legal norms with ethical principles in accordance with the level of complexity of robotics and its many social, medical, and bioethical consequences are all pertinent under such circumstances [7, p. 429].

It should be emphasized that international treaties and conventions that have been accepted by the majority of (European) nations should be followed when regulating the use of AI. Specifically, in compliance with specific international treaties concerning the development of artificial intelligence: the Budapest Convention, which is also known as the Council of Europe Convention on Cybercrime [8]; the European ethical charter on the use of Artificial Intelligence in judicial systems and their environment [9], General Data Protection Regulation (EU) 2016/679 of 27.04.16 [10].

Furthermore, it is important to highlight that, as a nation pursuing European integration, Ukraine is already utilizing the expertise of other top European nations—especially Estonia—when it comes to implementing AI technology in public administration and is working to establish e-Ukraine. Thus, the Concept for the Development of Artificial Intelligence in Ukraine was created by the Ministry of Digital Transformation of Ukraine [11]. The main goal of this Concept is to promote the development of AI and its integration into economically important sectors. It is assumed that by increasing the share of intellectually intensive products, it will be possible to significantly strengthen Ukraine's position in the world market [12, p. 58].

On January 28, 1981, the first international agreement in the field of personal data was adopted – the Council of Europe Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data (known as Council of Europe Convention No. 108) [13].

An example of global regulation of certain issues of AI use was, in particular, the adoption of the International Guiding Principles for Organizations Developing Advanced AI Systems (hereinafter referred to as the Guidelines) [14] and the Code of Conduct for Advanced AI Development Organizations (hereinafter referred to as the Guidelines) during the G7 Hiroshima Artificial Intelligence Process Conduct for Organizations Developing Advanced AI Systems (hereinafter referred to as the Code of Conduct) [15], which was published on October 30, 2023. Despite the fact that the provisions set forth in these acts are not enforced by the force of legal coercion and are voluntary, they nevertheless express the common intentions and vision of the G7 countries and the European Union regarding the directions of further comprehensive, including legal, development of AI regulation [16].

Section III. Risks and opportunities for the use of artificial intelligence in the field of work

In 2023, EU countries and the European Parliament agreed on the world's first comprehensive law to regulate artificial intelligence. So far, there is no clear information about what exactly will be included in the law, which will come into force no earlier than 2025. However, strict and comprehensive regulation by the EU can be a powerful example for many governments considering regulation [17]. This law will be the first step towards the legislative regulation of AI, establishing clear rules for its use in public life. It is precisely the content of the Guidelines and the Code of Conduct that is consistent with the legally binding rules that will potentially be contained in the text of the AI Law [16].

When it comes to the European approach to robust AI, it's about risk-based revenue compliance:

 Minimal risk: The vast majority of AI systems. Low-risk applications, such as AI-enabled recommendation systems or spam filters, will benefit from free passage and no commitments because these systems pose only minimal or no risk to citizens' rights or safety.

- High risk: These artificial intelligence (AI) systems have to meet strict specifications, such as risk mitigation systems, high-quality datasets, activity recording, thorough documentation, user-friendly information, human control, and a high degree of cybersecurity, dependability, and accuracy. Certain key infrastructures or specific systems utilized in law enforcement, border control, justice administration, and democratic procedures are examples of such high-risk artificial intelligence systems. Systems for biometric identification, classification, and emotion recognition are likewise classified as high-risk.
- Unacceptable risk: AI systems considered a clear threat to fundamental human rights will be banned.
- Specific risk of transparency breach: When using AI systems such as chatbots, users need to know that they are
 interacting with a machine [18].

The Ministry of Digital Information of Ukraine has formed an expert committee on the development of the field of AI [19], which includes representatives of business, Ukrainian and foreign IT companies, healthcare and medicine, etc. Among the priorities of the committee is the stimulation of Ukrainian businesses in the use of AI technologies. After all, without data and its processing with the help of AI, Ukrainian businesses will not be able to reach the world level.

