Research on Intellectual Property Rights of Generative Artificial

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Abstract: This article, against the backdrop of the development of generative artificial intelligence technology, focuses on the copyright protection of AI-generated works, systematically exploring their legal attribute definition, rights ownership disputes, and judicial practice dilemmas. In the face of the current legislative vacuum in the field of intellectual property protection for generative artificial intelligence in China and the chaotic standards in judicial practice, by analyzing typical cases such as the Filing v. Baidu case and Tencent v. Yingxun case, it proposes a theoretical framework of "tool attribute - user rights", advocating for the establishment of a system rule that prioritizes contracts and takes the substantive contributor as the rights subject. The research suggests promoting legislative innovation from three dimensions: improving the criteria for originality judgment, setting up reasonable use exceptions, and building a hierarchical protection system, to provide a Chinese solution for intellectual property governance in the AI era.

Keywords: Artificial Intelligence; Judicial Practice; Intellectual Property Protection

1 Research Background and Significance

Research Background: In recent years, China's artificial intelligence (AI) industry has made positive progress in technological innovation, industrial ecology, and integrated applications. With the rapid development of cutting-edge technologies such as the new generation of generative AI, large language models like ChatGPT have quickly gained widespread attention, posing a series of complex issues for intellectual property protection.

As many countries, including China, currently lack specific legal provisions on whether works generated by AI are entitled to intellectual property rights, and the academic community has not yet reached a consensus, this paper will attempt to start with the two mainstream academic viewpoints—"affirmative theory" and "negative theory"—to elaborate on the internal and external problems and challenges faced by the protection of intellectual property rights for AI-created works. From the perspective of intellectual property protection, it will explore the relevant legal issues concerning copyright protection for AI-created works from multiple angles, including logic, reasoning, legislative purposes, and historical evolution, combined with practical cases and the development of AI technology. It will interpret relevant laws and regulations and put forward its own insights on issues such as whether AI-generated content is eligible for copyright, the ownership of copyright for such content, and how the current copyright law can adapt to the challenges brought by AI technology.

Research Significance: Given the current boom in the generative AI market, the number of legal disputes related to AI is expected to increase significantly in the foreseeable future. Exploring relevant legal issues in advance, establishing unified standards for related cases, forming judicial consensus, and providing judgment experience are of significance in the following two aspects:

Firstly, for judicial practice, clarifying the nature and ownership of rights of AI-generated products is

conducive to promoting the institutional construction of copyright protection in China's judicial field, improving trial bases, and enhancing trial fairness.

Secondly, for the AI technology and its related cultural and entertainment industries, due to the lag of legislation, the ambiguity of judicial identification standards, the complexity of involved legal issues, and the universality and uncertainty of legal risks, the interaction of these factors has led to the current contradiction between intellectual property protection and the development of AI technology. Reconciling and resolving this contradiction will greatly help promote the development of related industries and the stable operation of the market economy.

2 Current Research Status

Currently, domestic research on copyright protection for generative artificial intelligence outputs lags significantly behind that of foreign countries. As early as 1981, American scholar Buffer initiated discussions on the copyright issues of AI-generated works with the title "Can a Computer Be an Author?" Just one year later, in 1986, Samuelson also specifically explored the issue of rights ownership for computer-generated works. In contrast, domestic research on this topic basically started after 2017, and the academic community is still in the stage of exploration without reaching a consensus. There are mainly two viewpoints: the "affirmative theory" and the "negative theory".

The negative theory holds that AI-generated works lack originality and should not be categorized as "works" in the legal sense, thus cannot be protected by copyright law. That is, only works created by natural persons can be recognized as works under the copyright law.

On the contrary, the affirmative theory argues that, in the context of copyright protection for AI-generated works, although they cannot be directly protected by copyright law, since AI-generated outputs embody the creators' thinking in the creation process, and the creators and users have also incorporated their own unique understandings and thoughts in this process, their copyrights should be recognized and protected within a certain scope.

3 The Current Development Status of Intellectual Property Protection for Generative Artificial Intelligence Outputs in Chinese Law

At Due to the lag of legislation at the current stage, China has no special laws specifically targeting the intellectual property protection of generative artificial intelligence outputs. Therefore, in judicial practice, the qualitative determination is usually made by referring to the general provisions of intellectual property protection laws. Hence, starting from the legislative purposes and development history of China's intellectual property protection laws and extending them to cases involving the intellectual property protection of generative artificial intelligence outputs will be an important means for us to deal with relevant legal issues. The legal system for intellectual property protection in China has undergone a process from scratch to gradual improvement. Driven by the needs of integrating into international rules and promoting its own development, it has achieved a leap from "passive legislation" to "active leadership" over more than 40 years. In the future, with technological innovation and intensified global competition, China's intellectual property protection will pay more attention to improving quality, and balancing international cooperation and local innovation.

