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Implementing artificial intelligence in civil procedure and legal education: challenges and perspectives


Implementación de la inteligencia artificial en la educación procesal civil y jurídica: desafíos y perspectivas

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Abstract

Artificial intelligence is increasingly used in various spheres of human life: industry, medicine, and defense. The latest technologies are beginning to be used in the Universities' classrooms and in the courtrooms. Gradually, the issue of using artificial intelligence in jurisprudence became relevant both for European countries and Ukraine. Therefore, due to the rapid implementation of artificial intelligence technology, it became necessary to consider the problematic issues of implementing the interaction of legal education, civil process and artificial intelligence. The purpose of the work is to conduct a study of the problematic issues of implementation of the use of artificial intelligence in the legal education and civil process. The object of research is artificial intelligence in the legal education and civil process. The subject of the research is the social relations that arise, change, and cease in the process of using artificial intelligence in the legal education and civil process. The research methodology includes methodological approaches (active, systemic, comparative, axiological), general methods of thinking (analysis, synthesis, abstraction, generalization), philosophical (dialectical, metaphysical, hermeneutic, epistemological), general scientific (historical, synergistic, functional, structural) and specifically scientific (formal-legal, comparative-legal) methods. As a result of the study, problematic issues of implementation of artificial intelligence technology in the legal education and civil process were analyzed.

Keywords: legal education, civil process, artificial intelligence, robotics, legal duties.

Resumen

La inteligencia artificial se utiliza cada vez más en diversas esferas de la vida humana: industria, medicina y defensa. Las últimas tecnologías se empiezan a utilizar en las aulas de las Universidades y en los juzgados. Poco a poco, el tema del uso de la inteligencia artificial en la jurisprudencia se volvió relevante tanto para los países europeos como para Ucrania. Por lo tanto, debido a la rápida implementación de la tecnología de inteligencia artificial, se hizo necesario considerar los temas problemáticos de implementar la interacción de la educación legal, el proceso civil y la inteligencia artificial. El trabajo tiene como finalidad realizar un estudio de los temas problemáticos de la implementación del uso de la inteligencia artificial en la educación jurídica y procesal civil. El objeto de investigación es la inteligencia artificial en la educación jurídica y proceso civil. El tema de la investigación son las relaciones sociales que surgen, cambian y cesan en el proceso de utilización de la inteligencia artificial en la educación jurídica y proceso civil. La metodología de investigación incluye enfoques metodológicos (activo, sistémico, comparativo, axiológico), métodos generales de pensamiento (análisis, síntesis, abstracción, generalización), filosóficos (dialéctico, metafísico, hermenéutico, epistemológico), científico general (histórico, sinérgico, funcional, estructural) y específicamente científico (legal-formal, legal-comparativo). Como resultado del estudio, se analizaron cuestiones problemáticas de implementación de la tecnología de inteligencia artificial en la educación jurídica y el proceso civil.

Palabras clave: educación jurídica, proceso civil, inteligencia artificial, robótica, deberes jurídicos.

1. Introduction

Information technologies have an increasing influence on social life every year. Now, artificial intelligence as the latest technology is expanding its spheres of influence. Artificial intelligence technologies make it possible to achieve various goals: from automating processes in the household to conducting court proceedings and making important decisions.

The dynamic development of artificial intelligence has a consequence of its use in justice. Because of this, it is important to analyze the ways of implementation and problems of implementation of artificial intelligence in the legal education and in the civil process of Ukraine.

The advent of artificial intelligence is attested by the quickening pace at which information technologies like deep learning, big data, and neural networks are being developed. Thought, emotion, and social talents were formerly thought to be uniquely human; nevertheless, AI is progressively bringing these capacities into play, and pedagogy based on them might result in profound shifts. For educators in general, adapting to changes in education in the AI age is both a problem and an opportunity (Monroe et al., 2019).

Many conventional teaching strategies include giving student's information, then having them answer questions on it. AI entails, among other things, capturing and mastering knowledge, strengthening student's analysis skills, intellectual valuation and response (Minn, 2022).

Thus, the introduction of AI into the educational process of future lawyers is inevitable. However, the use of AI in education is still insufficient. Instead, various areas of legal activity are already taking advantage of the advantages provided by AI technology, in particular, the judiciary.

