

Intellectual Property and Artificial Intelligence: Regulatory Challenges and Solutions

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ABSTRACT

Objective: This study aims to analyze the impact of artificial intelligence (AI) on intellectual property, focusing on the challenges and opportunities it presents in the field of copyright. It explores the implications of AI-generated works, addressing issues of authorship and legal responsibility. **Method:** A comprehensive analysis was conducted, examining current applications of AI in creative industries, as well as reviewing international and national copyright legislation. Comparative insights were drawn to identify gaps and propose solutions for equitable copyright distribution between AI users and developers. **Results:** Findings indicate that the lack of a clear legislative framework for AI-generated works leads to significant disputes over authorship and ownership. National and international experiences highlight the urgent need for harmonized regulations to ensure fair and transparent copyright allocation. **Novelty:** This research contributes to the field by proposing a legislative definition of AI tailored to copyright contexts and offering actionable recommendations for addressing the ethical and legal complexities of AI-created content. These findings serve as a foundation for policymakers to adapt copyright laws in the era of AI.

INTRODUCTION

Being one of the most influential innovations of the XXI century, which has challenged many spheres of humanity's life activity - artificial intelligence (AI) marginalizes intensive growth of application. If earlier, for example, in the medieval period in trading platforms - markets, bazaars, where traders as the main sources of information about goods, their origin and quality, presented and directly realized products at a time when there were no certain brands, thanks to which consumers easily learned about the reliability of the information provided about the goods and had consumer confidence, in the present time, their role is replaced by various types of artificial intelligence. With AI's quick filters and recommendations, consumers use it as an intermediary when purchasing goods or using the services of suppliers.

In accordance with the Decree of the President of the Republic of Uzbekistan "On measures to create conditions for the accelerated introduction of artificial intelligence technologies" from 17.02.2021 under № PP-4996 provides for the application of artificial intelligence in medicine to diagnose diseases and develop personalized treatment plans, in education to create adaptive curricula and personalize the learning process, in transport to manage road traffic and improve safety, in industry for the automation of production processes.

With the intensive development of artificial intelligence is becoming more and more widely used for creative purposes, as many users of artificial intelligence services, for example, such as Google Deepmind [1] or ChatGPT [2] create music, videos, games, write books, as well as create programs for electronic computing machines, etc., which can be assumed the entry of AI into the participation in social relations concerning intellectual property, thus characterizing as a new need for appropriate regulation of its influence and regulation of the intellectual property rights of the public.

RESEARCH METHOD

The World Intellectual Property Organization, in its report “Trends in Technology” of January 2019, explains that there are 20 most innovative areas in which artificial intelligence is being actively implemented. These areas include: transportation, medicine, banking, entertainment, various security systems, industry, agriculture and others [3]. The emergence of innovative actors in this field may give rise to a number of issues that need to be fundamental at first and optimal in the future approaches to its functioning and regulation, because for example, if from this context to give an example of a new work in the form of a novel or poem written by the AI itself without the creative intervention of the AI user, the specification of the AI as a participant in intellectual property law may cause misunderstandings. This scheme may also raise issues relating to copyright or legal liability in cases of infringement.

RESULTS AND DISCUSSION

It should be emphasized that artificial intelligence is a dynamically progressing field of computer science, the range of applications of which can include logical inference based on the presented knowledge, playing chess, proving scientific concepts, composing poems, etc. I. Rich states that AI is a set of functions that are related to perception, analysis, reasoning, knowledge utilization, action planning and similar operations in which intellectual activity is manifested [4]. If we consider AI from the point of view of intellectual property law, then according to paragraph 2, part 1, article 1 of the Law of the Republic of Uzbekistan “On Legal Protection of Programs for Electronic Computing Machines and Databases” a computer program is a set of data and commands expressed in an objective form, designed for the operation of computers, computer networks and other computing devices to achieve a certain result, and paragraph 3, part 3, part 1, article 1031 of the Civil Codex of the Republic of Uzbekistan computer programs and databases are objects of intellectual property. Due to the absence of a clear legislative definition, it is reasonable to classify AI as a computer program. According to P.M. Morhat, artificial intelligence is defined as a kind of computer program, which is a fully or partially autonomous self-organizing computer-hardware system. Such a system can be virtual, cyberphysical or biocybernetic and has the ability to think, self-organize, learn and make independent decisions [5]. Thanks to the implemented algorithms and code schemes, AI along with humans, processing the received knowledge and analyzing the perceived

phenomena, can independently or with minimal human intervention create the results of intellectual property. As J. Allen suggests, “Artificial intelligence is the science of developing machines that solve problems that humans can solve...” [6]. Due to the innovative approaches to creating machine-like structures like AI, AI can also show its position in the field of intellectual property rights.

