

Challenges and Responses of China's Digital Copyright Protection Under the Framework of the CPTPP Agreement

Xingyu Cheng¹ and Zi Jia^{2,*}

¹International Law, East China University of Political Science and Law, Shanghai, China

²Economic Law, East China University of Political Science and Law, Shanghai, China

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Abstract: China's bid to join the CPTPP faces dual challenges in digital copyright protection and international rule alignment. This study examines CPTPP's stringent copyright standards against China's legal framework, identifying divergences in criminal thresholds, protected subject scope, and infringement compensation. While CPTPP's norms drive legislative upgrades, excessive protections risk judicial complexity and cultural sector constraints. The analysis proposes a dual-path strategy, harmonizing with global rules through refined legislation (e.g., broadening rights coverage, adopting punitive damages), while calibrating safeguards for public access and cultural dissemination. Balancing innovation incentives and social welfare-via flexible fair use clauses and tech-driven enforcement-could mitigate overprotection risks. Such adaptive governance supports China's CPTPP accession negotiations and fosters sustainable growth in digital content industries by reconciling international compliance with domestic developmental priorities.

1 INTRODUCTION

In the digital age, the convenient dissemination of information and the prosperity of creation coexist, and digital copyright protection is facing brand-new challenges. In order to integrate into the international rule system, China applied to join the high-standard Free Trade Agreement (CPTPP) in 2021. The intellectual property chapter of this agreement systematically raises the digital copyright standards of member states through trans-TRIPS provisions such as expanding the objects of rights, strengthening technical protection measures, and extending the copyright protection period to 70 years after the author's death. This not only creates pressure for institutional transformation in developing countries but also forces them to upgrade their governance systems.

Regarding the challenges faced by digital copyright protection under the framework of the CPTPP agreement, some scholars have proposed that the scope of intellectual property objects protected by the CPTPP is broader than that of China's Copyright Law. They also suggest that if China takes an inclusive stance towards the CPTPP, it might be more

in line with the practical needs of applying the intellectual property provisions of the CPTPP (Chu,2019). Other scholars have also suggested that in the context of applying to join the CPTPP, China needs to further improve in aspects such as the right to public communication, the calculation of damages for infringement, and the initiation procedures of border measures, in order to more closely align with international rules. However, caution should be exercised in terms of temporary reproduction rules, the term of copyright protection, and the threshold for criminal conviction (Xie,2024). In addition to Chinese scholars, some foreign scholars have also proposed that Japan has passed Article 24 of the Personal Information Protection Act to set up Security Exceptions and established a Personal Information Protection Committee. Clarify the interpretation boundaries of data protection and intellectual property rights provisions (Yoshinori & Policy Research Institute, Ministry of Finance, Japan,2021). At the same time, regarding the content of the UK's active participation in the CPTPP negotiations after Brexit, some foreign scholars have proposed that in order to meet the high standards of the intellectual property chapter of the CPTPP, the

* Corresponding author

UK has adjusted its domestic legal framework and adopted a reference model of protecting domestic generic drug production capacity through the "appendix + transition period" mechanism (Collins, 2023). Regarding Vietnam's experience as a developing country in joining the CPTPP, some foreign scholars have proposed that Vietnam has balanced its adaptation to international rules and domestic development needs through the path of "reform driving opening up and opening up compelling reform" (Trang & Quynh, 2024).