Now let's take a closer look at how modern technologies will affect the world of work. In general, the scientific literature distinguishes three approaches to assessing the impact of the introduction of new technologies on the labour market. The first of them focuses on the experience of the previous industrial revolution, namely the reduction of jobs in the short term with their growth in new areas of the economy in the long term. The second, in turn, involves assessing the risk of disappearance of certain professions and labour tasks, as a result of their replacement by artificial intelligence. The third is to assess the impact of artificial intelligence on employment [20, p. 137–138].

According to the ITU (2018), AI includes 5 types of technologies: computer vision, speech reproduction, virtual assistants, process automation through robotics, and advanced machine learning. Companies can use these tools in different ways. Some will take an opportunistic approach, testing just one technology and piloting it into specific functions, while others may be bolder and use all five at once, and as a result, absorb them throughout their organization. It is predicted that by 2030, 70% of companies will use at least one of these technologies [21].

AI is gradually replacing the employee in the field of work, performing certain labour functions that were previously performed by the employee independently. Robots endowed with artificial intelligence are already performing certain types of work and providing a complete product or service. An example is the search for information, its processing and systematization, navigation, etc. AI assumes the role of "living labour", thereby performing certain types of activities, completely replacing the employee, in particular, exerting a programmed influence on the object of labour with the help of labour tools using digital technologies [20, p. 138]. This leads to a reduction in the need for workers performing routine work, while the need for creative workers who are able to create new products and services increases.

The International Monetary Fund concluded that in advanced economies, AI could affect about 60 per cent of jobs. It is believed that about half of open jobs could benefit from AI integration, resulting in increased productivity. However, AI applications can perform key tasks that humans currently perform, which in turn will increase productivity. However, AI applications can perform key tasks that humans currently perform, which in turn will increase productivity, and can reduce the demand for labour, leading to lower wages and reduced hiring. In extreme cases, some of these jobs may even disappear entirely. The IMF also pointed out that in developing and low-income countries, on the contrary, the impact of AI is expected to be 40% and 26%, respectively. In this case, it can be assumed that emerging markets and developing countries face slightly fewer immediate failures caused by AI. At the same time, it is also clear that many of these countries do not have the infrastructure or skilled workforce to harness the benefits of AI, thereby increasing the risk of increasing inequality between countries around the world [22].

So, we fully agree with the opinion of N. A. Azmuk that in certain types of activities, AI can completely replace humans, and vice versa, the value of human labour will grow, as well as the demand for it, in those activities that are not amenable to automation [20, p. 138].

The use of AI today is not very surprising. Many administrative and legal help desks have long turned to artificial intelligence, including through virtual assistants and chatbots, to automatically answer questions from employees or customers. AI directs requesters to the right legal documentation or the right expert. For example, the Ministry of Economy of Ukraine has created a legal chatbot @TrudEconomBot in order to improve the user experience. With its help, users will be able to find information about the organization of labour relations and get answers to the most common questions about labour relations during the war. The service systematizes answers to frequently asked questions about the specifics of vacations, remuneration, and documentation during hostilities [23, p. 77–78]. Thus, communication with users is greatly simplified, time is saved and the efficiency of people management increases. Currently, AI technologies can be broadly defined as a person's helper for difficult activities, relieving them of repetitive duties and enabling them to make the best managerial decisions [24, p. 82].

According to B. I. Logvinenko, each employee goes through five cycles of the company's employee's life:

- 1. Recruitment and employment.
- 2. Performance Monitoring.
- 3. Automation of labour processes.
- 4. Training and personal growth as a specialist.
- 5. Liberation [25, p. 47].

It should be noted that the area in which AI assistance will be extremely useful is, first of all, the field of personnel search. Today, cloud technologies are widely used – paradigms that provide remote processing and storage of data. Cloud technologies have gained their popularity due to the ability to work with information using a wide range of devices (PCs, laptops, tablets, mobile phones), the availability of a large number of ready-made products and their high speed due to the use of distributed systems for parallel computing, the possibility of their easy integration with web systems and software products. The automated recruiting algorithm's primary job is to identify the best candidate pool based on predetermined criteria and provide that information to the recruiter in the form of a report, enabling him to select the ideal candidate for the position [26, p. 159–160].