According to the World Intellectual Property Organization (WIPO), since the concept of “artificial intelligence” emerged in 1956, 340 thousand patent applications for inventions in this field have been filed worldwide, which averages more than 5 thousand applications per year [7]. The largest number of applications is filed in the USA (more than 150 thousand) and in China (more than 135 thousand), which is almost 85% of the total number of applications. At the same time, about 20% (68 thousand) of patent applications in the field of artificial intelligence are filed through the international procedure of WIPO (PCT system - Patent Cooperation Treaty). Among the leaders in filing applications in the field of AI are IBM, Microsoft, Toshiba, Samsung, NEC and the Chinese Academy of Sciences (CAS). Each of these organizations has filed several thousand patent applications, for example, IBM has submitted more than 8 thousand applications.

The term “intellectual property” is known to encompass any property that is generally agreed to be intellectual in nature and subject to protection. This includes, but is not limited to, scientific and technological developments, literary and artistic works, trademarks, business names, industrial designs and geographical indications [8]. Modern legislation and international agreements define intellectual property as a set of exclusive rights of personal and property nature to the results of intellectual, primarily creative, activity, as well as to certain other objects equivalent to them. The specific list of such objects is established by the legislation of the country concerned, taking into account the international obligations assumed. In the Republic of Uzbekistan, according to Article 1031 of the Civil Codex, intellectual property objects are classified as follows:

- 1) The results of intellectual property, i.e. works of science, literature and art, performances, phonograms, broadcasts of broadcasting or cable broadcasting organizations, programs for electronic computing machines (hereinafter - computers) and databases, inventions, utility models, industrial designs, selection achievements, undisclosed information, including production secrets (know-how).
- 2) Means of individualization of subjects of law, goods, works and services, which include firm names, trademarks (service marks), geographical indications, appellations of origin of goods.
- 3) Other results of intellectual activity and means of individualization of subjects of civil law, goods, works and services in cases stipulated by the legislation.

Article 2, paragraph viii, of the Convention established by the World Intellectual Property Organization (WIPO) stipulates that intellectual property, like other types of property, includes such rights as those relating to literary, artistic and scientific works,

performing artists, sound recordings, radiation and television broadcasts, innovative inventions in all fields of human activity, scientific discoveries, industrial designs, trademarks, service marks, trade names, trademarks, service marks, trade names, trademarks, service marks and other intellectual property rights.

The specificity of intellectual property lies in the peculiarity of manifestation of human creative activity. The author of a work, which is the result of creative or intellectual activity, is recognized as a person or a citizen, by whose creative work it was created. The processes of creative (mental) activity play a significant role in the creation of intellectual property and in its legal regulation [9]. However, contradictions may arise with respect to copyright in cases of creation of intellectual property result by Artificial Intelligence.

In accordance with part 1 of Article 1046 of the Civil Codex of the Republic of Uzbekistan, the author of a work is a citizen whose creative labor created it. Therefore, the AI cannot be classified as the author of the result of intellectual property. The similar question also concerns the moments of minimal human intervention in the creation of the result of intellectual property by Artificial Intelligence. Many such machine structures require only a detailed description of the intellectual property object. For example, in the field of industrial designs, a type of artificial intelligence such as DALL-E, [10]. the user describes the desired result, with which the AI generates various portraits, images, landscapes, logos, trademarks, etc. Despite such influence of a person through AI on the creation of the result of intellectual property, it is unreasonable to characterize this person as an author, as there is no creative activity in his actions. Subparagraph 2 of paragraph 26 of the Resolution of the Plenum of the Supreme Court "On Some Issues of Consideration of Cases Related to Intellectual Property" dated 23.09.2023 under No. 19 clarifies that an individual who created a work by his creative labor is considered its author, while persons who provided him with technical support (e.g., typing, correction, etc.) are not recognized as co-authors of the work. Such cases have been observed, for example, in 2019 in Singapore, an artificial intelligence wrote several articles for Esquire magazine [11]. Also in 2019, applications for inventions created solely by artificial intelligence without human involvement were filed with the UK Intellectual Property Office and the European Patent Office. The programs create paintings, music and other objects of copyright [12].

Thus, the work by virtue of the commented legislative norms the author of such results of intellectual activity cannot be Artificial Intelligence regardless of human intervention.

