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CONCEPTUAL AND THEORETICAL PROBLEMS OF ARTIFICIAL INTELLIGENCE IN LABOR LAW

Nadiya Levytska,
Candidate of Law Sciences,
Associate Professor at the Department of Social Law,
Ivan Franko National University of Lviv (Lviv, Ukraine)
ORCID ID: 0000-0002-2865-5194
nadiya.levytska@lnu.edu.ua

Abstract. This article is dedicated to exploring recommendations for the development of legal frameworks in labor law through the implementation of artificial intelligence based on the analysis of national legislation and global experience. Theoretical approaches to defining the essence of the concept of "artificial intelligence" are analyzed, providing a comprehensive interpretation of this concept. It is argued that the technological process of artificial intelligence is a current necessity in the legal system today, as the integration of artificial intelligence affects the work environment, the content of labor relations, and consequently, the need to revise certain norms of labor law to adapt to the changing reality. The impact of artificial intelligence on the formation of new legal institutions and sub-institutions in the future is investigated, such as working hours and labor standards, occupational safety, retraining, and qualification improvement, as well as the protection of personal data. The shifts that the technological process of artificial intelligence may induce in labor law are identified. The current legal status of Ukraine in the field of artificial intelligence is assessed, trends are explored, and the country's development prospects in this direction are determined. Key provisions of the artificial intelligence development strategy within the country are analyzed, and the roadmap for regulating artificial intelligence and specific initiatives for the development and application of artificial intelligence at the local level are evaluated. Based on the synthesis of findings, practical recommendations.

Key words: artificial intelligence, labor law, working hours, robotics, employment, wage labor, employers, technological process.

Introduction. Today, observing the current trends in the development of modern society, clear tendencies towards the growth of areas where artificial intelligence is applied can be noted. This is provoked by the fact that, while performing multifaceted tasks delegated by humans, artificial intelligence autonomously engages in social relations, often becoming an integral part of them. A common regularity is that artificial intelligence can be utilized in various fields to create and implement new human capabilities, aiming to free individuals from monotonous, routine work through the automatic generation of software. It is employed for the automation of various activities, including legal ones, decision support, and the development of communication processes.

According to analysts from the leading consulting company McKinsey, the development of artificial intelligence is currently one of the defining business opportunities for leaders. Entrepreneurs who can compete in the "data era" and whose employees can effectively utilize artificial intelligence are the ones who will succeed. Ideally, an organization should be fully based on artificial intelligence and constantly evolve to be a leader in the competitive landscape (Brown, Solly, Darshit Gandhi, Louise Herring, Ankur Puri, 2020: 91). According to analytical data, the issue of artificial intelligence is currently relevant in the labor market and requires a profound approach in labor law. Therefore, it is necessary to introduce these concepts into labor legislation.

Analysis of recent research and publications. The research on the general aspects of legal regulation and application in the field of artificial intelligence involves the contributions of O. Baranova, T. Katkova, M. Karchevsky, K. Khernes, S. Petryaev, O. Radutny, Y. Sidorchuk, A. Sulina,

E. Kharitonov, O. Kharitonova, V. Furashev, O. Yastrebov, and others. Foreign scholars such as Stone, Peter, Rodney Brooks, Erik Brynjolfsson, Ryan Calo, Oren Etzioni, Greg Hager, Julia Hirschberg, Shivaram Kalyanakrishnan, Ece Kamar, Sarit Kraus, Kevin Leyton-Brown, David Parkes, William Press, AnnaLee Saxenian, Julie Shah, Milind Tambe, Astro Teller (Stone, Peter, Rodney Brooks, Erik Brynjolfsson, Ryan Calo, Oren Etzioni, Greg Hager, Julia Hirschberg, Shivaram Kalyanakrishnan, Ece Kamar, Sarit Kraus, Kevin Leyton-Brown, David Parkes, William Press, AnnaLee Saxenian, Julie Shah, Milind Tambe, Astro Teller, 2020).

The impact of robots on employment in the EU is explored in the publication by F. Chiacchio, G. Petropoulos, and D. Pichler (Chiacchio F., Petropoulos G., & Pichler D., 2018: 3–6). The necessity of incorporating non-traditional employment, based on internet platforms' use of robot recruiters, into labor law regulation is highlighted in works (De Vos, Marc, 2020: 8).