According to the Concept of the Development of Artificial Intelligence in Ukraine (Order 1556-r, 2020) based on the results of the analysis carried out with the use of artificial intelligence technologies, the state of compliance with legislation and judicial practice. In addition, to implement the Concept, the High Council of Justice approved a plan of measures for the implementation of the Concept for the Development of Artificial Intelligence in Ukraine (Decision 283/0/15-21, 2021).

In general, the adoption of the Ethical Charter on the use of artificial intelligence in the judicial system and its environment by the European Commission for the Efficiency of Justice of the Council of Europe became a prerequisite for the use of artificial intelligence in civil proceedings. In particular, the Charter contains the main categories of involvement of artificial intelligence, namely advanced search systems of judicial practice; online dispute resolution; assistance in drafting lawsuits; predictive analysis; categorization of the provisions of the law according to various criteria and identification of discrepant or incompatible provisions; chatbots for informing parties or supporting them in court proceedings (European Commission for the Efficiency of Justice, 2018). An equally important document in this area is the White Paper on Artificial Intelligence: A European Approach to Excellence and Trust, which states: "Artificial intelligence must work for people and be a force that works for the good of society" (European Commission, 2020).

And despite the presence of regulation of some aspects of the use of artificial intelligence in Ukrainian justice, there are many problematic issues in the implementation of the tandem "artificial intelligence" and "civil process". Moreover, many issues of the legal personality of artificial intelligence remain undefined, including the following: whether artificial intelligence is identical to a computer program that works based on prescribed algorithms; can artificial intelligence be considered as an independent object of civil law regulation; what are the terms of liability for damage caused by artificial intelligence and/or systems that function on its basis.

All of the above determines the relevance of the research topic and requires a comprehensive analysis of the problematic issues of implementing artificial intelligence technologies in the civil process.

2. Methodological Framework

During the study of the problems of implementing the interaction of the civil process and artificial intelligence, the principles of scientific knowledge (historicism, scientism, comprehensiveness, pluralism), methodological approaches (activity, system, comparative, axiological), general methods of thinking (analysis, synthesis, abstraction, generalization) were used. The authors also used philosophical (dialectical, metaphysical, hermeneutic, epistemological), general scientific (historical, synergistic, functional, structural), and specifically scientific (formal-legal, comparative-legal) methods, the application of which ensured the validity and reliability of the research results.

Using the principle of historicism, the chronology of the development of legal regulation of artificial intelligence in Ukraine and the world was investigated. The principle of scientificity helped to reveal cause-and-effect relationships for phenomena, processes, events, and their subsequent inclusion in the means of obtaining scientifically proven knowledge that corresponds to the current level of scientific development. Thanks to the principle of comprehensiveness, the totality of available sources on the researched issue were analyzed, as well as various influences on the process of accumulating knowledge about the use of artificial intelligence in the judiciary, including civil ones, were taken into account. The use of the principle of pluralism made it possible to evaluate a wide range of opinions on the researched topic and conduct comprehensive research.

The practical implementation of scientific hypotheses regarding the place and role of artificial intelligence in the civil process was investigated using an activity approach. A comprehensive study of the problematic issues of implementing artificial intelligence in the civil process was conducted using a systemic approach because it was this approach that made it possible to reveal a complex of interrelated elements and relationships between them. The comparative approach made it possible to compare how artificial intelligence is used in different countries and under different conditions and to generally understand what circumstances affect the successful regulation of artificial intelligence.

The use of an axiological approach helped to investigate the given topic through ethical and moral aspects. In particular, the specified approach helped to analyze the use of artificial intelligence in the civil process from the point of view of orientation to the system of social values, the core of which is the understanding and affirmation of the value of human life, free creative activity, and human communication.

General methods of thinking made it possible to define such concepts as "artificial intelligence" and "civil process" and to analyze in detail the problematic aspects and inconsistencies of determining the place of artificial intelligence in the civil process.

Philosophical methods of scientific knowledge helped clarify problematic issues of legal practice regarding the use of artificial intelligence, including its responsibility. Taking into account these methods, the specifics of using artificial intelligence in judicial proceedings were clarified and an action algorithm was developed to improve the existing state of the researched issue.