Among the benefits of using AI in recruitment are: 1) speed (AI automatically filters through thousands of resumes to find the best match based on specific parameters); 2) accuracy (AI systems can exceed the level of human accuracy only in working with large amounts of data, as well as in predicting certain outcomes); 3) fairness (with the right data and unbiased training, AI systems can ensure that the selection process is entirely based on the merit and suitability of candidates for the employer's requirements and expectations) [27].

Scientists Bey G.V. and Sereda G.V. in their study point out the following new opportunities and advantages of companies, which open up the use of AI in recruitment such as:

- savings on the search for qualified personnel and prevention of losses of intellectual capital as a result of probable losses of qualified specialists;
- increased confidentiality, which is required of people who have access to personal data in the performance of HR functions;
- reducing the time of HR staff to perform administrative tasks, and, accordingly, significant savings in the company's labour costs;
- increasing accuracy in the performance of HR functions by reducing the number and frequency of human errors in the administration of selection, training, remuneration processes, etc.;
- reduction of bias in decision-making regarding personnel [28, p. 98].

This indicates that the use of AI in the job market both significantly improves and simplifies this aspect of public life.

Speaking about the automation of labour processes, we agree with the opinion of A. L. Klymenko that it leads to the setting of supervisory tasks for employees in relation to AI systems. Indeed, trivial tasks can be easily automated, which is what we can observe in many companies around the world. However, working with AI systems, removing the simplest tasks from employees, at the same time somewhat reduces their ability to analyze information. Thus, process automation can lead to the fact that, over time, employees become accustomed to obeying AI instructions, lose control of processes, and delegate decision-making. It is important to identify opportunities for people to compete with AI systems in time. So, we are faced with the task not only of preserving jobs for people but also of creating new ones, where people will be able to perform labour functions better than algorithms [29, p. 184].

The use of AI technologies is also useful in the field of labour protection, namely:

- processing large amounts of workplace safety and health data, including incidents, injuries and illnesses;
- assist in the development of workplace safety programs by reviewing standards, rules, and regulatory requirements;
- providing oversight and monitoring of work processes and the environment in order to identify potential threats and risks;

- use to create training materials, e-textbooks and interactive modules that help teach employees safety rules and proper procedures in case of emergencies;
- analysis of information about accidents and incidents in the workplace to identify the causes and find ways to avoid similar situations in the future [30].

Regarding the use of AI technologies for staff training, several trends can be identified. First, the use of AI in education contributes to individualization and increased learning efficiency. Secondly, data analysis becomes an important tool for identifying problems and improving the quality of education. Thirdly, the development of AI technologies opens up new opportunities for the creation of interactive and innovative educational resources [31]. Pavlenko N.M. believes that the solution to the problem of constant search diversification of methods and forms of staff training, there are massive open online courses (MOOCs – Massive Open Online Courses). This is due to the fact that the format of such training allows you to train a huge number of participants at the same time. Also, anyone with access to the Internet can join by simply registering with the platform. In addition, the courses are designed for different levels of training, so both beginners and experienced professionals can find useful materials for themselves. And no less important is the fact that the training in the courses is improved by ensuring joint discussions of the tasks performed, exchange of experience and constant communication, carried out on a voluntary basis [32, p. 92].

The learning process is more dynamic and accessible thanks to modern AI technologies. The most recent forms and techniques of training can significantly increase staff readiness and lower important risks related to the work process, all while helping organizations save money on the professional development of their employees.

First and foremost, the use of AI in public affairs impacts human rights protected by international legal instruments, including the freedom of expression, non-discrimination, respect for private and family life, freedom of movement, freedom and fair elections, and the right to a fair trial [33, p. 68].