3.1 The legislative purpose of China's intellectual property protection laws

The core goal of China's intellectual property legal system is to balance the interests of right holders and

the public interests of society, which is specifically reflected in the following

3.3.1 Protecting the legitimate rights and interests of right holders

By clarifying the scope of intellectual property rights, the term of protection, and the channels for relief, it ensures that right holders such as creators and inventors can obtain economic returns and spiritual recognition from their intellectual achievements, thereby stimulating the enthusiasm and creativity of innovation subjects. For example, the protection of authors' right of signature, right of reproduction, right of information network dissemination, etc., under the Copyright Law enables creators to gain benefits through authorized use and other means, thus motivating them to continuously produce new works.

3.1.2 Promoting the dissemination and application of intellectual achievements

Intellectual property does not grant right holders an absolute monopoly right. Instead, on the basis of protection, it encourages intellectual achievements to enter the market circulation, promoting technological progress and cultural prosperity. For instance, the Patent Law stipulates a patent disclosure system, requiring patent holders to disclose the content of their inventions and creations. This not only facilitates the public's understanding and utilization of relevant technologies but also provides a foundation for subsequent innovations, avoiding repetitive research and development.

3.1.3 Maintaining market competition order

It prevents others from unauthorized use of the intellectual achievements of right holders, curbs unfair competition practices, and ensures that market entities can compete in a fair and just environment. The Trademark Law protects the exclusive right to use trademarks, preventing consumers from being confused about the source of goods or services, maintaining the normal transaction order of the market, and promoting the healthy development of the market economy.

3.1.4 Promoting social, economic, and cultural development

Through the protection and rational utilization of intellectual property, intellectual achievements are transformed into real productivity, promoting the development of related industries, and thereby driving the economic growth and cultural progress of the entire society. For example, in the high-tech industry, the protection of patents can incentivize enterprises to increase research and development investment, improve core competitiveness, and drive industrial upgrading.

The core logic of China's intellectual property legislation is "protecting innovation, promoting application, and driving development", which not only bases itself on the needs of domestic innovation but also actively integrates into the global governance system.

By continuously improving the legal framework, it aims to build a dynamic balance among right holders, users, and social public interests, providing institutional guarantees for a knowledge-driven economy. Therefore, generative artificial intelligence, as an important product and participant in the socialist market economy, deserves certain protection in terms of intellectual property rights

3.2 Current judgment cases

As mentioned earlier, due to the lag of the existing legal system in legislation related to AI-generated content, judicial authorities at all levels often interpret the provisions concerning intellectual property protection in different directions in practical cases. Therefore, there is a serious issue of unclear penalty standards in current relevant cases in China. Some representative cases are as follows:

3.2.1 The case of Beijing Feilin Law Firm v. Baidu Inc

Feilin Law Firm used AI software to generate financial news articles and claimed that Baidu had infringed its copyright. In this case, the court held that the AI-generated content lacked human creative intellectual activity and did not constitute a work, thus dismissing the claim. It clarified that content generated purely by algorithms is difficult to obtain copyright protection.

3.2.2 The case of Tencent Holdings Limited (Shenzhen) v. Yingxun Company

Financial news generated by Tencent's AI was used by Yingxun Company without authorization. In this case, the court recognized the contribution of humans in algorithm design and data screening, held that the generated content was original and constituted a work, and Tencent was awarded 1,500 yuan in compensation. It clarified the principle that "human-machine collaborative creation" can obtain copyright protection.

3.2.3 In addition, for the United States, which started earlier and has relatively sound relevant laws and regulations, there are also some related cases for reference.

For example, in the case of Ross Intelligence Inc. v. Thomson Reuters, Ross Intelligence used Westlaw's judgment summaries to train its AI legal research platform without permission. In the end, the federal judge ruled that this constituted infringement because the data was not given "transformative use" (i.e., a new function or purpose). This case reflects that the use of AI training data must comply with the "transformative use" principle of copyright law.