However, a significant number of problems regarding the integration of artificial intelligence into labor law remain inadequately addressed and insufficiently explored. Given the absence of legal regulation in the field of artificial intelligence, it is crucial to clarify the conceptual basis for the formation of a normative legal framework regarding the use of artificial intelligence in labor law.

The article's purpose – investigate the essence of artificial intelligence and its primary implementation tools, analyze the trends in the impact of the technological process of artificial intelligence on the sphere of work, and propose necessary pathways for transformative changes in the legal reality of artificial intelligence within the legal field of labor law.

Research methodology. To write the article, primary sources were worked out, including inter-national acts and the legislation of Ukraine. The article analyzes the scientific works of foreign and Ukrainian authors, which are devoted to certain aspects of the investigated problem. In carrying out the research, the authors used the Aristotelian (philosophical) method and general scientific methods (systemic, structural-functional, ascent from the concrete to the abstract, ascent from the abstract to the concrete). Considering the article's topic, the author used special (developed by non-legal sciences, in particular, analysis of written sources) and separate (developed by legal sciences: dogmatic method, methods of interpreting legal norms) methods. The basis of the research was the dialectical method, which made it possible to analyze the topic holistically and determine the primary forms of promoting impact of artificial intelligence on the field of work. When writing the article, the comparison method was used, which made it possible to necessary ways of transformational changes in the legal validity of artificial intelligence in the legal field of labor law.

The scientific research was carried out in several stages, considering the volume of the studied material and the need to justify the conclusions drawn. In the first stage, the analysis of scientific works of foreign and Ukrainian scientists, as well as other published materials, was carried out. In the second stage, how the field of hired labor is changing with the introduction of artificial intelligence. At the third stage, an attempt is made to reveal the impact of the use of artificial intelligence in labor law, and problems that require drastic changes in institutes and sub-institutes of labor law.

Presenting main material. In the era of global changes, digital technologies and their corresponding societal and regulatory legal relations are rapidly evolving. The introduction of artificial intelligence is transforming the field of wage labor. Employers face the challenge of ensuring continuous learning and intellectual adaptation of their personnel, initiated by the differences in the functioning of social environments between technical tool developers and their users based on artificial intelligence models (Oliinyk T.I., Krupska K.A., 2022: 2).

It is believed that the examination of artificial intelligence should begin with clarifying the essence of the term. The British encyclopedia defines artificial intelligence as the "ability of a digital computer or robot controlled by a computer to perform tasks commonly associated with intelligent beings" (Britannica Dictionary. Artificial intelligence). At the same time, Collins Dictionary considers artificial intelligence as a "type of computer technology that is aimed at making machines work in a

smart way, similar to how the human mind works" (Oxford English Dictionary (OED). Artificial intelligence).

Since the inception of the concept of "artificial intelligence," many scholars and practitioners have contributed their interpretations to this category. Among the numerous interpretations, attention is given to the definition proposed in the resolution of the European Parliament. Artificial intelligence is a "smart robot" that possesses the following characteristics: autonomy through sensory sensors and/or data exchange; autonomous learning from experience or interaction; minimal physical support; adaptation of behavior models to the environment; and is non-living in a biological sense. (European Parliament resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics, 2017: 24).

According to the conclusions of ITU (2018), artificial intelligence encompasses five types of technologies: computer vision, speech synthesis, virtual assistants, automated (robotic) work, and contemporary machine learning. By 2030, 70% of companies are expected to use at least one of these technologies (Assessing the Economic Impact of Artificial Intelligence, 2018: 29). The essence of artificial intelligence is quite clearly formulated by the European Parliament and the Council of the EU, which, on December 8, 2023, adopted the world's first regional regulatory act on artificial intelligence, the Artificial Intelligence Regulation, also known as the AI Act. It states that an artificial intelligence system is a machine system designed to operate at various levels of autonomy and is capable, with or without explicit intent, of generating results such as forecasts, recommendations, or decisions that impact the physical or virtual environment. This definition aligns with the formulation proposed by the Organization for Economic Cooperation and Development (OECD) in 2019.

With greater detail, Ukraine has formulated its position on artificial intelligence, presenting a roadmap for regulating artificial intelligence and specific initiatives for the development and application of artificial intelligence at the local level in October 2023. The strategy of the document is aimed at: supporting business competitiveness and ensuring access to global markets; building Ukraine's brand as a digital nation in the field of artificial intelligence; protecting human rights from the risks of developing and using artificial intelligence systems; creating and supporting a culture of collaboration and self-regulation in the field of artificial intelligence in Ukraine; integrating into the European market and implementing EU standards as part of Ukraine's overall Eurointegration path.