General scientific methods were used to establish the peculiarities of the forms of interaction of the civil process and artificial intelligence, as well as to substantiate the importance of using international experience in the development of draft laws on the researched issue.

Concrete and scientific methods made it possible to understand more deeply the problems of implementing artificial intelligence in the judiciary of Ukraine and to formulate proposals for improving the forms and methods of interaction of subjects to avoid inconsistencies and contradictions in the regulation of artificial intelligence.

The use of all the above-mentioned methods in a complex made it possible to understand the problematic issues of the implementation of artificial intelligence in the civil process, to formulate scientific proposals on this issue, and in general to comprehensively analyze the possibilities of artificial intelligence for the implementation of judicial reform.

3. Results

Analysis of Recent Research on Legal Education, Civil Process and AI

A. Contreras and J. McGrath (2020) in their article «Law, Technology and Pedagogy: Teaching Coding to Build a "Future-Proof" Lawyer» analyze the pedagogical benefits of teaching "Coding for Lawyers" at law school. It also outlines the practical challenges in doing so. Drawing on legal research in this field, the experiences of others in delivering similar modules, and the experience of delivering lectures on coding for lawyers at the University of Minnesota School of Law, this article provides a first-hand account of where theory meets practice in delivering cutting-edge tech education courses. Given the increasing role that technology is playing in legal practice, this article argues that a knowledge and appreciation of coding, though not necessarily an expert ability to code, may be necessary to build a more "future-proof" lawyer who can navigate emerging developments and those yet to come.

J. Webb (2019) in his article «Information technology & the future of legal education: a provocation» explores challenges to legal education arising from the significant impact of new information and communications technologies (ICTs) on law and legal practice. It uses the pervasiveness of ICTs to reframe the question of "law and technology" from a philosophical perspective that sees information technology as an "environmental force" that is capable of re-shaping our identity, agency, and social relations, and hence constitutes a significant means through which we make sense of the world.

In his study, Burov (2020) considered the issue of responsibility for errors of artificial intelligence. The lawyer believes that if the national legislation of Ukraine enshrines the special status of a robot as an

independent subject of legal relations, the issue of responsibility for errors of artificial intelligence will be subject to adjustment. There is a need to introduce the status of "electronic personality", a separate type of insurance, the introduction of additional criteria for the distribution of responsibility between the manufacturer and the owner, as well as the search for answers to all other possible challenges that will arise in the process of further use of artificial intelligence in various spheres of human activity.

Vakareva (2021) considered the ethical and legal aspects of the regulation of artificial intelligence and its relationship with the protection of human rights. The researcher emphasizes that society needs to create certain ethical standards for the development and operation of artificial intelligence technologies. Among them: to establish legal control over developers, manufacturers, users, and lessors of innovative technologies; to determine the limits of responsibility; to outline the forms of accountability; in some cases - to use coercion to immediately suspend the operation of artificial intelligence systems; to raise awareness of people in the field of machine learning and neural networks. According to the researcher, safety and trust in the activity of artificial intelligence units should be a priority in its development.

The challenges of introducing artificial intelligence into the legal systems of different countries were considered by Voynikanis, Semenova, and Tyulyaev (2018). The authors considered the legal risks associated with the use of artificial intelligence and concluded that the development of artificial intelligence requires a change in the legal landscape.

Katkova's (2020) article examines the legal issues of artificial intelligence and the idea of creating a Map of Legal Reforms for the Use of Artificial Intelligence – an analytical, policy document that should contain the vision of the civil sector regarding the priorities of the use and development of the legal environment for developers and users of artificial intelligence. Attention is focused on the following issues: the status of artificial intelligence, compensation for damage caused by artificial intelligence, protection of personal data, intellectual property, and artificial intelligence, and problems of discrimination in connection with the use of artificial intelligence.