It is not difficult to see from the above judgment cases that the judgments related to the intellectual property rights of AI-generated works in current Chinese and foreign cases mainly reflect the following two major trends: 1. Ownership of rights: Emphasizing the substantial contribution of humans in links such as algorithm design and data screening, and adopting the "unity of subjectivity and objectivity" standard to determine originality. 2. Determination of infringement: Platforms must assume reasonable duty of care for AI-generated content, including keyword filtering and data legality review.

These cases reflect the exploration of the judicial system in balancing technological innovation and intellectual property protection, and provide important references for subsequent legislation and adjudication.

4 Definition of the attributes of generative artificial intelligence outputs

As can be seen from the numerous aforementioned cases, an important prerequisite for judgments in current judicial practice regarding cases involving intellectual property protection of generative artificial intelligence outputs is how to define their attributes. To address this issue, we can make judgments from two aspects: "instrumental attribute" and "copyrightability".

4.1 The instrumental attribute of artificial intelligence

Artificial intelligence (AI) is essentially a technological means that simulates human brain thinking for data analysis and processing. From the perspective of technological development stages, current AI still falls into the category of weak artificial intelligence, meaning it only possesses limited learning and decision-making capabilities in specific fields and cannot carry out completely independent creation beyond the goals and rules preset by humans. For instance, news-writing robots like Dreamwriter and poetry generation systems such as Xiaoice all analyze massive amounts of data and perform pattern recognition through

algorithms to generate works that conform to the formats expected by humans. However, their creative process is entirely dependent on preset algorithm frameworks and training data, lacking true autonomous consciousness and creative thinking.

The stage positioning of weak artificial intelligence has important legal significance. Firstly, its technical limitations determine that AI cannot possess cognitive rationality and practical rationality like humans. AI can only extract rules from historical data through machine learning algorithms and generate new forms of expression based on these rules, but its decision-making process is essentially the calculation of mathematical models, rather than creative activities based on value judgments or moral considerations. Secondly, the limited autonomy of weak artificial intelligence is reflected in its dependence on training data and algorithm frameworks provided by humans. Even if AI shows a certain degree of "creativity" in the generation process, this creativity is a result preset by human developers through means such as data screening and algorithm optimization, rather than thinking activities spontaneously generated by AI.

From a legal perspective, the instrumental attribute of artificial intelligence is reflected in its lack of civil subject qualification. According to civil law theory, a civil subject needs to have civil rights capacity, civil conduct capacity, and civil liability capacity. AI obviously does not meet these conditions:

Firstly, generative artificial intelligence does not have free will. AI's decisions are completely based on algorithms and data, and it cannot independently choose or adjust goals. For example, although AlphaGo can defeat human players in Go games, all its actions are subject to a preset algorithm framework and cannot make creative breakthroughs beyond program settings.

Secondly, generative artificial intelligence lacks the ability of will. AI cannot understand the meaning of legal acts, and its "output" is only a mechanical response to input data. For example, when an intelligent customer service system answers users' questions, it only calls a preset answer database, rather than conducting logical reasoning based on an understanding of the questions.

Finally, generative artificial intelligence does not have independent property. The development and operation of AI depend on funds and technical support provided by humans, and its "outputs" are essentially the results of human intellectual labor, rather than independent economic entities.

This instrumental attribute is reflected in judicial practice. For example, in the "Feilin v. Baidu case", the court clearly pointed out that the news articles generated by AI are only the splicing and recombination of existing data by algorithms, lacking the "creative intent" of human authors, and thus do not constitute works in the sense of copyright law.

4.2 A Determination of the copyrightability of generative artificial intelligence outputs

According to China's Copyright Law, copyrightability must meet the following three elements: expressiveness, originality, and fixity.

Expressiveness means that the subject matter belongs to expressions in the fields of literature, art, or science. Originality requires that the work embodies the author's intellectual creation (independently created and with a minimal degree of difference from existing works). Fixity refers to the ability to be stably presented in a certain form (such as text, images, codes, etc.).

Since generative artificial intelligence outputs are essentially an extension of the creativity invested by creators in human-machine interaction, the determination of the copyrightability of AI-generated content is actually the determination of the user's creativity, and should still focus on the user of the AI tool. Therefore, the user's subjective consciousness and objective conditions serve as the main basis for judgment.

Firstly, in terms of the subjective aspect, the person's prior creative behaviors must make a substantial contribution to the generated content, such as data screening, algorithm design, and setting of creative intentions. At the same time, the generated work should reflect the person's personality and creative intentions.