Ukraine also does not stand aside from the processes of improving the legal regulation of AI technologies and tries by all means to occupy a significant part of the world market of modern technologies, as well as leading positions in international rankings. Thus, our state is already using the experience of European countries and is moving towards the creation of an electronic Ukraine. Thus, in December 2020, the Concept for the Development of Artificial Intelligence [34] was approved in Ukraine, the practical implementation of which will contribute to the integration of innovative technologies into economically important sectors of the state. It is anticipated that artificial intelligence technologies will play a role in the revolution of the government, the labour market, the economy, and society at large. Utilizing them will present a chance to lower expenses while boosting manufacturing effectiveness and the calibre of products and services [33, p. 68]. And this, in turn, will have a positive impact on the economy of the state as a whole.

The development of artificial intelligence in the sphere of cybersecurity is given special consideration in the provisions of the Concept. This is primarily due to the fact that in the process of using AI, the personal data of any person becomes especially vulnerable, and therefore it needs additional protection. For a long time, there was no legislation in Ukraine that would regulate security issues in both information and cyberspace.

The first attempt to resolve this issue is the draft Law of Ukraine "On the Principles of Information Security of Ukraine" [35], which proposes to distinguish between information and cybersecurity. The main requirements of the draft law were that the collected personal data should be sufficiently protected, it should also be collected, used and provided only with the knowledge and consent of the individual, and at the same time, the person should have full access to the personal data collected about him, including the opportunity to correct or delete incorrect data. On October 15, 2021, the Decree of the President of Ukraine No. 685/2021 enacted the decision of the National Security and Defense Council of Ukraine "On the Information Security Strategy" [36], which defines key concepts in the field of information security, in addition, analyzes the main threats and challenges in information security. The Strategy states that due to the underdeveloped level of information of public opinion and the conduct of rapid destructive information operations. This creates prerequisites for potential and real threats to Ukraine's information security. Thus, the ability to analyze information from various sources and free access to Internet sources is an important component of countering disinformation by the Russian Federation under martial law in Ukraine [33, p. 69].

We agree with the authors' position that the use of AI technologies should, first of all, protect the human right to dignity as a basic and fundamental human right, primordial for all other rights and freedoms, and the violation of any human rights, therefore, can be considered a violation of the right to human dignity [33, p. 69]. Modern AI technologies should be included in human life as safely as possible, keeping in mind the significance of each and every one of the fundamental freedoms and rights of individuals. This includes the job market.

Articles 23, 25 of the UDHR [37] and Art. Articles 6, 7 and 11 of the ICESCR [38] proclaim that every person has the right to work, the freedom to choose their own job, fair and comfortable working conditions, and protection from unemployment. The authors Turuta O.V. and Turuta O.P. point out that the role played by AI in the automation of workplaces can pose a real threat to the right to work because automation has already led to the loss of jobs in certain sectors of the economy. Although there is considerable disagreement about the extent to which job automation will be achieved, there is no doubt that AI will lead to some shifts in the labour market, both by creating and destroying jobs [39, p. 53].

In general, there is a fairly large number of cited reports that say that a significant percentage of the human workforce can be replaced by the automation of jobs and tasks. In an oft-cited report, Frey and Osborne (2013, 2017) predicted that up to 47 per cent of U.S. jobs could be automated in 10 to 20 years. Using a similar methodology, Bowles (2017) estimated that in the case of the EU, this could be even higher, with up to 54 per cent of jobs automated within 10-20 years [40, p. 3].

Also, the UN notes that the development of AI will affect societies, increasing unemployment, and the pay gap and generating even greater inequality. However, these changes are not predetermined, which means that with a well-thoughtout approach, it is still possible to turn threats into opportunities [41].

Thus, we may conclude that while AI technologies are highly alluring due to their potential to streamline workflow, guarantee citizen safety, and simplify decision-making processes, in practice, these cutting-edge technologies are posing severe threats to human rights and freedoms.

For example, there are films in which robots gain dominance over humans, using AI technologies and their impact on humans, who lose the ability to understand and control the functioning of intelligent machines. Although it is still a long way off to create an AI technology that surpasses the potential of the human brain, the application of AI technologies raises questions of ethics, morality, and limitations [42].