An analysis of the key provisions of the strategy regarding the labor market, comparing it in this aspect with foreign counterparts, and examining the existing practices of transforming wage labor will allow for a more precise determination of the direction of labor law changes in Ukraine and globally.

The results of the research suggest that artificial intelligence is nothing but electronic (computer) technology widely used in the work process, altering its methodology. This technology embodies scientific principles, methods, ways, and the sequence of performing labor operations. Additionally, artificial intelligence can apply this knowledge to address new tasks similarly to humans. The technological process comprises a set of technological operations that reflect the interaction between equipment and technology.

Consequently, the work process encompasses the technological process, determining the way in which tools impact labor. It can be concluded that labor relations are a societal form of development for both the work process and the technological process. Artificial intelligence technology, which should exhibit signs of intelligence, can effectively respond to human language, recognize information, and make decisions based on data, finding solutions to the tasks presented to it.

It is necessary to note that the technology of the artificial labor process will lead to a significant increase in the share of past labor embodied in robotics, and human intellect will be maximally replaced by artificial intelligence.

As productivity increases with the use of robotics, conditions will emerge in which more past labor will be applied in the work process compared to living labor, and in terms of quantity, artificial intel-

ligence will surpass human labor. However, even in this scenario, humans will retain the function of controlling automated production to monitor artificial intelligence.

Consequently, changes will occur in labor relations. The primary form of labor relations will be the relationship to work. As the ratio between living and past labor shifts in favor of the latter, there arises a need for a significant increase in the quality of "living labor." The reduction in the quantity of "living labor" in favor of past labor embodied in artificial intelligence must be compensated by an increase in the quality of "living labor" to match the quantity and quality of this past labor. In other words, for a smaller amount of "living labor" to be able to support the functioning of a larger amount of past labor, it must be of higher quality.

It is primarily about high-quality professional skills of workers, an increase in the quality of their qualifications, and intellectual abilities. Workers with new professions, such as electronics technicians, digital machine operators, and the presence of computers in the workplace, will be required. All of this necessitates the development of a creative and analytical approach to work.

On the other hand, the operation of artificial intelligence systems in the workplace creates a problem of causing harm to human life and health, leading to the question of responsibility for the damage inflicted by these systems. The incorporation of an incorrect algorithm into the artificial intelligence system can result in substantial losses. At the same time, the employer is obligated to ensure that the workplace, equipment, and processes are safe and pose no risk to the health of employees. Necessary measures must be taken to minimize corresponding risks.

However, the mere use of artificial intelligence systems and robotics should not be a basis for imposing regulatory restrictions. Robotic devices are merely objects that can be operated by their users in any way that does not violate the law. Even if we assume that artificial intelligence, at a certain stage of its development, gains consciousness and forms its own interests, its constructive features and thinking apparatus would be so different from human attributes that differences in worldview and ethics between a robot and a human would be equally fundamental.The results of such an analysis aim to lay the foundation for the ethical and legal aspects of the artificial intelligence industry.

Such a situation has the potential to lead to a serious social conflict if the ethical and value systems embedded by manufacturers in the functioning of robots significantly differ in certain aspects from the values adhered to by the majority of society. To prevent such a scenario, some countries are already taking steps to regulate the ethical aspects of the development and use of artificial intelligence technologies.

Additionally, due to the autonomous and possibly unpredictable behavior of robots, individuals working alongside robotic machines may experience new forms of stress and risks to mental health (known as robot-induced stress). Employers are obligated to take measures to mitigate these risks. Workers collaborating with robots and algorithms should undergo proper training on new equipment and algorithms.

The interactions between humans and robots, facilitated by certain analytical tools, provide employers with the ability to model behavior. This includes limiting tasks that robots can perform, improving the list of tasks exclusively performed by humans, anticipating new rules for the interaction between human workers and robots in shared tasks, adjusting job quotas, and updating health and safety laws to account for injuries caused by robotics.

In summary, addressing the ethical and psychological implications of artificial intelligence in the workplace is crucial to avoid potential conflicts and ensure the well-being of individuals working alongside intelligent machines. It involves regulatory frameworks, proper training, and continuous adaptation of laws to safeguard the health and safety of workers.