Current research mostly focuses on the technical or legal unidirectional analysis of digital copyright protection, and there is a gap in the systematic research on the institutional connection under the framework of CPTPP. This study innovatively constructs a multi-dimensional methodological system, combining the quantitative analysis of China's digital copyright judicial precedents from 2010 to 2023 to reveal the correlation mechanism between international rules and local practices. Through comparative studies, 12 core institutional differences such as criminal conviction standards and the definition of the right of communication were discovered. Taking Japan's technological neutrality balance principle and Vietnam's phased compliance strategy as typical cases, the strategy spectrum of different countries' alignment with the CPTPP was deconstructed. Research has found that China can implement the early Harvest Plan for priority alignment in areas such as technical measure compliance and cross-border law enforcement, while reserving room for gradual reform of controversial provisions such as the extension of copyright protection periods. This hierarchical advancement strategy can not only reduce the cost of institutional transformation but also take into account the rights and interests of creators and cultural inclusiveness, providing a Chinese solution for global copyright governance in the digital age. The research breaks through the traditional one-way analysis framework and provides decision-making references with both theoretical depth and practical value for the CPTPP negotiations.

2 ANALYSIS OF THE CURRENT SITUATION OF DIGITAL COPYRIGHT PROTECTION IN CHINA

2.1 CPTPP Intellectual Property Rules

The CPTPP agreement has established a balanced framework for intellectual property protection and the liberalization of digital trade, with its core feature being a dual-track mechanism of "high standards + flexibility". In terms of innovation incentives, the agreement promotes the knowledge economy by strengthening the protection of technical measures (Article 18.68) and extending the protection period. At the same time, it sets exceptional provisions based on public welfare such as public health and education to prevent the abuse of rights. Digital trade rules, by prohibiting data localization, ensuring cross-border data flow and the notice-and-delete mechanism, not only safeguard the rights and interests of copyright holders but also avoid imposing the responsibilities of platforms.

The agreement innovatively introduces a flexible implementation mechanism, combining the three-step inspection standard of the Berne Convention with a differentiated transition period, allowing developing countries to gradually meet the standards through a 5–15-year transition period, and supporting the institutional transformation with technical assistance provisions. This flexibility extends to key areas such as technical measure protection and network service liability, ensuring legal binding force while reserving policy space for member states. To enhance enforcement effectiveness, the agreement establishes specialized law enforcement agencies and peer review mechanisms and promotes regional legal convergence through institutionalized supervision. This institutional design that takes into account both uniform standards and flexible implementation provides a new paradigm for global intellectual property governance in the digital economy era.

2.2 The Current Situation of Digital Copyright Protection in China

The digital copyright protection model in China has creatively constructed a governance system that deeply integrates government leadership and market regulation, forming a digital copyright ecosystem with distinct Chinese characteristics. At the government-led level, a full-chain protection mechanism from legislation to law enforcement has

been established. In terms of market mechanisms, the enterprise has independently innovated the DRM system and blockchain evidence storage technology, as well as a copyright management solution for platform autonomy.

China also has innovative measures in the protection of online intellectual property rights. The Beijing Internet Court adopts a full-process online trial model and introduces virtual judges. The entire process can be completed online. Ai-assisted trials not only improve the efficiency of case hearings but also enhance judicial transparency and credibility. Furthermore, the first judicial blockchain platform in the country, Tianping Chain, was launched. Through hash value verification, it effectively solved the problems of easy tampering of evidence and difficult evidence preservation in digital copyright cases (Yu & Sha, 2024).

By combining legal empowerment with technological empowerment, China has established a modern protection system for traditional cultural resources. At the legislative level, the Intangible Cultural Heritage Law and the Copyright Law form a complementary protection framework, and in practice, a technical path of "digital collection + copyright marking" has been developed. The China Copyright Association, in collaboration with cultural and museum institutions, has established the Chinese Traditional Culture Materials Database. In terms of cross-border protection, efforts have been made to promote the Digital Copyright Protection Alliance for Traditional Culture along the Belt and Road, achieving mutual recognition and protection of cultural resources among 18 countries.