The experience of Dubai is illustrative in this regard. Smart Dubai, the Dubai authority responsible for the city's digital transformation, has taken a systematic approach to the development of AI with its ethical and guiding principles. Smart Dubai launched its AI lab back in March 2017, and in January 2019, the company launched the city's official principles and guidelines for the ethical implementation of AI. As the initiator of the city's data management, a central AI initiative is a set of tools that allows anyone who implements AI to self-evaluate their performance against a set of criteria that combine to ensure an ethical approach. Consequently, Dubai has become the first city to establish such a voluntary approach, which will help businesses and governments create fair, interpretable, understandable, accountable, and ultimately trusted AI systems that manage the tension between innovation capacity, societal values, and risk [42].

Furthermore, in June 2021, Digital Dubai was founded with the aim of formulating and supervising the execution of strategies and regulations that control all matters pertaining to information in Dubai. Digital Dubai brings together the expertise of four organisations – Dubai eSecurity Centre, Dubai Statistics Centre, Dubai Data Establishment, and Smart Dubai Government Establishment – to ensure that the city jointly implements the vision of the city's leadership to make Dubai the world's leading digital economy [46].

Our opinion is that Ukraine should adopt the Dubai project and modify it for use in state affairs. This will support the development of significant theses regarding the availability and calibre of data at the national level, and in cities specifically, encourage private and public sector participation in data exchange programs.

Let's focus our attention on the possible risks arising from the use of modern technologies. The World Economic Forum has identified the following global risks:

- 1. Adverse effects of technological progress on individuals, businesses, ecosystems, and/or economies.
- 2. Destruction of critical information infrastructure, which in turn involves degradation or disconnection of critical physical and digital infrastructure (services) due to systemic dependence on cyber networks and/or technologies.
- 3. Digital divide, which refers to dispersed and/or unequal access to critical digital networks and technologies internationally and regionally as a result of unequal investment opportunities, lack of necessary skills, insufficient purchasing power, government constraints, and/or cultural differences.
- 4. Digital capacity concentration, which involves the concentration of critical digital assets, capabilities and/or knowledge in the hands of one or more individuals, enterprises or states, which as a result may lead to discretionary pricing mechanisms, unequal private and/or public access.

- 5. Ineffectiveness of cybersecurity measures due to the rapid development of forms and mechanisms of cybercrime, which lead to economic and financial losses, geopolitical tensions, and social instability.
- 6. Non-compliance with management technology due to the lack of institutions or rules for the use of critical digital networks and technologies, the use of incompatible digital infrastructure, protocols, and standards by different states or groups of states [44, p. 89].

Section IV. Ukraine as a Subject of Information and Technological Revolution in the Sphere of Employment of the Employed Population and Regulation of Labour Relations

Rapid transformations caused by digitalization significantly modify economic relations, and new tools for coordinating economic interests are emerging, which lose the role of deterrent counterbalances, which provoke imbalances and contradictions at all levels of socio-economic relations. This situation is primarily due to the fact that the global nature of changes does not allow the state, business and society to timely outline the boundaries of interference in their areas of interest and determine the mechanisms of corrective actions for the implementation of economic interests. Thus, the transition from the physical to the virtual form of the stages of social reproduction provokes uncertainties associated with the understanding of the object of management due to the lack of its territorial certainty, and the speed of the dynamics of changes in economic interests, in turn, makes it impossible to outline the time frame of the necessary transformations. Moreover, the informatization of social relations takes place in the absence of their timely methodological support, which creates additional difficulties in terminological interpretation, assessment of new phenomena and trends, and development of managerial corrective measures [45, p. 48].

We think that the shift to the digital revolution is essential, which is why nations' economic systems cannot continue to operate in the same way. The only option left to nations is to adjust to the way the world is evolving. Unfortunately, the lack of experience with such changes in the real world prevents us from accurately assessing the scope of both opportunities and possible threats, which raises the risk of mistakes and confrontations.