An important study in the field of the use of artificial intelligence in the civil process was conducted by Karmaza (2021). The author believes that the difficulty of using digital technologies in the civil process lies in the presence of an appropriate regulatory and legal framework; implemented cyber security measures; observance of the general rights and freedoms of a person and a citizen, established at the international and national levels; proper technical support of the relevant e-programs; the availability of knowledge and the ability to apply it by citizens; in public trust. Also, according to the researcher, a robot with artificial intelligence in Ukraine is not a subject of procedural legal relations or a subject of other legal relations, but such a robot as an "electronic person (personality)" can acquire legal status, provided that the general principles of use of the artificial intelligence are adhered (principles of respect for basic human rights and freedoms, non-discrimination, quality and safety, transparency, impartiality, justice, human control), and the limits, order, and methods of its activity will be determined by the law.

Klymenko (2021) considered the peculiarities of compensation for damage caused by robotics and artificial intelligence in her work.

Kozhevnikova (2022) considered problematic aspects of the use of artificial intelligence in civil proceedings. Thus, in her opinion, the application of artificial intelligence is possible in terms of the use of information technologies from artificial intelligence (for example, chatbots), at the same time, it is currently impossible to replace a judge with artificial intelligence in the implementation of judicial proceedings. The implementation of artificial intelligence in the consideration of civil cases will be effective when the technical support will be of a high level and will be able to ensure the adherence to all judicial principles, will ensure the transparency, impartiality, and fairness of the consideration of the case, will guarantee software and technical reliability and security for all participants in the judicial process.

The subject of Kolodin and Baytaluk's (2020) research was the issue of liability for damage caused by robotic mechanisms with artificial intelligence. The authors are convinced that the presence of a balanced doctrinal approach to the regulation of relevant relations will make it possible to develop the necessary changes to the current legislation in the researched area. In particular, it is worth supplementing the Civil Code of Ukraine with a special norm that would provide rules for compensation for damage caused by robots, and it is also worth using the concept of "quasi-subjectivity" of robots, with responsibility for damage caused by robots on the persons responsible for their creation and operation.

Kryvytskyi (2021) studied the trends and potential of artificial intelligence as a tool of legal reform. The scientist concluded that the potential of artificial intelligence technologies can contribute to the solution of complex, high-priority legal tasks, and the implementation of significant and progressive legal transformations (innovations in the legal system and legislation system). The use of artificial intelligence during legal reform makes it possible to significantly expand the horizons of legislative activity, improve the legislative process, and diversify the legislative technique.

Kulynych (2017) considered the possibility of granting the rights to the robots. The scholar claims that giving robots the status of subjects/participants in civil legal relations is aimed at satisfying the interests of robots with self-awareness. There is no practical need to provide such status to robots that are not self-aware. Before giving robots the status of subjects/participants of civil legal relations, the rights and obligations arising from the actions of robots will be considered to be the rights of the persons who use them to acquire/create the corresponding civil rights and obligations.

The issue of legal regulation of the use of artificial intelligence in notarial and civil processes as an element of protection of the rights of residents (inhabitants) of the temporarily occupied territories of Ukraine was considered by Lutska (2020).

Martsenko and Kucharska (2020) considered the prospects of recognizing new subjects of civil rights (legal relations), including artificial intelligence.

Research into the legal nature of artificial intelligence was carried out by Michurin (2020).

Onyshchuk (2021) considered in his work the peculiarities of the relationship between the law and morality while using artificial intelligence.

The question of the application of artificial intelligence in justice in the period of development of digital transformations of society was considered by Rykov (2020).

Sydorchuk (2017) highlighted the philosophical and legal problems of using artificial intelligence in his work. In particular, it was determined that moral and ethical problems give rise to legal issues related to the proper legislative regulation of the systems with artificial intelligence in various fields, including the acute issue of intellectual property of such systems, responsibility for damage caused by them, misuse of systems with artificial intelligence.

The problematic aspects of the definition and normative consolidation of the concept of "artificial intelligence" in the legislation of foreign countries and Ukraine were considered by Telychko and Rekun (2021).

In his work, Yavtushenko (2021) explored artificial intelligence from the perspective of civil law regulation. In particular, the author drew attention to the fact that artificial intelligence in the modern sense can be characterized as a specific type of autonomous computer program that can fully think and act like a person, and also has skills for independent (machine) learning, capable of making its own meaningful decisions in

situations not programmed in advance. The concept of "limited artificial intelligence" can be applied to autonomous computer programs that have all the characteristics of artificial intelligence but are capable of reproducing only individual intellectual processes of a person.