Secondly, in terms of objective conditions, the generated content must have a minimal degree of difference, that is, it is significantly different from the input data or works in the public domain, and has aesthetic value that can meet the needs of ordinary readers—such as the readability of news or the artistic conception of poetry. Only when both subjective and objective conditions meet the standards can it be determined that a generative artificial intelligence output is copyrightable.

5 Problems and Suggestions in Judicial Practice

From the previous cases and discussions, we can find that there are still many issues in China's current legal protection of the copyright of AI-generated outputs.

5.1 The problem of vague standards in real cases

5.1.1 The dispute between "process-oriented" and "result-oriented" approaches

The process-oriented approach holds that if the generation process lacks human creativity (e.g., relying solely on algorithms and data), the generated content does not possess originality. For example, in the Feilin v. Baidu case, the court held that the news articles generated by AI lacked human creative intent. The result-oriented approach advocates using the uniqueness of the final expression as the standard: as long as the generated content differs from existing works and has aesthetic value, originality can be recognized. For instance, in the Tencent v. Yingxun case, the court acknowledged that the AI-generated news reports had originality due to data screening and algorithm design. The contradiction lies in the fact that these two standards lead to inconsistencies in judicial practice, and the "uniqueness" of AI-generated content may stem from algorithms rather than human creativity.

5.1.2 Vagueness in the "minimum creativity" standard

There is no clear criterion for defining the degree of difference between AI-generated content and human works (e.g., "minimum difference"). For example, AI-generated poems or images may be highly similar to human works, but it is impossible to prove that they originate from human creative intent.

5.1.3 Inconsistencies in judicial practice

In cases such as Feilin v. Baidu, the court denied the originality of AI-generated content in terms of intellectual property rights, while the judgment in Tencent v. Yingxun affirmed such originality. It is evident that China currently lacks a unified judicial standard for the intellectual property protection of AI-generated content.

Meanwhile, the existing Copyright Law centers on "human authors" and does not presuppose the legal status of AI-generated content, forcing judges to rely on analogical reasoning or judicial interpretations to fill this gap.

5.2 Disputes over rights ownership

Although AI itself does not qualify as a creative subject, the outcomes it generates are highly similar in form to human works and may possess originality, thus qualifying as intellectual achievements. However, this originality does not stem from AI's autonomous consciousness but from the human intellectual input in the process of human-machine interaction. This is manifested in the following aspects:

5.2.1 Data input and algorithm training

AI's generative capability relies on training data provided by humans. For example, the Xiaoice poetry generation system needs to analyze a large number of classical and modern poems to master linguistic styles and rhythmic patterns. The processes of data selection, cleaning, and annotation all require human participation, which directly affects the level of originality of the generated content.

5.2.2 Goal setting and parameter adjustment

AI's creative goals (such as generating news articles or designing advertising copy) and algorithm parameters (such as preferences for language style and frequency of vocabulary use) are all set by human developers. For instance, Tencent's Dreamwriter, when generating financial news, must follow format templates and keyword requirements set by users.

5.2.3 Feedback and correction mechanisms

AI-generated results usually require human review and revision. For example, images generated by AI may be manually adjusted if they do not meet user needs, and this process further incorporates human creative labor.

Therefore, the essence of AI-generated content is an intellectual achievement completed by humans using intelligent tools, rather than a product of independent creation by AI. This attribute holds important legal significance: it not only denies AI's qualification as an author but also clarifies the core role of humans in the generation process, providing a theoretical basis for the attribution of copyright.

5.3 Suggestions for institutional construction

The instrumental attribute of artificial intelligence requires that the legal system, while protecting human intellectual achievements, avoids excessively endowing AI with legal personality or rights. The specific institutional construction should include:

5.3.1 Clarifying the originality standards for generated content

Adopting the "unity of subjectivity and objectivity" standard, which not only examines the differences between the generated content and existing works (objective standard) but also the substantial contributions of humans in data input and algorithm training (subjective standard).

5.3.2 Improving the rules for rights ownership

Based on the principle of "contract priority", allowing developers and users to allocate rights through agreements; in the absence of such agreements, the rights shall default to the party that has made substantial efforts in relation to the generated content (such as the user).

5.3.3 Establishing exceptions for fair use

To prevent technological monopoly, it is necessary to include AI-generated content in the scope of fair use,

allowing the public to use it freely for non-commercial purposes.

The essence of AI-generated content is an extension of human intellectual labor, not an independent legal subject. On the basis of respecting this attribute, the legal system should realize the organic unity of technological innovation, interest balance, and public welfare through refined rule design.