Modern technologies increasingly make it possible to customize workplaces in accordance with the personal priorities of the employee, who can independently choose for whom and where to work, how much to work (duration of working hours) and with what intensity (pace). This situation leads to a blurring of the line between work and personal life, a gradual departure from individual attempts to achieve a better "work-life balance". These trends, of course, affect the established institutions of labour law and their role in the future, in particular, it concerns remuneration and its minimum amount, protection of labour rights of employees, working hours and labour protection [46, p. 132].

There have been significant changes in the labour market and the emergence of new job types as a result of the globalization and digitization of society. Advances in technology, mostly linked to the growth of post-industrial social interactions, have made atypical employment more important across a number of global economic sectors.

In 2015, the European Union published a study on new forms of employment, which have become widespread since 2000. 2) new ways of doing work. Thus, such forms of employment are 1) employee sharing, 2) job sharing, 3) interim management, 4) casual work, 5) ICT-based mobile work, 6) voucher-based work, 7) portfolio work, 8) work through online platforms (crowd employment), 9) collaborative employment [47, p. 8].

Let's take a closer look at each of the forms

Employee exchange is a form of employment in which a group of employers jointly hires workers and is jointly responsible for them." The Eurofound study identified two types of employee sharing: 1) strategic employee allocation, i.e. when a group of employers forms a network that hires one or more employees who are assigned to individual work assignments for participating companies; 2) Special Employee Allocation – when an employer who is temporarily unable to provide work for his employees sends them to work for another company [48].

The next form of employment is the division of work, which is a modern scheme of work that involves two employees who share the same role in the company. This is a great option for teams looking for flexibility in their work, such as balancing work from home and office work shifts [49]. We believe that this type of employment allows you to increase the efficiency of employees, as it allows you to individually select shift schemes, hours and tasks.

Interim management is a type of employment where a manager who is independent, highly qualified, and experienced makes business decisions for a set amount of time. The interim management departs the organization once the project's goals are met and operations are stable. These seasoned professionals, referred to as interim managers, offer a plethora of knowledge and a novel viewpoint when it comes to handling certain issues or overseeing important initiatives. Interim

managers provide adaptable solutions catered to the specific requirements of each client, whether they are handling transitions, strategic projects, or crisis management [50].

As for one-time (casual) work, it is a temporary and flexible position in a company that has no requirements other than the implementation of a specific project [51]. This type stands out for the absence of fixed working hours, as well as regular remuneration, but, of course, it has its advantages.

Speaking of mobile work, the European Dictionary of Industrial Relations states that ICT-based mobile work refers to the organization of work that is carried out at least partially and on a regular or episodic basis outside the person's "head office", whether it is an employer's premises or an individual home office, using information and communication technologies (ICT). Thus, work takes place anywhere and anytime [52], which, as a result, makes this form of employment one of the most popular in modern society.

Work on the basis of vouchers, in turn, when the relationship between the employer and the employee is not based on an employment or civil law contract, but on a voucher that the employer buys from an authorized organization and gives to the employee. This includes remuneration and social security contributions. At the same time, work on the basis of vouchers entails some job insecurity, social and professional isolation, as well as limited access to personnel services [53].

Another form of employment, namely portfolio work, refers to the division of time between several, often unrelated, tasks, jobs, or projects. It's worth noting that working on a portfolio is not the same as freelancing, where you can work on multiple projects under a common name (say, "writing" or "coding") [54].

Work through online platforms (mass employment) is employment that uses an online platform to provide organizations or individuals with access to an unspecified and unknown group of other organizations or individuals to solve specific problems or provide a specific service [55]. This form of employment is quite short-term because it is based on individual tasks or projects, and not on permanent relationships. A larger task is divided into smaller subtasks that are relatively simple, can be performed independently of other tasks, and have a specific outcome.

The last form of employment is collaborative employment – a workplace culture that values teamwork, open communication, and collaborative problem-solving. In such an environment, employees work together to achieve common goals and objectives, share knowledge and ideas, and support each other to achieve individual and team success [56].