And despite a large number of studies on artificial intelligence, there is no comprehensive study devoted to the problems of implementing the interaction of the civil process and artificial intelligence. This makes it necessary to consider this topic in more detail.

General provisions on artificial intelligence

Scholars have been studying artificial intelligence since the 50s of the 20th centuries. The term "artificial intelligence" was first proposed in 1956 at Stanford University (USA). Thus, in this definition, artificial intelligence is understood as the ability of automatic systems to take over the functions of a person to choose and make optimal decisions based on previously acquired life experience and analysis of external influences. At the same time, the Oxford dictionary proposes to define artificial intelligence as the theory and development of computer systems capable of performing tasks that usually require human intelligence, such as visual perception, language recognition, decision-making, and translation between languages (Kryvytskyi, 2021).

The distinction between artificial intelligence and a computer program seems problematic. Let's consider this in more detail. Artificial intelligence is capable of working both on algorithms embedded in it in advance, and independently analyzing conditions and finding solutions that were not previously written for it, that is, finding its version of the implementation of a function in the absence of the prescribed conditions for its implementation. Computer programs can be divided into conditionally controlled (the operation of which requires the participation of a human operator) and autonomous. The features of autonomous programs also include the following: the ability to obtain and independently process information about the environment; the ability to work for a long period without human intervention; the ability to avoid creating dangerous situations for people, property, or oneself (Kryvytskyi, 2021).

So, as we can see, a computer program and artificial intelligence are not identical concepts. Given the possibility of artificial intelligence to make independent decisions and its features, opinions are increasingly being heard in the scientific community about the need to attribute artificial intelligence not to objects, but to subjects of law.

As already mentioned, the readiness to use artificial intelligence in ordinary processes (judicial, administrative) is evidenced by the European Union's rule-making activity. Therefore, artificial intelligence can be useful for building computational tools useful for legal practice.

Problems of implementation of artificial intelligence in the legal education and civil process

Legal education's epistemology must shift from the "retro" mode of doctrinal past (where past solutions are applied to present and future problems and the teacher's authority possesses all knowledge) to the "futuristic/projective" mode, wherein students are encouraged to tackle difficult problems head-on by building their skills and coming up with novel solutions. This new paradigm requires an interdisciplinary approach, drawing on fields of study that aren't typically part of a lawyer's toolset. Future professionals may benefit from a focus on legal education since it will provide them with the communication (collaborative working) skills, job possibilities, and the capacity to cope with the social realities of new technology. Coding and other technological innovations should be emphasized. The multidisciplinary approach should also emphasize recently implemented technologies to help students improve their imaginative, potential, and projective abilities based on use and inference. Training in conventional legal skills and abilities (still relevant in today's digital environment) must be linked with training in emerging technologies like blockchain,

artificial intelligence, smart contracts, databases, and quantum technologies (among others) to develop new solutions to new difficulties (Zia-ud-Din, 2023).

The main principles of the use of artificial intelligence in justice are determined by the European Ethical Charter on the use of artificial intelligence in judicial systems and their environment (European Commission for the Efficiency of Justice, 2018).

At the same time, the scientific doctrine highlights the main principles of using artificial intelligence in the justice system, which includes:

- 1) the principle of respect for basic rights, which provides for the introduction of artificial intelligence within the limits, in a manner and in an order that will not violate basic human rights guaranteed at the international and national levels;
- 2) the principle of non-discrimination, which involves preventing the development or strengthening of any discrimination between people or groups of people;
- 3) the principle of quality and security, which consists in ensuring that court decisions and the data used in them are protected and located in a secure technological environment;
- 4) the principle of transparency, impartiality, and fairness are the principles of ensuring the absence of the human factor when using artificial intelligence (preventing human intervention);
- 5) the principle of "under user control" should ensure a high level of autonomy and user awareness (Kryvytskyi, 2021).

We strongly believe that the use of artificial intelligence can indeed be useful in justice as an aid, but as a direct participant in the administration of justice will have risks in the context of possible software failures.