The copyright protection of AI-generated content needs to balance technological innovation and legal order. Judicial authorities should adhere to the principle of "technological neutrality" and, while respecting the algorithmic black box, achieve fair adjudication through typified rules and technical auxiliary means. It is suggested that the Supreme People's Court issue special judicial interpretations to clarify the adjudication standards, provide stable legal expectations for the healthy development of the artificial intelligence industry, and in this process, establishing clear adjudication standards and constructing a feasible hierarchical review system are essential.

The core controversy surrounding current AI-generated content lies in whether it possesses the "originality" required by copyright law.

By sorting out typical cases at home and abroad (such as the Feilin v. Baidu case and the Tencent v. Yingxun case), we can summarize the judicial tendency of "the unity of subjectivity and objectivity" in judicial practice: it not only emphasizes the creative contributions of humans in algorithm design and data screening but also takes the difference of generated results as an objective standard. At the same time, China's current Copyright Law is based on the premise of "human author centrism" and lacks direct provisions on the legal status of AI-generated content, leading to problems such as vague ownership of rights and inconsistent judicial standards.

The essence of AI-generated content is "an extension of human intellectual labor". The ownership of its rights should follow the principle of "contract priority", and if there is no agreement, it belongs to the subject that has made substantial efforts for the generated content. At the institutional construction level, it is necessary to clarify the "unity of subjectivity and objectivity" standard for judging originality, improve the exception rules for fair use, and unify judicial standards through special judicial interpretations.

6 Summary

Improving the copyright protection system for artificial intelligence is a systematic project that requires establishing a dynamic balance mechanism among technological innovation, legal evolution, and social values. Only through the integration of interdisciplinary collaboration, international dialogue, and local practice can a sustainable institutional solution be provided for intellectual property governance in the era of artificial intelligence.

Against the backdrop of the rapid development of generative artificial intelligence technology, the intellectual property legal system is facing a revolutionary restructuring. Future legislation urgently needs to establish a dynamic balance mechanism between innovation incentives and public welfare. Meanwhile, as participants in the socialist market economy, generative artificial intelligence outputs will ultimately become an important part of intellectual property protection work.

It is believed that with the joint collaboration of legislation, judiciary, society, and other parties, the intellectual property protection work for generative artificial intelligence outputs will continue to develop

towards standardization and regularization.

References

Busaidi A S A, Raman R, Hughes L, et al. Redefining boundaries in innovation and knowledge domains: Investigating the impact of generative artificial intelligence on copyright and intellectual property rights[J]. Journal of Innovation & Knowledge,2024,9(4).

Chen Xinyue. A Study on the Attribution of Works Generated by Artificial Intelligence [C]//Legal Culture Collection 2024, Volume 1 — A Collection of Research Papers on the Legal Expression of Technological Ethics. Wuhan University Law School, 2024:12.

Ding Zhigang. An Analysis of Intellectual Property Protection for Generative Artificial Intelligence [N]. Guizhou Nationalities Daily, 2024-11-26.

Gao Luoyun. Preliminary Views on Copyright Issues of AI-Generated Content: Current Status and Future Prospects [N]. Henan Economic Daily, 2024-11-28.

Li Chen. On the Legal Analysis Methods of Artificial Intelligence: A Case Study of Copyright. Intellectual Property Rights, 2019.7.

Lu Binghong. On the Copyright Protection of AI-Generated Works [D]. Jilin University, 2021.

Shurui X, Haipeng M. Research on Legal Issues of Artificial Intelligence Intellectual Property Rights[J]. International Journal of Frontiers in Sociology,2024,6(6).

Sun Na, Bao Yiming. A Comparative Legal Analysis of China's Legislative Model for Generative AI [J]. Journal of International Economic Law, 2024, (04).

Wang Guo. The Reshaping of the Contact Element in Copyright Infringement Determination by Generative Artificial Intelligence [J]. Editor's Friend, 2024, (12).

Zhang Huibin, Li Junhao. Governance Disputes and Resolution Pathways for Intellectual Property Rights in the Era of Generative Artificial Intelligence: A Study Centered on U.S. Experience [J]. American Studies, 2024, (01).

Zhou Shuhan. A Discussion on Intellectual Property Legal Protection Issues for Generative Artificial Intelligence [J]. Legal System Review, 2024, (28).

Zhu Mengyun. A Study on the Copyright Protection of AI-Generated Works [D]. Wuhan University, 2019.