In the UK, the Copyright, Designs and Patents Act 1988 recognizes the possibility of protecting the results created by artificial intelligence, introducing the concept of "computer work" as a special object of copyright. However, despite recognizing the possibility of protection of such artificial objects, the law reserves the rights to them only to a natural person, stating that such person (author) "...shall be deemed to be the person

who has taken the necessary steps to create the work” (Article 9(3) “Authorship of the work”) [13].

A similar practice can also be observed in US law, where the US Copyright Act (Title 17, 35 of the United States Code) protects exclusively works created by human beings. This provision means that only works in which human creativity is manifested can qualify for copyright protection [14]. Currently, works created solely by artificial intelligence (AI) without significant human intervention cannot be registered as protected works of authorship. In order for a work to receive copyright protection, it is necessary for a human to make a creative contribution to its creation. This can include writing text, creating musical compositions, designing artwork, etc. If the work was created entirely by the AI without any human input, it cannot be registered as a protected copyright work. For example, if a neural network independently created a painting or musical composition without any human intervention, such a work would not be recognized as an object of copyright. In 2019, the U.S. Copyright Office denied copyright registration for a work created by an AI, pointing out that the law requires a human to be the author of the work [15]. This decision confirms the current legal position that copyright only protects works created by humans. Where a human provides significant creative intervention in the process of creating an AI work, such a work may be recognized as joint authorship. This means that the rights to the work can be shared between the human and the AI if the human contribution is substantial. Thus, in the U.S., copyright law only protects works that were created by a human or with significant human contributions. Works created solely by AI, without any human intervention, cannot be registered as protected copyright works.

According to Vashenyak N.E. for operational regulation and thorough law enforcement practice it will be advisable to classify these invented results of intellectual activity into two categories: intellectual property objects created by AI with and without human intervention, thus defining the boundary between the two objects, where with human intervention the result of intellectual property will be considered as belonging to the owner of the AI itself, which may or may not be transferred to the rights of the AI user. In his opinion, this approach will help to balance the interests of developers, users and society as a whole when using AI in the creative process. As for the intellectual property objects formed by AI themselves, they should be recognized as public domain [16].

This approach may become an effective solution to eliminate conflicts related to the legal status of intellectual property objects created by artificial intelligence. If the user interferes minimally or significantly in the process of creation of an AI intellectual property object, the issue of authorship should be resolved before such actions are initiated. Since many AIs are publicly available, it is important that the user and the owner of the AI in the user agreement define in advance the rules governing the authorship of the created products. This will clearly establish either co-authorship between the user and the owner, or full copyright of the AI user, depending on the nature

of their intervention. This approach is also in line with the principle enshrined in Article 92 of the Civil Code of the Republic of Uzbekistan, according to which the fruits and income generated by a thing belong to its owner, unless otherwise established by law or contract.

Giving artificial intelligence the vocation of an author may give rise to a number of questions regarding the realization of exclusive rights and legal liability. According to part 1 of Article 1033 of the Civil Codex of the Republic of Uzbekistan, the authors of the results of intellectual activity have personal non-property and property rights in respect of these results. If in the process of realization by the artificial intelligence of the legally enshrined rights will allow offenses, the procedure of bringing the artificial intelligence to any responsibility can not affect the further prevention or crossing of the offense, as AI does not possess human consciousness, but only a programmed algorithm. Further AI developers can “reprogram” AI and without the use of AI coercion. Even if, for example, property liability is applied to the AI, how the artificial intelligence will compensate for damages, for example, during a Tesla car accident due to an AI error in traffic, remains a mystery, as the possible options for compensation are the driver or the company that implemented the product, which is to blame for the accident.

Before determining the legal status of artificial intelligence (AI), the concept of AI should be specified at the legislative level for a more authentic interpretation of this concept. For example, in the Decree of the President of the Russian Federation No. 490 dated October 10, 2019, AI is defined as a complex of technological solutions that allows imitating human cognitive functions, including the search for solutions without a predetermined algorithm, and obtaining results comparable or superior to the results of human intellectual activity. This complex includes information and communication infrastructure, software with machine learning methods, as well as processes and services for data processing and solution search.

Enshrining the concept of AI, taking into account the above-mentioned aspects, into national legislation may help:

First, a more precise application of copyright rules to works created with the participation of AI. If AI is clearly defined as a distinct category of technology, it will make it clearer which works belong to the owners or the AI itself and which belong to the user, and how AI's contribution to content creation should be taken into account. It has important implications for protecting copyright and ensuring a fair distribution of rights between AI developers, users and other stakeholders.