Article 14 of the Civil Procedure Code of Ukraine stipulates that courts operate a Unified Judicial Information and Communication System, which aims to ensure the exchange of documents in electronic form between courts, between the court and the participants in the legal process, between the participants in the legal process, as well as recording the legal process and participation of subjects in the legal process in the court session in the mode of video conference (Law 1618-IV, 2004).

The "Electronic Court" aims to speed up judicial processes, and ensure the accessibility of the civil process, reliability, security of information, and transparency of the consideration of cases. Moreover, the digitization of documents and processes plays an important role in guaranteeing the state's protection of the fundamental rights and freedoms of a person and a citizen, ensuring accelerated and unified data processing, every process in the relevant procedure becomes easier due to the use of digital tools.

The legislation of Ukraine does not provide for the regulation of artificial intelligence as a subject of procedural legal relations or a subject of other legal relations. But an "electronic person (personality)" can acquire such legal status, provided that the general principles of using artificial intelligence are observed. At the same time, there are no direct legal or other obstacles to the introduction of artificial intelligence in the legal process in Ukraine, but a special law has not been adopted.

Katkova rightly proposes a Map of legal reforms for the use of artificial intelligence in Ukraine, which should contain such areas as civil legislation (definition of legal personality, in particular, in which situations it can act as an intermediary of a natural or legal entity; conclude contracts; carry civil legal responsibility) (Katkova, 2020). We agree with the position of the researcher and believe that Ukraine needs to adopt a separate legislative act in the field of using modern digital technologies and artificial intelligence.

Analyzing foreign experience, it is worth noting that in European justice systems, the use of artificial intelligence algorithms remains mainly an initiative of the private sector and is not properly perceived by

the state, and individual issues of the use of artificial intelligence are subject to criminal prosecution. For example, in France criminal liability is provided for the analysis of judicial practice, which makes it possible to predict what decision a particular judge may make in a case. Such responsibility was accepted under the pressure of the judicial corps, arguing that court decisions are used to analyze the pattern of behavior of a particular judge, which violates his personal rights (Burov, 2020).

Regarding the problem of implementation of artificial intelligence in the civil process, the question arises regarding the scope and directions of such application. For example, when considering a civil case of minor complexity, it is possible to use an artificial intelligence system that will be able to independently summarize and analyze legislation, and court practice and thus help the judge make a fair and legal decision. This will help in the future to reproduce not only the modern human model of cognition and data reproduction but also to speed up and relieve the work of judges, making it even more efficient. At the same time, the main role of artificial intelligence should be defined not as a replacement for the judge in the implementation of judicial proceedings, but as a kind of assistance for the administration of justice by the judge. However, there are risks of using artificial intelligence in the civil process, including a lack of adequate material support, and an insufficient number of leading specialists in the field of information technologies. But there are also advantages, which consist in the possibility of speeding up and relieving the judicial proceedings, and in general, making the work of the courts more efficient.

4. Conclusions

As a result of the research, the problems of implementing artificial intelligence in the legal education and civil process were analyzed and the following conclusions were drawn.

1. Artificial intelligence in the modern sense can be characterized as a specific type of autonomous computer program that can fully think and act like a person, and also has skills for independent (machine) learning, capable of making its own meaningful decisions in situations not programmed in advance.
2. Human legal professionals will always be needed, but they must adapt their knowledge to a world that is always evolving. In today's conditions, the skills of working with innovative technologies should become an indispensable attribute of a modern qualified lawyer.
3. Training of law students in conventional legal skills and abilities must be linked with training in emerging technologies like blockchain, artificial intelligence, smart contracts, databases, and quantum technologies to develop new solutions to new difficulties.
4. The problems of implementing artificial intelligence in the civil process arise due to the lack of adequate material support, an insufficient number of leading specialists in the field of information technologies, and the lack of a reliable personal data protection system. This makes the task of preparing students of legal educational institutions taking into account modern technologies extremely important.
5. When implementing artificial intelligence technology in civil proceedings and in jurisprudence on the whole, it is important to ensure compliance of digital technologies with the principle of the rule of law and the non-violation of the fundamental rights and freedoms of citizens. AI decisions must be explainable, and humans must control the use of AI in civil proceedings.

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