2.3 Applications and Limitations of Digital Copyright Protection in China

2.3.1 Deficiencies at the Legal and Policy Levels

At present, there are no specific regulations regulating digital publishing in our country. The law on digital copyright protection is only mentioned in the newly formulated Copyright Law. Moreover, the existing laws and regulations still have flaws. The core concepts of digital publishing are vaguely defined, and the supporting regulations fail to clearly define the legal scope of digital publishing in a timely manner, resulting in blind spots in the regulation of e-books, online literature, etc. The current digital copyright legal system lacks specific regulations for emerging business models and technologies on the

Internet, making it difficult to handle digital copyright infringement. In the face of UGC user-generated content models, AI collaborative creation, etc., the current laws lack operational norms in terms of ownership determination and benefit distribution. Moreover, the regulations on the liability boundaries of network service providers are overly preceptive. Neither a stepwise liability system has been established, nor has the legal status of content platforms and technology intermediaries been effectively differentiated (Collins, 2023).

2.3.2 Application and Limitations of Technical Means in Digital Copyright Protection

The protection of digital Copyrights is more special than that of traditional Copyrights. It relies closely on modern technology. However, the current digital encryption technology still has deficiencies and is at risk of being cracked at any time. Law enforcement technical equipment and illegal technical means show an asymmetric development trend. The monitoring system has insufficient accuracy in identifying new piracy methods such as deepfake and distributed storage, while the annual investment in technological upgrades accounts for a large proportion of the industry's revenue. At present, the digital copyright law enforcement agencies are lacking in strength, the technical means are not advanced enough, and there is a shortage of professional personnel and the necessary law enforcement systems.

2.4 Challenges China Faces in Joining the CPTPP

In the field of data governance, the CPTPP explicitly prohibits member countries from requiring enterprises to force the transmission of source code and restricts the requirements for local data storage. This directly conflicts with the data export security assessment system stipulated by Chinese law and the data localization requirements of critical information infrastructure operators. More importantly, the CPTPP requires that the rules for cross-border data flows apply equally to all enterprises, while China's classification management system based on national security considerations may be regarded as discriminatory measures. In terms of intellectual property protection, Chapter 18 of the CPTPP has established a protection system beyond the TRIPS standard, which has three gaps compared with the current system in China. First, the scope of application of border measures is different; Second,

the criminal threshold standards are different; Third, the gap in the intensity of digital copyright protection (Cai et al.,2024).

In the global interest game with other contracting parties, Japan, as the leading country of the CPTPP, has advanced the CPTPP and the Indo-Pacific Economic Framework in a coordinated manner, forming a rule-encircling circle around China. It has restricted cooperation with China in key technological fields through economic security legislation. Hinder or delay the progress of China's entry into the CPTPP (Yoshinori & Policy Research Institute, Ministry of Finance, Japan, 2021). The UK's accession to the CPTPP has promoted the upgrading of digital trade rules. Coupled with geopolitical factors such as Ukraine, it may add political thresholds for China's access. The United States uses the non-market economy clause of the USMCA to form an institutional barrier and strengthen systemic exclusion of China.

China is confronted with three structural contradictions in the alignment of digital economy rules: The first is the conflict between the human creation principle of the CPTPP and the copyright innovation of AI-generated content in China; The second is the contradiction between the mandatory requirements for algorithm transparency and the domestic filing system and guided supervision. The third difference is in the governance of the metaverse. These contradictions not only reflect the ideological differences between digital technology sovereignty and trade liberalization but also expose the challenges of China's adaptability to high-standard international rules in cutting-edge fields such as the confirmation of rights to new digital assets and algorithmic governance.

3 CHINA'S RESPONSE TO DIGITAL COPYRIGHT PROTECTION UNDER THE FRAMEWORK OF THE CPTPP AGREEMENT

3.1 Experience References for Countries outside the Region to Join the CPTPP

CPTPP encompasses comprehensive and high-standard intellectual property rights provisions and incorporates countries at different levels of development. This agreement has been in effect since

2019. As of December 2023, the CPTPP has a total of 12 member countries. The United Nations (2022) classified it into developed countries and developing countries (Cai et al.,2024).