As of 2020, the number of nine forms of work in Europe is growing. For example, ICT-based mobile work is now available in all nations (up from 60% in the previous poll), while informal work has risen from 44% to 86%. Work via online platforms is also on the rise, with its presence expanding from 40% to 95% in EU countries. New kinds of employment have the potential to help specific groups integrate into the labour market (and hence generate revenue), particularly those who are disadvantaged in the labour market due to the requirement for flexibility in working hours or the workplace. Some types of online platform employment and job-sharing have the potential to encourage entrepreneurial spirit, multidisciplinary skills, and innovation among workers, which can therefore raise workers' employability and improve their perceived meaningfulness [57].

The COVID-19 pandemic-related crisis of the global economic and social order, in addition to the armed conflict in Ukraine, serves as a potent catalyst for the emergence of new opportunities and risks for the transformation of labour relations linked to the growth of digital technology use.

Finally, let's take a look at possible directions for the development of the world of work using AI technologies:

- the boundaries of the traditional division of labour are changing, the boundaries of the traditional division of labour are changing, thereby erasing the boundaries of professions, the rate of "extinction" of traditional professions is accelerating, and new, previously unpredictable ones are emerging. Experts note that in the coming years, up to 53 professions may disappear, while 186 new ones will appear, that is, about 10% of existing technologies will simply cease to exist. First of all, those employees who have knowledge of technology and the ability to think creatively will be in demand [58; 59];
- changing forms of employment that are becoming increasingly preferable for young people and highly competitive staff;
- human mobility increases throughout the entire labour activity, which is associated with the intensification of migration processes [60, p. 69–70].

The evolution of professional orientation and the nature of work, as well as changes in the division of labour, should be predicted using the advances in digital technologies, robotics, and automation. This in turn provides the basis for predicting how the labour market and employment will develop, which calls for the development of relevant competencies. However,

it is impossible to foresee with any degree of accuracy how new technology will affect the labour force. This is a complicated process since it involves not just new technologies but also specific plans for how they will be used.

DISCUSSION

First of all, we would like to draw attention to the fact that the problem of the use of digital technologies in the field of labour and the legal framework for their regulation is relevant in the research of both scientists and practitioners. The need to determine the prospects of legal regulation of artificial intelligence in the field of labour relations is insisted on by Gutsu S.F. [1, p. 18-21; 2, p. 87-92]. Klymenko A.L. adheres to a similar opinion, focusing on the challenges faced by labour law in the context of its digitalization and their impact on the regulation of labour relations, which include the interaction of the employee and AI, as well as guarantees for dismissing employees and their replacement with "smart robots" in the workplace [29, p. 181-185].

Attention is also drawn to the position of scientists Pavlenko Zh., Vodorezov S., Trofimenko V., who are of the opinion that it is necessary to substantiate the legal status of AI, which will affect the ability of robots to make autonomous decisions [7]. Scientists O.I. Kosilova and K.K. Solodovnikova are of the opinion that, unlike European countries, the state of legislation in our country is at its initial state on the way to standardizing AI and giving it the status of a reasonable person [12].

The debate around the use of AI in personnel management continues. N.I. Chernenko notes that the idea of improving the efficiency and fairness of managing people with the help of AI. It is optimistic [23]. At the same time, G.V. Bey and G.V. Sereda warn about the consequences of the introduction of modern technologies and their negative impact on the rights and freedoms of citizens [28]. R.V. Mann draws attention to the opportunities and threats in the implementation of national interests in the context of the development of the information economy, noting that the transformations that take place under the influence of the information revolution affect the change of traditional political, economic and social relations in society [45].

It should be noted that the current state of implementation of AI in the field of labour in order to regulate labour relations, and management of production processes and personnel is possible and necessary, without taking into account certain legal conflicts regarding the legal status of AI, the definition of an electronic person, the features of training, personnel management and other areas of digitalization of social relations, Ukraine is a participant in the information revolution, which is one of the conditions for its further development in accordance with international standards economic and social content.

CONCLUSIONS

Ukraine is developing under the influence of the global world and the trends it is experiencing. The social and labour spheres are subject to change, which are influenced by both global trends and the digital development of the economy.