Secondly, it helps to resolve issues related to authorship and rights to works created by AI. If legislation clearly defines what AI is and how it functions, it will make it easier to determine authorship and rights to works created with the help of AI. For example, in cases where AI creates a work without significant human intervention, a statutory definition would help establish who would be considered the author - either in the form of the public domain, or (since recognizing AI as the author cannot be reconciled with

issues of legal liability) the user, or their joint authorship with the owner (the AI developer) depending on the terms of the user agreement.

CONCLUSION

Fundamental Finding : The findings suggest that with the increasing role of AI in creative processes, there is a growing necessity for legal frameworks to address intellectual property (IP) issues. Current international practices, as seen in the USA, UK, and Uzbekistan, limit copyright to humans who contribute creatively, excluding works solely generated by AI. This highlights the importance of defining AI within legislative frameworks to effectively manage authorship and IP rights. **Implication :** The analysis implies that regulating AI's impact on intellectual property requires a balanced approach in user agreements to account for both developers' and users' interests. By establishing clear guidelines on authorship and rights allocation before the creation of intellectual objects, disputes can be minimized. Additionally, treating fully AI-generated works as public domain might provide a practical resolution to copyright concerns. **Limitation :** One limitation is the challenge of holding AI accountable for its actions, as it operates based on algorithms rather than human intent. This complexity makes it difficult to attribute liability and ownership, especially when human intervention is minimal or absent. Moreover, the lack of universally agreed definitions of AI in legislation adds to the ambiguity in IP regulation. **Future Research :** Future research should explore the development of comprehensive legal frameworks that not only define AI but also address accountability, ownership, and IP rights in diverse jurisdictions. Studies could also investigate the ethical implications of treating AI-generated works as public domain and propose innovative solutions for balancing technological advancement with fair intellectual property practices.

REFERENCES

- [1] DeepMind, "URL: <https://deepmind.google/>", accessed Jun. 28, 2024.
- [2] ChatGPT, "URL: <https://chatgpt.com/>", accessed Jun. 28, 2024.
- [3] WIPO, "Technology Trends: Artificial Intelligence," URL: https://www.wipo.int/tech_trends/ru/artificial_intelligence/, accessed Jun. 28, 2024.
- [4] V.N. Bondarev and F.G. Ade, *Artificial Intelligence*, Sevastopol: SevSTU Publishing House, 2002, pp. 13-14.
- [5] P.M. Morhat, *Artificial Intelligence: A Legal Perspective*, Moscow: Buki Vedi, 2017, 257 p.
- [6] J. Allen, "AI Growing Up," *AI Magazine*, vol. 19, no. 4, pp. 13-23, 1998.
- [7] WIPO, "Technology Trends: Artificial Intelligence," *WIPO Report*, 2019, 158 p., URL: http://www.wipo.int/tech_trends/ru/artificial_intelligence/story.html, accessed Aug. 1, 2024.
- [8] K.A. Lazarchuk and A.P. Kuzmich, *Civil Law: Special Part*, Gorki: BGSHA, 2018, p. 282.
- [9] E.E. Tabaran, "Intellectual Property as a Result of Creative Activity," *Economics. Business. Banks*, no. S8, pp. 85-89, 2017, EDN ZXQLVX. OpenAI, "DALL·E 2," URL: <https://openai.com/index/dall-e-2/>, accessed Jul. 10, 2024.
- [10] IT World, "Market News," URL: <https://www.it-world.ru/it-news/market/145608.html>,

- accessed Jul. 15, 2024.
- [11] N.L. Malakhova, Y.P. Prisyazhnyuk, and Y.S. Speranskaya, "Results of Intellectual Activity Created by Artificial Intelligence," *Russian Law Journal*, vol. 2, no. 3, p. 58, 2020.
- [12] WIPO, "Intellectual Property Law," URL: <https://www.wipo.int/edocs/lexdocs/laws/en/gb/gb229en.pdf>, accessed Jul. 15, 2024.
- [13] Title 17, 35 United States Code, §100(f), URL: <https://www.law.cornell.edu/uscode/text>, accessed Aug. 4, 2024.
- [14] The Verge, "U.S. Copyright Office Rejects AI-Generated Art," URL: <https://www.theverge.com/2022/2/21/22944335/us-copyright-office-reject-ai-generated-art-recent-entrance-to-paradise>, accessed Aug. 4, 2024.
- [15] N.E. Vashenyak, "Artificial Intelligence and Copyright: International Experience, Ethical Dilemmas, and the Way of Regulation in Russia," *International Scientific Journal "VESNIK NAUKI"*, vol. 3, no. 72, pp. 178-179, Mar. 2024.

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