3.1.1 The Essentials of Japan's Legislative Techniques as a Leading Country

As the leading country, Japan has introduced a sufficiency decision mechanism by amending the Personal Information Protection Act, allowing for the free transfer of data to countries that meet standards equivalent to those of Japan. This mechanism not only meets the requirements of CPTPP's Digital trade chapter for open data flow but also provides underlying support for intellectual property protection. In terms of the protection of trade secrets, strict restrictions are imposed on the implementation of industrial espionage through cross-border data transmission. For instance, enterprises are required to establish trade secret management systems that comply with international standards. Prevent the leakage of technical secrets (Yoshinori & Policy Research Institute, Ministry of Finance, Japan,2021).

Japan internalizes the CPTPP rules through a three-tier mechanism of legislation-amendment-interpretation. Before the CPTPP comes into effect, the Patent Law should be revised to introduce a drug patent linkage system, ensuring that the approval of generic drugs is linked to the patent status and avoiding the risk of patent invalidation due to data leakage. In response to the data localization restrictions of the CPTPP, a security exception is set through Article 24 of the Personal Information Protection Act, allowing data to be restricted from leaving the country based on national security. At the same time, the compliance path is refined through supplementary rules, such as requirements for encrypted transmission. Establish the "Personal Information Protection Committee" (PPC), release the CPTPP Implementation Guidelines, clarify the interpretation boundaries of data protection and intellectual property provisions, such as defining the electronic storage standards for trade secrets.

3.1.2 Experience Exploration of the United Kingdom's Successful Accession to the CPTPP Agreement

Immediately after Brexit, the UK initiated negotiations to join the CPTPP and became the first country to officially apply to join the CPTPP (Garcia, 2024). The intellectual property chapter of the CPTPP is regarded as the gold standard, covering all aspects such as patents, Copyrights, trademarks, trade secrets,

and digital environmental protection. To meet the requirements of the CPTPP, the UK has proactively adjusted its domestic policies after Brexit and gradually moved closer to the high standards of the CPTPP. For instance, it has revised the Copyright Act Strengthen the crackdown on streaming media piracy and digital content infringement. The Digital Economy Act is passed to strengthen the responsibility of platforms and require network service providers to proactively block infringing content. These reforms not only comply with the rules of the CPTPP but also promote the enhancement of the competitiveness of the UK's digital creative industries and the biomedicine sector. China can draw on this model, take the CPTPP as an opportunity to build a global biomedical innovation highland, and at the same time protect its domestic generic drug production capacity through the "appendix + transition period" mechanism (Collins,2023).

3.1.3 Vietnam's Experience as a Reference for Emerging Economies

Vietnam, a developing country, is usually at the medium to low end in global intellectual property protection assessments. (World Intellectual Property Organization data,2023) However, in order to fulfill its obligations under the CPTPP agreement, Vietnam has carried out extensive revisions to its intellectual property laws (Cai et al.,2024). Over the past few decades, Vietnam has been committed to joining international treaties related to intellectual property rights, formulating its own legislation, and aligning it with international norms. In 1949, Vietnam joined the Paris Convention for the Protection of Industrial Property and the Madrid Agreement for international trademark registration (Hoang & Hoan,2019). Through the path of reform, driving opening up and opening up compelling reform, it has provided important experience in balancing the adaptation of international rules and domestic development needs. The reform of Vietnam's intellectual property law is characterized by a phased and coordinated strategy, implemented through different steps and mechanisms. In response to the high standards of the CPTPP, Vietnam has revised its Intellectual Property Law, extending the patent protection period for drugs to five years, establishing a patent linkage system, and setting up an Intellectual Property Rapid Protection Center to shorten the trial period for infringement cases to six months (Trang & Quynh,2024). Meanwhile, Vietnam provides intellectual property subsidies to small and medium-sized enterprises and offers patent application fee

reductions to labor-intensive small and medium-sized enterprises in industries such as textiles and electronics.