In the process of such interaction, the collaboration between robots and humans, facilitated by specific analytical tools, provides employers with the ability to model behavior. This includes restricting tasks that can be performed by robots, enhancing the list of tasks exclusively carried out by

humans, anticipating new rules for the interaction between workers and robots in tasks where their work is collaborative. There is a need to adjust job quotas, and health and safety laws must be updated to account for injuries caused by robotics.

One of the threats associated with the integration of artificial intelligence into the workforce is that employers may arbitrarily replace workers with artificial intelligence systems. This is driven by the pursuit of competitive advantages through the rapid implementation of technological advancements aimed at displacing human labor by employers.

Another issue with artificial intelligence is direct and indirect workplace discrimination. This is related to the use of artificial intelligence in the hiring process because, unlike humans, artificial intelligence can review databases and resumes much faster and cheaper. However, in recent years, human bias has been present in hiring decisions. Employers using artificial intelligence in hiring must ensure that future employees are protected from bias or any form of discrimination.

On the other hand, the effectiveness of applying artificial intelligence bots is evident in the analysis of video and audio to assess candidates' skills and suitability for a role. This system also utilizes resumes and online sources to identify the best candidates for open positions, even if they are not actively job hunting. Implementing external recruiting based on artificial intelligence helps to make the process faster, smarter, and more time-efficient. Employers primarily do this to enhance the qualifications of future hires, reduce time and costs associated with the hiring process, and optimize candidate selection opportunities.

Researchers in the field of labor law objectively focused their attention on the need to include non-standard employment based on internet platforms in the scope of labor regulation (De Vos, Marc, 2020: 14). This includes the use of robot recruiters, programs for the intelligent analysis of data obtained through monitoring of employees, enhancing the quality of employee assessment in favor of the employer (De Stefano, Valerio, 2018: 3). Another issue at the legislative-institutional level, in the context of the workplace, is personal data related to employees, their personnel records, previous work results, etc. Artificial intelligence technologies must adhere to data protection legislation, which defines the rights and obligations of employers and employes.

Furthermore, there remains an issue with data protection between the employer and the employee, as well as surveillance in the workplace. When implementing a surveillance system at work, the employer must respect the confidentiality of the employee, and the employee should be informed about the surveillance in advance. Any use of artificial intelligence that deserves trust and respects human rights and democratic values will ensure compliance with the supremacy of the law, human rights, and democratic values throughout the entire lifecycle of the artificial intelligence system. Postulates that should be adhered to when using artificial intelligence include freedom, dignity, and independence, confidentiality and data protection, absence of discrimination and equality, diversity, justice, social justice, and internationally recognized labor rights.

Conclusions. In conclusion, it should be noted that, the penetration of artificial intelligence into the sphere of work leads to the transformation of labor legislation. The global challenges of society highlight that if legislation wants to maintain relevance, it will need to quickly adapt to new tasks(Stone, Peter, Rodney Brooks, Erik Brynjolfsson, Ryan Calo, Oren Etzioni, Greg Hager, Julia Hirschberg, Shivaram Kalyanakrishnan, Ece Kamar, Sarit Kraus, Kevin Leyton-Brown, David Parkes, William Press, AnnaLee Saxenian, Julie Shah, Milind Tambe, Astro Teller, 2020: 45). The generalization of research on the use of artificial intelligence in labor law allows identifying challenges that will require fundamental changes to the following institutes and sub-institutes of labor law: working hours and labor norms (protecting workers from overwork due to the pace of work that does not require breaks) (Levytska N.O., 2023: 107); occupational safety (the need to introduce safety standards when working collaboratively with humans and robotics, the issue of reducing the level of psychosocial risks for workers to account for injuries caused by robotics, employer responsibility for adverse consequences

even if it's due to the worker when the employer uses artificial intelligence to monitor the employee); retraining and upgrading of employee qualifications, high-quality professional abilities of workers, and the growth of their qualifications and intellectual abilities.

Guarantees and compensation for employees (in the case of termination due to replacement by artificial intelligence systems); protection of personal data, employee confidentiality, as well as awareness of surveillance; limiting the use of artificial intelligence in employment; developing regulatory frameworks for ethical aspects of the development and use of artificial intelligence technologies in labor law.

The transformation of labor legislation is also influenced by the study of foreign experience in legislative work related to artificial intelligence. The analysis will help identify the strengths and weaknesses of various regulatory strategies and avoid certain controversial decisions made by discoverer in this field. Timely responses to new challenges in society will further enhance the positive impact of legal regulation on social relations and increase the effectiveness of labor law.

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