The study reveals three primary trends—globalization, technological advancement, and demographic shifts—as well as corresponding shifts in values and priorities that have varying degrees of impact on the character of employment in the modern world. These patterns have an impact on the quantity and calibre of jobs available, as well as the selection of a specific job category. As a result of technological advancements, many tasks that were formerly completed by employees are now automated. Furthermore, new labour organization forms and methods have emerged as a result of the digitalization of all aspects of life. These methods and forms are distinguished by the absence or modification of one or more aspects of traditional labour relations.

In the process of using AI, the personal data of any person becomes especially vulnerable, and therefore it needs additional protection. The introduction of modern AI technologies in the spheres of human life, the labour market in particular, should be as safe as possible for the individual, taking into account the value and importance of each of the fundamental human rights and freedoms.

The conventional framework of political, economic, and social connections is evolving as a result of the Fourth Industrial Revolution. A shift to a new degree of development is occurring as a result of dynamic contemporary processes and modifications to the institutional and business environments. These changes need the development of a regulatory framework for the information economy and encourage conflicts of interest. The process of creating the regulatory framework for the information economy is quite complicated because it necessitates striking a balance between the commitment to national goals and the economic interests of important players in the "state-population-business" paradigm. The search

for solutions to such a complex task requires analytical research at the crossroads of economics, law, government regulation, institutional practice, cybersecurity and economic security, which determines the direction of further scientific research.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

Conceptualization: Leonid Ostapenko Data curation: Viktoriia Pasternak Formal Analysis: Mykola Kropyvnytskyi Methodology: Mykola Kropyvnytskyi Software: Viktoriia Pasternak Resources: Mykola Kropyvnytskyi Supervision: Leonid Ostapenko, Leontii Chystokletov Validation: Viktoriia Pasternak Investigation: Leontii Chystokletov Visualization: Leontii Chystokletov Visualization: Leontii Chystokletov Project administration: Leonid Ostapenko, Oleksandra Khytra Funding acquisition: Oleksandra Khytra Writing – review & editing: Leontii Chystokletov, Oleksandra Khytra

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ШТУЧНИЙ ІНТЕЛЕКТ У ТРУДОВИХ ВІДНОСИНАХ: ЗАГРОЗА ПРАВАМ ЛЮДИНИ ЧИ НОВІ МОЖЛИВОСТІ?

У цій статті досліджується можливість використання штучного інтелекту в царині трудових відносин. Сучасні технології забезпечують нові можливості, водночас вони породжують низку складних питань, необхідність пошуку нових підходів у реалізації працездатними громадянами права на працю та належне соціальне забезпечення, що важливо на сьогодні, коли Україна захищає свій суверенітет і незалежність від воєнної агресії зі сторони російської федерації. Використання алгоритмів і систем машинного навчання може вести до значних поліпшень, пов'язаних із професійною підготовкою трудових ресурсів, управлінням виробничими процесами, охороною праці та іншими сторонами трудоправових відносин.

Дійшли висновку, що модернізація трудового права передбачає розширення кола учасників трудових відносин і перегляд змісту терміна «працівник». Таким чином, наявність або відсутність доступу до технологій створюватиме нові форми нерівності у взаємодії між «працівником-працівником» і «працівником-роботом (ШІ)».

Запропоновано проактивний підхід для нівелювання наслідків можливих загроз використання штучного інтелекту в трудових відносинах шляхом глибинного дослідження всіх можливих загроз, що виникають у зв'язку із застосуванням модерних технологій. Висловлено пропозицію взяти за основу міжнародний досвід використання ШІ в суспільному устрої держави та адаптувати його в життя держави, що, в свою чергу, сприятиме просуванню важливих тез про якість і доступність даних на рівні країні, і в містах зокрема, сприянню участі в схемах обміну даними на рівні приватного й державного секторів.

Розроблені рекомендації дозволять покращити трудову царину та не поставити працівника в невигідну для нього позицію.

Ключові слова: штучний інтелект, технології, трудові відносини, царина праці, працівник, захист прав, економіка держави, адаптація законодавства

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