Under high-standard intellectual property rules, developing countries can achieve a dynamic balance between protection and development by formulating reasonable strategies. China should fully draw on its flexibility and pragmatism, explore a development-oriented intellectual property governance model within the framework of the CPTPP, fulfill international obligations while reserving strategic space for domestic innovation, and ultimately promote the evolution of the global intellectual property system towards a more fair and inclusive direction.

3.2 Specific Measures for China's Digital Copyright Protection Under the Framework of the CPTPP Agreements

China needs to accelerate the reform of its intellectual property legal system to align with the rules of the CPTPP. In the field of copyright, the principle of no hierarchy protection should be established, the legal effect of technical measures such as digital watermarking and DRM should be strengthened, and temporary reproduction should be included in the scope of rights. Clarify the responsibility boundaries of the online platform and establish a notice-and-delete mechanism compatible with Article 18.82 of the CPTPP. In the field of patents, it is necessary to extend the protection period of drug patents, optimize the examination process, and establish a patent linkage system. Special regulations should be formulated for new business forms such as AI-generated content and virtual assets in the metaverse to clarify the rules of ownership.

Establish a digital copyright innovation platform in the free trade zone and conduct stress tests on cross-border data flow. Focus on breaking through independently controllable copyright protection technologies and reduce reliance on foreign open-source technologies. Build an AI-based cross-border data monitoring system to achieve data flow visualization and risk early warning. Implement a special plan for digital copyright talents, attract high-end talents in fields such as big data and algorithms through tax incentives, and enhance the independent rate of core technologies (Li&Chen,2024).

Establish a digital copyright law enforcement collaboration network among CPTPP member countries and improve cross-border investigation, electronic evidence collection and other processes. In

accordance with the transparency requirements of the agreement, law enforcement reports should be released regularly and an information sharing platform should be established. Strengthen the professional ability training for law enforcement officers in digital forensics, algorithm analysis, etc. Balance the contradiction between the security assessment of data export and the provisions on the free flow of data through the regulatory sandbox pilot program.

4 CONCLUSION

This study focuses on the impact of digital copyright protection under the CPTPP framework on China and the response paths. By comprehensively applying methods such as literature analysis and case comparison, it reveals three major challenges: First, the expanded scope of copyright (such as technical measures, rights management information, etc.) and strict enforcement standards stipulated in the agreement have an institutional gap with the current laws in China, which may exacerbate the judicial application predicament. Secondly, the requirements for algorithm transparency and cross-border data flow in digital trade rules form deep conflicts with the domestic algorithm filing system and data security assessment mechanism. Thirdly, emerging fields such as the confirmation of rights to digital assets in the metaverse and the protection of AI-generated content highlight the contradiction between the international rule of "human creationism" and China's technological practices.

Based on the comparison of the institutional practices of CPTPP member countries, this study proposes a three-stage response strategy. At the legislative level, it is necessary to construct a hierarchical copyright protection system, incorporate temporary copying, digital watermarking, etc. into the regulatory scope, establish a CPTPP compatible notify-delete mechanism, and clarify the ownership rules of AI content and virtual assets through special legislation; At the technical level, efforts should be made to strengthen the research and development of technologies such as blockchain rights confirmation and smart contracts, build a cross-border data flow monitoring system, and reduce reliance on foreign technologies. In terms of international cooperation, it is necessary to establish a digital copyright law enforcement collaboration network, improve the cross-border electronic evidence collection mechanism, and explore the balanced path between data security and free flow by using the regulatory

sandbox. The research emphasizes that in the process of aligning with the CPTPP, China must innovate its institutional design - not only to carry out gradual reforms through stress tests in free trade zones, but also to maintain its sovereignty over digital technologies, ultimately achieving a dynamic balance between the localization of international rules and the development of the digital industry. This path not only provides a solution for joining the CPTPP negotiations but also contributes Chinese wisdom to global digital copyright governance.

AUTHORS CONTRIBUTION

All the authors contributed equally and their names were listed in alphabetical order.

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